2022 서울대학교 교과과정
「과목개요(학사과정)」
UNDERGRADUATE COURSE DESCRIPTIONS
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College Writing: Process & Structure

This course has three goals. First of all, it will help students accurately express themselves in written Korean. Second, it will help them gain a good foundation in the humanities through readings, while training them to express their views logically. Finally, the course will teach students to accurately understand others’ opinions and effectively express their opinions through presentations and discussions.

College Writing 1

The course offers the experience of whole process for writing an essay. All members of this class should search the topics concerned with natural science & technology and set up the own hypothesis and assertion. For this, students try to argue own position based on the appropriate materials & inference. Today society demands the creative problem-solving & rational communicating ability. Satisfying this demand, this course aims to improve the ability of creativity, critical thinking & adequate expression through writing.

College Writing 2: Writing in Humanities

This course aims to teach students how to think humanely towards the society and nature, and also how to express their thoughts by making a clear argument. Students will be required to write essays on the topics related to humanities, such as history, literature, philosophy, and art. The course will also involve group discussions and peer reviews to help students improve their writing skills.
writing required in humanities by developing logical and critical thinking skills, using humanistic imagination and creativity through thesis essays on humanities topics. It also aims to help students to write their own thoughts and experiences in a more meaningful and persuasive way. Students need to develop ability to think about a topic and how to communicate their ideas with their audience. Students write various kinds of papers such as persuasive essays, thesis proposals, and essays on specific topics. All papers receive corrective feedbacks from the instructor, the tutor, and fellow students.

This course aims to provide a variety of writing exercises and experiences so that students can develop the skills needed for writing in the field of science and technology. Writing in the field of science and technology mostly requires students to explore phenomena, concepts, principles, laws and theories by means of scientific, creative, and critical thinking. Through the course, students can learn these thinking skills and logical ways of expression in their papers. In addition, students can practice how to organize the entire article to express their thoughts and ideas in a logical and scientific way, and to persuade their audience in a written language.

Critical Thinking and Expression

This is an optional Korean language course for mainly the first year students. However, it is not restricted for seniors to take this course. Students will learn and practice communication skills for the academic and public settings with particular focus on production skills of discussion, presentation, and debate. Students are required to do a variety of individual and group activities. Also, students are required to prepare speech writings and to deliver an introductory speech, an informative speech, a persuasive speech, and do two times of group debates. In doing these activities, students will also increase phonological awareness, and learn the importance of critical thinking skills for their communication confidence and proficiency.
Critical thinking is one of the most highly claimed ability for university students, but has been largely ignored. ‘Critical Thinking and Expression’ aims to develop the critical thinking ability, providing various opportunities of communication on a given subject. Students are asked to read actively relevant texts, to discuss their interpretations of texts and to express their opinion via writing and other communicative means. Independent and liberal attitude is more emphasized rather than academically correct understanding.

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Logic and Critical Thinking

This course begins with learning Korean alphabet, first level vocabulary, and then leads students into grammar, pronunciation, and sentence structure. Mid-level training for promoting active communication skills will be also given; extended vocabulary, extended grammar with reading and speaking in various situations.

Elementary Korean

This course is designed for undergraduate foreign students without any prior knowledges on Korean language. The goal of this course is (1) to provide students with better understanding of Korean culture, and (2) to promote useful skills for expressing and communicating in Korean language.

This course begins with learning Korean alphabet, first level vocabulary, and then leads students into grammar, pronunciation, and sentence structure. Mid-level training for promoting active communication skills will be also given; extended vocabulary, extended grammar with reading and speaking in various situations.

Intermediate Korean 1

This course aims to help foreign students acquire the following low-mid level skills for Korean.

- ability to comprehend university-level lectures and class presentations.
- ability to make a note for lectures.
- ability to make an answer for essay questions.
- ability to conduct low-mid level everyday conversation.

Intermediate Korean 2

This course aims to help foreign students acquire the following mid-high level skills for Korean.

- ability to participate in questioning, answering and discussing.
- ability to comprehend mass media.
- ability to conduct mid-high level everyday conversation.
- ability to prepare mid-high level document.

Students learn a variety of colloquial expressions commonly used in university-level lectures, useful expressions for lecture notes, and skills for making an answer for essay questions. By using audiovisual materials, students can improve their ability to conduct everyday conversation in Korean.
of useful expressions frequently used in mass media such as radio, TV and movies, and practice how to comprehend those expressions. Furthermore, students will have mid-high level proficiency for everyday conversation and documentation.

032.004  
**Advanced Korean**

This course is designed for students who have already taken Elementary Classical Chinese 1 or its equivalent. This course is newly offered to bridge the gap between the elementary and the intermediate level. Based on the skills gained in Elementary Classical Chinese 1, students will learn major sentence patterns and grammar particles to further their understanding of Classical Chinese grammar. Students will practice with short passages from classical poems and prose of China and Korea. Students will thereby improve their reading skills in Classical Chinese and deepen understanding of East Asian thought. Students who have successfully completed this course may proceed to take Intermediate Classical Chinese.

032.006  
**Elementary Classical Chinese 2**

This course is designed for students who have taken Elementary Classical Chinese 1 or its equivalent. Based on the skills gained in the elementary level courses, students will further their understanding of Classical Chinese and foster advanced reading skills. Students are expected to read and analyze full-length classical poems and prose selected from a variety of disciplines such as literature, philosophy, and history. Students will have an opportunity to put their reading skills into practice and engage in a critical reading of the classics. Students who have successfully completed this course may proceed to take advanced major courses in Classical Chinese.

032.007  
**Intermediate Classical Chinese**

This course is designed for students who have taken Elementary Classical Chinese 1 and 2 or its equivalent. Based on the skills gained in the intermediate level courses, students will further their understanding of Classical Chinese and foster advanced reading skills. Students are expected to read and analyze full-length classical poems and prose selected from a variety of disciplines such as literature, philosophy, and history. Students will have an opportunity to put their reading skills into practice and engage in a critical reading of the classics. Students who have successfully completed this course may proceed to take advanced major courses in Classical Chinese.
taken Intermediate Chinese or its equivalent. Students will do a close and in-depth reading of masterpieces in Korean and Chinese classics. The readings will cover works of Confucian classics, history, philosophy and literature (経典・史學・儒者). While students have only looked at model sentences until the intermediate level, in this course, students will frequently deal with complex and abnormal sentence structure as a way to learn how to construe and analyze unconventional sentences. The course is recommended for, but not restricted to, students who plan to major in related fields. Students are expected to show a great enthusiasm for learning Classical Chinese and East Asian thought.

- 032.009

Selected Classical Chinese Readings in History and Philosophy by Chinese and Korean Writers

- 032.010

Elementary Chinese 1

- 032.011

Elementary Chinese 2

- 032.012

Intermediate Chinese 1

- 032.013

Intermediate Chinese 2

- 032.014

Chinese Conversation 1
**Chinese Conversation 2**

This course focuses especially on developing students’ ability of speaking advanced-level Chinese. This course is for students who have taken Chinese Conversation I and above. Students enrolling in this course will be able to enhance their language capabilities required for advanced-level communication with native speakers. This course is also intimately related to <Advanced Chinese>, a major subject of Dept. of Chinese Language and Literature.

**Media Chinese**

This course for students of intermediate level Chinese. By watching, listening and analysing various media materials, the class will further improve the students’ Chinese and help students to organize information and to write argumentative and analytic paragraphs effectively. Students will learn to self-edit and to avoid common EFL writing mistakes. At the end of the term, students will complete a 4-5 paragraph essay, deliver it orally in front of the class, then edit and revise it for final submission.

**College English 1: Speaking**

This course aims at helping students improve their oral communication/presentation skills in academic settings. This class trains students to give speeches, to make presentations before an audience, and to communicate effectively in a variety of oral settings such as informal and formal discussions and debates.

**Advanced English: Prose**

In this course, students are encouraged to read, discuss, and write about a selection of representative nonfictional essays from diverse academic disciplines, including humanities, arts, social sciences, and natural science. The class may either be organized around a single overarching theme or cover a series of different yet preferably interrelated themes.

**Advanced English: Academic Writing**

This course aims to teach students how to write decent academic prose in English. Students may begin by constructing a self-contained paragraph and gradually proceed to write multi-paragraph argumentative/analytical essays or complete term papers on pre-assigned topics or texts. They will also have opportunities to be acquainted with general rules and conventions of writing in English and learn the elements of good prose style. Each writing assignment will be coupled with appropriate reading assignment, which in itself should be a fine example of English prose.
Advanced English: Exploring Film

This course aims to improve students’ language competence and critical thinking ability by performing English-language dramas. Students will develop their understanding of the texts by studying their historical and social contexts, analyzing characters, investigating symbols and themes, and re-hearing scenes from each play. Students will also engage in performance by acting live in a classroom setting, thus experiencing more active involvement in the text.

Advanced English: Drama Workshop

This course aims to improve students’ language competence and critical thinking ability by performing English-language dramas. Students will develop their understanding of the texts by studying their historical and social contexts, analyzing characters, investigating symbols and themes, and re-hearing scenes from each play. Students will also engage in performance by acting live in a classroom setting, thus experiencing more active involvement in the text.
본 교과목은 초급 프랑스어 지식을 갖고 있는 학생들을 대상으로 한 강좌이다. <초급 프랑스어 1>을 수강한 학생이나, 고등학교 및 기타 과정에서 프랑스어의 기초 지식을 습득한 학생들 중 대상이 된다. 본 강좌에서는 역사와 문화, 그리고 법률과 문화를 주제로 학습하는 프랑스어 문법과 문법을 바탕으로 학습자 독해 및 작문 능력을 향상시키며, 프랑스어의 토대를 마스터하고, 프랑스의 생활과 문화에 접근할 수 있도록 한다. 본 강좌는 프랑스어로 의사소통을 해야 할 상황에서 연습하는 것이 본 강좌의 목표이다.

This course, designed for near-beginners or students who have already had Beginning French 1 or who have learned French in high school or in other educational programs, aims at the acquisition of more extensive vocabulary and structures, building on previously acquired oral and written communication skills. While Beginning French 1 focuses on teaching everyday conversation, Beginning French 2 sets out to focus on reading prose in order to enable students to read academic texts. Students are to improve their reading skills through literary works, logical writings and other texts written in French and to understand elementary French grammar. Also, acquiring various French expressions and cultivating reading and writing skills will be covered in this course.

본 교과목은 초급 수준의 프랑스어 지식을 갖춘 학생들을 대상으로 한 강좌이다. <초급 프랑스어 1>을 수강한 학생이나, 고등학교 및 기타 과정에서 프랑스어의 기초 지식을 습득한 학생들 중 대상이 된다. 본 강좌에서는 역사와 문화, 그리고 법률과 문화를 주제로 학습하는 프랑스어 문법과 문법을 바탕으로 학습자 독해 및 작문 능력을 향상시키며, 프랑스어의 토대를 마스터하고, 프랑스의 생활과 문화에 접근할 수 있도록 한다. 본 강좌는 프랑스어로 의사소통을 해야 할 상황에서 연습하는 것이 본 강좌의 목표이다.

This course, designed for near-beginners or students who have already taken Elementary French 1 and 2 or who have systematic understanding of French. This course is aimed at the acquisition of advanced French grammar, various expressions and usage. This course will extend students’ language skills, enhance their knowledge of grammar and develop the skills needed to study at a higher level. Through this course, students will be able to foster their skill of reading academic and professional texts and to express their own opinion properly and accurately. Students are to master their reading skills through literary works of various genres, logical writings and other texts written in French. By reading original texts carefully chosen, the course helps to enable students to improve their commands of grammar and vocabulary.
<Le Monde>, <Le Point>의 사설, 한국 관계 기사 등을 주요 텍스트로 하여 세계에 대한 시사적인 관점과 현대에 대한 비판적 안목을 기르는데 주안점을 둔다. 강의는 주로 기사를 문법적 설명을 갖는 약속이 많으며, 토론의 방식으로 진행한다.

Using editorials and Korea-related articles from <Le Monde>, <Le Point> as well as other materials as main texts, this course will emphasize reading together with grammatical explanations and discussions on related issues.

This course is designed for those who have already taken Elementary German 1 and 2 or have acquired understanding of basic German. In this course, students are asked to study grammar and to improve their speaking, listening and reading skills based on their foundation knowledge of German. This course also covers general aspects of German culture and society.

This course is aimed at students who have already followed foundation course, Basic German 1, and those who acquire a basic knowledge of German. Students are to improve their reading skills by reading literary works, logical writings and other texts written in German and to understand elementary German grammar. Also, acquiring various German expressions and cultivating reading and writing skills will be driven in this course.

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This lecture is offered for students who have completed Introduction to German I or II demonstrate equivalent competence. The course will help students acquire the practical
German speaking skill needed to interact with those from German speaking countries.

L0441.000300

Elementary German 1  3-3-1

Contemporary German

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

Elementary Russian 1

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

German speaking skill needed to interact with those from German speaking countries.

Readings in German Texts

This course is recommended for students who have completed Elementary German 1, 2 or demonstrate equivalent competence. The student will acquire the ability to read books in German while examining German literature, history, philosophy and social science.

German speaking skill needed to interact with those from German speaking countries.

Readings in German Texts

This course is recommended for students who have completed Elementary German 1, 2 or demonstrate equivalent competence. The student will acquire the ability to read books in German while examining German literature, history, philosophy and social science.

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

Elementary Russian 1

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

German speaking skill needed to interact with those from German speaking countries.

Readings in German Texts

This course is recommended for students who have completed Elementary German 1, 2 or demonstrate equivalent competence. The student will acquire the ability to read books in German while examining German literature, history, philosophy and social science.

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

Elementary Russian 1

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

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Readings in German Texts

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Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

Elementary Russian 1

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Readings in German Texts

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Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

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Intermediate Russian 1

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Elementary Russian 2

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German speaking skill needed to interact with those from German speaking countries.

Readings in German Texts

This course is recommended for students who have completed Elementary German 1, 2 or demonstrate equivalent competence. The student will acquire the ability to read books in German while examining German literature, history, philosophy and social science.

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

Elementary Russian 1

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

German speaking skill needed to interact with those from German speaking countries.

Readings in German Texts

This course is recommended for students who have completed Elementary German 1, 2 or demonstrate equivalent competence. The student will acquire the ability to read books in German while examining German literature, history, philosophy and social science.

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2

Elementary Russian 1

Intermediate Russian 1

Intermediate Russian 2

Elementary Russian 2
**Elementary Spanish 1**

**032.045 Russian Conversation**

This course aims at helping students to develop speaking and writing proficiency. The course focuses on teaching students how to speak and write logically, appropriately in a refined manner on given topics. Texts for reading, composition, and discussion include prose, poetry, and film. The course includes practice in the speech etiquette of common social situations and spoken and written registers. Vocabulary is reinforced through reading of classic and contemporary literary texts as well as Russian periodicals and news media dealing with current Russian culture and society.

**032.046 Readings in Russian Culture and Art**

This intermediate course is for students who have attended <Elementary Spanish 1> or its equivalent. The primary goal of this course is to improve students’ knowledge of grammatical structures and communication in Spanish. The course aims to help students acquire the necessary skills to communicate proficiently in Spanish and develop reading and writing skills at a commensurate level in a cultural context. Students will also be introduced to the many Hispanic cultures that comprise the Spanish-speaking countries.

**032.047 Russian through Mass Media**

This course improves the students' ability to understand Russian sentence structure while offering opportunities to study its literature.

**032.048 Elementary Spanish 1**

This intermediate course is for students who have attended <Basic Spanish 2> or its equivalent. The objective of this course will also include acquiring various Spanish expressions and cultivating reading and writing skills. The course develops accurate and idiomatic oral and written expression in a cultural context. Students achieve a higher level of syntactic and lexical competence through reading and discussing essays and literary texts and viewing films. Students review grammar structures on their own with instructor's clarification and support. Classes are conducted in Spanish.

**032.049 Elementary Spanish 2**

This course is the first part in the series of an introduction to Spanish. The purpose of this course is to help students acquire a basic level of Spanish language ability while broadening their overall understanding of the Spanish language, culture and society. The course will begin with the Spanish alphabet, basic vocabulary, and grammar review. It will also develop a basic level of reading and writing skills in Spanish. Students will acquire the necessary skills to communicate in Spanish through class text, interactive activities and extensive laboratory practice.

**032.050 Intermediate Spanish 1**

This course is for students who have attended <Intermediate Spanish 1> or its equivalent. The primary goal of this course is to improve students’ knowledge of grammatical structures and communication in Spanish. The course aims to help students acquire the necessary skills to communicate proficiently in Spanish and develop reading and writing skills at a commensurate level in a cultural context. Students will also be introduced to the many Hispanic cultures that comprise the Spanish-speaking countries.
This course is for students who have attended <Intermediate Spanish 1> or its equivalent. The main purpose of this course is to improve those students’ reading skills. Through intensive reading practices students will have the intermediate level of Spanish reading comprehension. The ultimate goal of the course is to prepare students to attend classes that explore Hispanic culture and literature.

This course is designed for students who have previously completed <Introduction to Spanish 2>. The purpose of this course is two-fold: to help students understand the society and culture of the Spanish-speaking countries and to improve students’ competence in Spanish grammar. Students will read Spanish articles in the daily newspapers and texts related to the society and culture of Spain as well as today’s Hispanic America.
A continuation of the course <Introduction to Italian I>, this class will further and expand the knowledge of the Italian language and culture in more detail.

032.059 스와힐리어 1 3-3-1

Swahili 1

스와힐리어를 처음 접하는 학생들을 위해 스와힐리어의 문자와 발음 및 구문구조를 이해할 수 있는 기초적인 문법을 배우고 기본적인 회화 수업을 벌행한다. 이들 동사에 스와힐리어의 기초가 되는 동사, 잎자, 말하기가 가능하도록 한다.

This is an introductory course for students with little or no background in Swahili language. Student will learn Swahili letters, pronunciation and the grammar essential for understanding the language, as well as elementary Swahili speaking skills. The objective of this course is to enable students to listen, read, and speak basic-level Swahili language.

032.060 스와힐리어 2 3-3-0

Swahili 2

초급 스와힐리어를 이수한 학생들 혹은 그에 상응하는 기초 실력을 갖춘 학생들을 대상으로 하는 수업이다. 이 단계에서는 기초적인 독해와 작문 능력 향상에 초점을 맞추며, 듣기와 말하기 실습수업을 강화하여 학생들로 하여금 읽기, 쓰기, 듣기, 말하기의 종합적인 언어 능력을 배양하도록 한다.

This course is designed for students who have successfully taken the introductory classes in Swahili language or have an equivalent proficiency in Swahili language. This course focuses on raising the students’ ability to read and write Swahili, as well as to listen and speak Swahili, so that the students can develop a well-balanced foundation in all four skills in Swahili language. The goal of this course is for the students to acquire a higher proficiency in Swahili.

032.061 몽골어 1 3-3-1

Mongolian 1

본 강좌는 몽골어를 처음 배우는 학생들을 대상으로 한다. 구체적으로는 표준 몽골어의 알파벳 쓰기와 발음을 정확하게 익히고 몽골어의 문법 지식뿐만 아니라 몽골어의 말하기, 듣기, 읽기, 쓰기의 기초 능력을 가르치는 것이 목표이다. 일상생활 관련 기본 단어와 표현을 배우면서 몽골인과의 기본적인 의사소통을 가능하게 만든다.

This course is designed for those who do not have any previous knowledge of Mongolian. This course is made for the beginners and it focuses on not only grammar but also basic speaking, listening, reading and writing skills. More concretely it will proceed with a focus on writing Mongolian alphabets, pronunciation, essential words and expressions used in daily life.

032.063 산스크리트어 1 3-3-0

Sanskrit 1

본 강좌는 산스크리트어 초급과정으로 산스크리트어의 발음, 기초 어휘, 기초 문법은 물론 다양한 문장 유형과 동사구문들을 학습하는 것을 목표로 한다. 또한 실제 생활에 필요한 기초적인 수준의 회화 학습을 벌행한다.

This course is an introductory Finnish language class. The goal of this class is for students to learn Finnish pronunciation, basic vocabulary, and essential grammar of modern Finnish. They will learn and practice grammar rules such as noun/adjunctive inflections, and the various patterns of verbal constructions and sentence types. In addition, this course provides drill sessions for acquiring simple conversation skills.

L0441.000500 핀란드어 2 3-3-0

Finnish 2

본 강좌는 핀란드어 중급과정으로 핀란드어의 고급 어휘와 문법은 물론 다양한 문의 텍스트 문법과 이해를 목표로 한다. 또한 핀란드 사람들과 맞물리고 글로 의사소통이 가능하도록 회화와 쓰기 학습을 벌행한다.

This course is an intermediate level of Finnish language class. The goal of this class is for students to learn advanced grammar and vocabulary, and further to develop text analysis and understanding in various genres. The students will have drill sessions for speaking as well as writing to be equipped with extended communication capacities in Finnish.

L0441.000200 히브리어 1 3-3-1

Hebrew 1

본 교과목은 히브리어의 읽기, 쓰기, 독해와 기초를 훈련하며, 이와 함께 중동지역의 세계 문화사적 위치에 대한 기초적 시각을 제공한다. 따라서 단은 중심의 히브리어 텍스트 독해를 목표로 하며, 이와 함께 히브리어의 어휘, 텍스트에 반영된 유대인의 역사와 문화를 이해함으로써 유대민족의 언어와 문화의 관계를 탐구한다. 특히 현대의 히브리어가 고전 히브리어로부터 어떤 영향을 받았는지를 탐구한다.

This course introduces (i) basics of reading and writing of Hebrew, and (ii) the cultural historical position of the Middle East in the world history. The students get training in text comprehension with simple sentences, and they are introduced to the historical/cultural significance reflected in the vocabulary and texts. The course offers basic knowledge on the relationship between the Hebrew language and the culture. In particular, the course discusses the influence from the classic Hebrew language onto the modern Hebrew with respect to both cultural and historical aspects.

L0441.000100 핀란드어 1 3-3-1

Finnish 1

본 강좌는 할플란드어의 초급과정으로 할플란드어의 발음, 기초 어휘, 기초 문법은 물론 다양한 문장 유형과 동사구문들을 학습하는 것을 목표로 한다. 또한 실제 생활에 필요한 기초적인 수준의 회화 학습을 벌행한다.

This course is designed for students with little or no background in Finnish. Student will learn Finnish letters, pronunciation and the grammar essential for understanding the language, as well as elementary Finnish speaking skills. The objective of this course is to enable students to listen, read, and speak basic-level Finnish language.

032.064 산스크리트어 2 3-3-0

Sanskrit 2

<산스크리트어 1>은 일반적인 개괄과 기초적인 문법을 다루는 기초과정이다. <Sanskrit 1> is a fundamental course, dealing with the instruction and basic Sanskrit grammar.

032.065 산스크리트어 2 3-3-0

Sanskrit 2

<산스크리트어 2>는 산스크리트어 1을 수강한 학생을 대상으로 직접 원전을 읽을 수 있는 능력을 배양하기 위한 과정이다. <Sanskrit 2> aims to enable the students who have completed <Sanskrit 1> to read and translate the original texts.
일본어 1

이 교과목은 학생들이 일본어 말하기, 듣기, 읽기, 쓰기 기초 기술을 익히기 위한 초급 과정입니다. 본 교과목은 그 기초 기술의 활용뿐만 아니라 새로운 표현법을 배울 수 있도록 초급 수준의 표현을 배우는 단계입니다. 수업과는 다른 초급 수준 단어와 표현을 중심으로 읽고 쓰는 방법을 학습합니다.

This course is designed as a continuation of Arabic 1, the beginning stage of elementary speaking, listening, reading, and writing in Arabic. This course continues from it to capitalize on the already acquired skills and to learn new expressions so that students will master elementary level of Arabic. In concrete, students will learn diverse forms of day-to-day conversation and drill in reading and writing simple expressions and sentences.

032.069 한어 1 3-3-1

Hindi 1

한어는 현대 중부인도어에서 가장 널리 사용되는 현대인도어로서 특히 현대인도사회의 사회문제를 연구하기 위한 필수언어이 다. 본 강좌는 한어를 문법적으로 훈련하기 위한 1년 초급과정의 전반부로 데바나가리 문자와 문법을 중심으로 학습할 수 있도록 구성되어 있습니다. 그를 통해 인문학적 소양을 습득함과 동시에 고급 수준의 표현에 대한 이해를 심화시키도록 한다.

This class is a continuation of Hindi 1, with the goal of acquiring the highest proficiency in Hindi. Students will learn advanced constructions and expressions by reading articles helpful in understanding India and the Indian people. In particular, the student will extend his/her vocabulary and language skills in spoken Hindi.

032.070 한어 2 3-3-1

Hindi 2

한어는 현대 중부인도어에서 가장 널리 사용되는 현대인도어로서 특히 현대인도사회의 사회문제를 연구하기 위한 필수언어이 다. 본 강좌는 한어를 문법적으로 훈련하기 위한 1년 초급과정의 후반부로, 전반부 과정의 후반에서 넘어오는 부분인 명사형과 수동태, 복합어의 해석과 같은 비교적 복잡한 한어의 문법규칙을 익히는 것을 목적으로 한다. 그 외의 기존의 한어의 문법에 대해, 텍스트의 이해와 간단한 문장의 작성은 교재에 나타난 초급수준의 한어의 문법을 중심으로 한다. 한어는 고급 성격도가 있는 학생들의 필수과정이다.

Hindi Language is currently the most popularly used Indian language among many dialects of central and northern India. Therefore, it is indispensable for a proper understanding of modern Indian culture and society. This course, consisting of a two-semester program, offers basic grammatical knowledge of Hindi. Students will also learn some elementary expressions of spoken Hindi.

032.065 고급일본어 1 3-3-0

Advanced Japanese 1

일본어와 일본인을 이해하는 데에 도움이 되는 관련 주제를 다룬 지문을 읽고, 그를 통해 문법적 소양을 습득함으로써, 특히 학습시에 많이 등장하는 구문과 어휘를 중심적으로 학습함으로써, 학습 일본어(Academic Japanese)에 대한 이해를 높여 종합적인 일본어 능력을 갖출 수 있게 한다. 또한 인문학적 소양을 바탕으로 일본어에 대한 이해를 심화시키도록 한다.

The goal of this class is to develop the ability to use advanced Japanese constructions and expressions through reading articles helpful in understanding Japan and the Japanese people. Students will extensively learn sentences and vocabulary used in academic material, and thus develop the ability to read scholarly Japanese writing accurately and at sufficient speed. Furthermore, students will deepen their understanding of Japan and the Japanese people as a part of their liberal arts education.

032.066 고급일본어 2 3-3-0

Advanced Japanese 2

고급일본어 1과 연계된 과정으로서, 일본어와 일본인을 이해하는 데에 도움이 되는 관련 주제를 다룬 지문을 읽고, 그를 통해 문법적 소양을 습득함으로써, 고급 일본어에 대한 이해를 높인다. 특히 학습시에 많이 등장하는 구문과 어휘를 중심적으로 습득함으로써, 학습 일본어(Academic Japanese)에 대한 이해를 높여 종합적인 일본어 능력을 갖출 수 있게 한다. 또한 인문학적 소양을 바탕으로 일본어에 대한 이해를 심화시키도록 한다.

This course is a continuation of Advanced Japanese 1, with the goal of acquiring the highest proficiency in Japanese. Students will learn advanced constructions and expressions by reading articles helpful in understanding Japan and the Japanese people. In particular, the student will extensively learn sentences and vocabulary used frequently in academic material, in order to develop the ability to read scholarly Japanese accurately and at sufficient speed. Furthermore, students will deepen their understanding of Japan and the Japanese people.

032.067 아랍어 1 3-3-1

Arabic 1

아랍어는 중동 지역의 문명어이자, 오늘날 서아시아와 북아프리 카에 있는 아랍권 22개 국가의 공용어로 1억 이슬람 신자들이 쓰는 언어이다. 유엔(UN) 공식 6개 언어 중 하나이다. 중요성이 큰 아랍어에는 학문의 기초, 표현의 기초와 같은 기초 언어로, 많은 학문 분야에서 필수적이다. 특히 현대인도사회에서 빈번히 사용되는 분야가 많으므로, 학습의 목표는 기본소양을 갖춘 학생들에 대한 학습의 목표를 달성한다.

Arabic is the lingua franca of the Middle East in addition to being the common language of 22 Arab countries, religious language of the 1.3 billion Muslims, and one of the 6 official languages of the United Nations. This course is made for the beginners and it focuses on not only grammar but also basic speaking, listening, reading and writing skills. More concretely it will proceed with a focus on writing Arabic alphabets, pronunciation, essential words and expressions used in daily life.

032.068 아랍어 2 3-3-1

Arabic 2

본 교과목을 아랍어에 대한 배경을 기획하였다. 아랍어 1이 아랍어의 말하기, 듣기, 읽기, 쓰기의 기본 단계였다면 본 교과목은 그 기초 기술의 활용뿐만 아니라 새로운 표현법을 배울 수 있도록 초급 수준의 아랍어를 학습하는 단계이다. 수업과는 다른 알파벳 문자를 학습하고 초급 수준의 언어의 단어를 중심으로 읽고 쓰는 방법을 학습한다.

This course is designed as a continuation of Arabic 1, the beginning stage of elementary speaking, listening, reading, and writing in Arabic. This course continues from it to capitalize on the already acquired skills and to learn new expressions so that students will master elementary level of Arabic. In concrete, students will learn diverse forms of day-to-day conversation and drill in reading and writing simple expressions and sentences.
Malay-Indonesian 1

Students will develop a basic foundation in Malay-Indonesian sentence structures and basic grammar. Through this course, students will learn the pronunciation and script of Malay-Indonesian, followed by basic background in Malay-Indonesian. Students will learn the proficiency to hold conversation and conduct text-reading. It further develops skills to speak, listen, read and write through simple sentences.

Malay-Indonesian 2

Students will learn basic grammar and conversation, and will extensively practice listening and speaking. The goal of this class is to enable students to read, listen, read, and speak Malay-Indonesian at a basic level.

Turkish 1

This introductory course is for students with little or no background in Turkish. It aims at developing skills of speaking, listening, reading, and writing with simple sentences. Turkish is used in Turkey and its vicinities, and belongs to the Turkic language family together with Uzbek, Kazakh, and Turkmen languages. Turkish has the largest population among the various languages of that family. This course is a continuation of Turkish 1. It aims at introducing the grammar structure of Turkish and cultivating basic ability to hold conversation and text-reading. It further develops skills to speak, listen, read and write through simple sentences.

Turkish 2

Classes for General Education

032.071 Malay-Indonesian 1 3-3-1

032.072 Malay-Indonesian 2 3-3-1

032.073 Turkish 1 3-3-1

032.074 Turkish 2 3-3-1

032.075 Vietnamese 1 3-3-1

032.076 Vietnamese 2 3-3-1

032.077 Classical Greek 1 3-3-0

032.078 Classical Greek 2 3-3-0

Vietnamese is the most popularly used language in Vietnam among many dialects. Therefore, a grasp of the language is indispensable for the proper understanding of Vietnamese culture and society. This course, consisting of a two-semester program, offers basic grammatical knowledge of Vietnamese. The student will also learn some elementary expressions of spoken Vietnamese.

Classical Greek 1

Introduction to the ancient Greek language (grammar, syntax, vocabulary; using Athenaze I as a course book). Greek is the language of the ancient Greeks whose culture and civilization were the foundation of modern Western civilization. Greek was spoken from ancient times until the modern period.

Classical Greek 2

<Introduction to the ancient Greek language (grammar, syntax, vocabulary; using Athenaze I as a course book). Greek is the language of the ancient Greeks whose culture and civilization were the foundation of modern Western civilization. Greek was spoken from ancient times until the modern period.>
ancient Greek grammar, with an introduction to selected readings from original sources that illustrate episodes in ancient Greek history or characteristics of different literary genres. Readings generally are from Xenophone, Herodotus, Plato and the Bible.

### Latin 1

Latin 1

This course serves as an introductory Latin language course, covering the principles of Latin grammar, syntax, vocabulary; using Oxford Latin I as a course book.

### Latin 2

This course is an introduction to Latin, with an introduction to selected readings from Latin original sources that illustrate episodes in Roman history or characteristics of different literary genres. Readings generally are from Caesar, Cicero, Catullus, and Livius.

### Calculus 1

This course serves as a basic mathematics course focusing primarily on calculus for students in science and engineering. This course is aimed at students familiar with limits of functions, differentiation of various functions including trigonometric, exponential, logarithmic functions, (in)definite integrals and their applications. The first detailed goal is to understand basic power series theory including Taylor's theorem and power series representation of certain functions. Power series representation allows us to compute values of functions with an arbitrary precision, so that this technique plays an important role both practically and theoretically. Secondly, we would like to understand various coordinate systems, vectors, matrices, determinants, and curves. These concepts are essential for comprehension of spaces, so that they are very useful by themselves as well as fundamental to several variables calculus, which is the main focus in the follow-up course, <Calculus 2>.

### Calculus Practice 1

This course aims to develop skills for solving specific problems and to share mathematical ideas based on the basic mathematics course <Calculus 1> for the students majoring in science and engineering. By applying mathematical ideas to real problems and experiencing the process of sharing the results this course will provide a firm ground for basic mathematical knowledge.

### Calculus 2

This course is an intermediate course between the basic and advanced courses. We study basic vector calculus widely used in several areas of Physics and Engineering including Green’s theorem, parametrized surfaces, surface integrals, the divergence theorem, Gauss’ theorem and Stokes’ theorem.

### Calculus Practice 2

This course aims to develop skills for solving specific problems and to share mathematical ideas based on the basic mathematics course <Calculus 2> for the students majoring in science and engineering.
in science and engineering. By applying mathematical ideas to real problems and experiencing the process of sharing the results, this course will provide a firm ground for basic mathematical knowledge.

Honor Calculus 1

This is an advanced calculus course (of one-variable) for the excellent students who earned high scores in the Mathematics placement test and designed to investigate properties of real numbers, series, power series, exponential functions, logarithmic functions, trigonometric functions, Taylor expansions, coordinate systems, polar coordinates, vectors and inner product, matrices and determinants, linear transformations, vector products, curves and velocities, accelerations, lengths and line integrals, curvature, and osculating planes. These basic materials will be used in the multi-variable calculus course <Honor Calculus 2>.

Honor Calculus Practice 1

This practice course aims to develop skills for solving specific problems and to share mathematical ideas based on the honor mathematics course <Honor Calculus 1> for the excellent students majoring in science and engineering, which is a sequel to <Honor Calculus 1>. We first learn differentiation of several variable functions and their applications, namely Taylor expansion of several variable functions, min-max problems, several variable vector-valued functions, vector fields, line integrals, and differential forms. We will derive the fundamental theorem of line integrals using the fundamental theorem of calculus. We continue by defining integrals of functions of several variables, namely, multiple integrals and learn how to compute them efficiently using Fubini’s theorem and integration by substitution. Finally, we study and prove basic theorems of vector calculus widely used in several areas of Physics and Engineering including Green’s theorem, parametrized surfaces, surface integrals, the divergence theorem, Gauss’ theorem and Stokes’ theorem.

Honor Calculus Practice 2

This practice course aims to develop skills for solving specific problem and to share mathematical ideas based on the honor mathematics course <Honor Calculus 2> for the excellent students majoring in science and engineering who earned high scores in Mathematics placement test. By applying mathematical ideas to real problems and experiencing the process of sharing the results, this course will provide a firm ground for basic mathematical knowledge.
This course aims to develop skills for solving specific problems and to share mathematical ideas based on the mathematics course <Differential and Integral Calculus 1> for the students majoring in mathematics, statistics, physics and astronomy. By applying mathematical ideas to real problems and to share mathematical ideas based on the knowledge.

As a basic mathematics course for students in life science, differential equations describing various natural phenomena related to life science and their solutions are introduced. Differential equation models and successive approximation are employed to study the spread of epidemics. Mathematical computer programming is used.

As a sequel to <Calculus for Life Science 1>, this course explores the periodic behavior of pendulum and dynamical systems, functions of several variables, series and approximations, Poisson distribution and Fourier series.

As a basic mathematics course for students in business, this course surveys basic calculus for polynomials and rational functions, basic properties and applications of exponential and logarithmic functions, elementary notions of vectors and matrices.

As a basic mathematics course for students in liberal arts, this course begins with the basic notions for differentiation and integration will be derived the fundamental theorem of line integrals from Gauss’ theorem and Stokes’ theorem.

As a basic mathematics course for students in business, this course surveys basic calculus for polynomials and rational functions, basic properties and applications of exponential and logarithmic functions, elementary notions of vectors and matrices.

As a basic mathematics course for students in liberal arts, this course begins with the basic notions for differentiation and integration will be derived the fundamental theorem of line integrals from Gauss’ theorem and Stokes’ theorem.
equations. Examples from economics and management will be discussed.

033.011 Calculus for Humanities and Social Sciences 2

This course introduces students to basic mathematics and its applications. The topics that will be discussed in this course include basic ideas of calculus: limits of functions, derivatives, and logarithmic functions. Topics on Taylor expansion and its applications, as well as optimization problems, will be discussed. Additionally, this course introduces parametric equations and its calculus. Optimization problem and some applications such as computing area, length, and volume are also introduced. Furthermore, we introduce numerical methods like Newton’s method, Riemann sum and Euler’s method. For these we use a mathematical program such as Maple. We aim for students to develop an awareness and an appreciation of the role of mathematics in engineering. This course deals with mathematical principles, methods, and modeling.

033.015 Engineering Mathematics 2

This course covers basic concepts of calculus and its applications. The topics that will be discussed in the course include basic ideas of calculus: limits of functions, derivatives, and logarithmic functions. Topics on Taylor expansion and its applications, as well as optimization problems, will be discussed. Additionally, this course introduces parametric equations and its calculus. Optimization problem and some applications such as computing area, length, and volume are also introduced. Furthermore, we introduce numerical methods like Newton’s method, Riemann sum and Euler’s method. For these we use a mathematical program such as Maple. We aim for students to develop an awareness and an appreciation of the role of mathematics in engineering. This course deals with mathematical principles, methods, and modeling.
This course will provide an introduction to basic statistical concepts. Students will practice applying statistics to other sciences such as natural sciences, social sciences and engineering, and examine computerized statistical techniques. The course provides an overview of basic probability distributions, such as binomial distribution, normal distribution and sample distributions. It will acquaint students with interval estimation and hypothesis testing which are the basic concepts of statistical inferences, and help students enhance their ability to solve actual statistical problems based on their study of regression analysis, categorical data analysis and analysis of variance.

This course will help students enhance their understanding of statistical concepts and improve their ability of actual problem solving in statistics by using the statistical data analysis package. Students will practice sampling, generating random numbers and translating the central limit theorem into graphics. By doing regression analysis, categorical data analysis and analysis of variance, students will develop their problem solving skills in statistics.

This is an introductory physics course for students majoring in natural science or engineering. Topics discussed include gravitation, fundamentals on the motion of particles, energy, wave motion, and thermal physics.

This course provides a fundamental background for statistical methodology. The objective of this course is to help students to develop the knowledge, skills and perspectives necessary to analyze data in order to solve problems arising in biostatistics, life sciences, public health and biomedical disciplines. Topics including summarizing and representing data, probability, statistical inference, hypothesis testing, categorical data analysis, linear regression, logistic regression, analysis of variance, study designs, and survival analysis will be covered. Through real study examples, students can understand data structure, find appropriate statistical methods, and furthermore foster the ability to design a research plan.

This course will help students enhance their understanding of statistical concepts and improve their ability of actual problem solving in statistics by using the statistical data analysis package. Students will practice sampling, generating random numbers and translating the central limit theorem into graphics. By doing regression analysis, categorical data analysis and analysis of variance, students will develop their problem solving skills through getting hands-on experience with statistical software.

This course will provide an introduction to biostatistics. Students will practice applying biostatistics to their study of regression analysis, categorical data analysis, and furthermore foster the ability to design a research plan. This course provides an overview of basic probability distributions, such as binomial distribution, normal distribution and sample distributions. It will acquaint students with interval estimation and hypothesis testing which are the basic concepts of statistical inferences, and help students enhance their ability to solve actual statistical problems based on their study of regression analysis, categorical data analysis and analysis of variance.

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include electricity and magnetism, light, special relativity, basic quantum physics, and atomic and particle physics.

034.003  
**Honor Physics 1**

This course introduces various topics related to our everyday experience as a way to motivate students. To help student to develop the fundamental physics concepts, the course offers a couple of experiment projects and utilizes video and demonstration equipments.

034.006  
**Foundation of Physics 2**

This is a one-semester introductory physics course offered to students in general liberal arts and science. Basic ideas on the particle motion and force, gravitation, waves, electricity and magnetism and quantum theory are explained, to provide students with a general perspective on the physical universe.

034.007  
**Physics for Humanities and Social Sciences**

The course introduces various topics related to our everyday experience as a way to motivate students. To help student to develop the fundamental physics concepts, the course offers a couple of experiment projects and utilizes video and demonstration equipments.
Physics Lab, 1

This course provides students with opportunities to explore various phenomena in nature and to understand the basic physical principles hidden in everyday life by actively participating in a series of experiments. This course provides integrated laboratory experiences to students who want to major in physics, natural science, engineering, and other related fields. Experiments are chosen from topics like forces and motion, energy, waves, and thermodynamics.

Physics Lab, 2

As a sequel to Physics Lab, 1, this course provides students with opportunities to explore various phenomena in nature and to understand the basic physical principles hidden in everyday life by actively participating in a series of experiments. Experiments are chosen from topics like electrical phenomena in matter, magnetic phenomena, light, special relativity, and quantum phenomena in the atomic world.

Basic Physics 2

Basic Physics 2 is intended for students who do not have enough basic physics knowledge necessary for taking college physics courses, including Physics 2. This course will cover elementary physics topics so that the target students can make smooth transition to undergraduate general physics course. If necessary, it can even cover high school level physics. The class will be run as one-to-one tutor system and the content can be adjusted to each students' level of understanding. In concurrence with Physics 1, the following topics will be covered: kinematic description of motion, motions under constant gravitational field and inverse square central field, circular motion, simple harmonic oscillator, collisions, thermal phenomena, dynamic model of gas molecules and basic laws of thermodynamics. Each class will include brief explanation of basic physics concept and problem solving. Homework will be assigned every week. The final grade will be given as S/U.
This course is intended for students to have a first look at the Universe. They will learn by themselves the basic principles for measuring properties of various cosmic objects through laboratory works. They will be also encouraged to study basic observational facts through references and internet sites. In class, professor will theoretically interpret the observations to reveal fundamental principles behind them. The chapters include Kepler and Newton, tidal interaction, observations of sun spot and solar flare; galactic rotation and expansion; mass; expansion of young supernova remnant; classification of stellar spectra and Herzsprung-Russell diagram; expansion of the Milky Way galaxy; physical properties of stars; observations of planets, Moon, or Sun; naked eye observations of the solar system objects and to have first hand experience with basic concepts covered in Chemistry. The gradings will be based on an absolute scale.

Astronomy Lab.

Students may use planetarium, optical observatories and radio telescope in the campus to understand apparent motions of the solar system objects and to have first hand experience of doing observations. They will be encouraged to utilize various internet programs to learn the essence of data reduction procedures. Some may perform numerical simulations to generate theoretical data of their own interest. Students will spend a night at one of the national observing facilities and may witness how astronomers obtain data with large telescopes. In the following listed are the astronomical phenomena and data reduction methods that will be learned through lab activities: apparent motion of solar system objects; eclipse observations of planets, Moon, or Sun; naked eye observations of the milky way galaxy; physical properties of stars; observations of sun spot and solar flare; galactic rotation and mass; expansion of young supernova remnant; classification of stellar spectra and Herzprung-Russell diagram; expansion of the Universe and Hubble’s relation. Special topics for the term project may include the Goldilock’s problem, discovery of exo-planetary systems, supernova, neutron star, black hole, accretion disk, and cosmic microwave background.
This course accompanies Chemistry. Its primary aim is to improve students’ ability to conduct experiments and to deepen their understanding of chemical concepts and reactions.

034.023 화학실험 2 1-0-2
Chemistry Lab.2

This course accompanies Chemistry. Its main focus is on improving students’ ability to conduct experiments and deepening their understanding of chemical concepts and reactions.

034.024 화학실험 1 1-0-2
Chemistry Lab.

Basic Chemistry 1

Basic Chemistry 1 is designed to help students taking Chemistry. It aims to deepen the students’ understanding of chemical concepts and reactions, and improve their ability to conduct experiments and to deepen their understanding of chemical concepts and reactions. This course is mainly focused on teaching students whose majors are closely related to chemistry.

034.026 기초화학 2 1-0-2
Basic Chemistry 2

Basic Chemistry 2 is designed to help students taking Chemistry 2. This course covers the basic principles of chemical bonding, transition metals, coordination compounds, and organic chemistry. It aims to provide students with the necessary knowledge and techniques to understand and analyze chemical processes and phenomena.
the courses and in-depth discussions about social issues related to Life Sciences will be done.

034.031 Biology Lab. 1

Students conduct biology experiments in this course.

034.032 Biology Lab. 2

This course aims to deepen students' understanding of biology through experiments.

034.033 Biology Lab.

This course is designed for practical comprehension of biology through experiments related to Biology and the basic experimental art of biology.

034.034 Basic Biology 1

Basic Biology 1 is designed for those who need basic knowledges of biology for further studies. Also this course is designed for those who want to know more about basic biology. This course will help students to understand and be acquainted with biological sciences. Instructors will consider each student’s knowledge level.

034.035 Basic Biology 2

Basic Biology 2 is designed for those who need basic knowledges of biology for further studies. Also this course is designed for those who want to know more about basic biology. This course will help students to understand and be acquainted with biological sciences. Instructors will consider each student’s knowledge level.

034.036 Earth and Environmental Sciences

This laboratory course is a complimentary one with the course “Earth and Environmental Sciences”. During the course, the students will be involved in various activities on how to understand the Earth. The emphasis will be on historical development of Earth observation.

034.037 Atmospheric Science

This course aims to learn many kinds of weather phenomena and overall atmospheric motions observed in the Earth. In addition to being informative to the up-to-date issues, the course provides general explanations for climate changes, air pollution, and ozone depletion.

034.038 Atmospheric Science Lab.
and conduct simple experiments to increase our understanding of atmospheric characteristics. Dynamical, physical, and chemical experiments will be carried out in connection with the weather phenomenon and we try to accomplish an understanding of the atmospheric motions through those experiments.

Major topics dealt with in the class are physical, chemical, biological and geological characteristics of the ocean and its environments; physicochemical properties of seawater, marine ecosystem, marine biotechnology, origin and structure of seafloor and sedimentation process in the sea. Lectures will help comprehensive and basic understanding of characteristics of the ocean.

Oceanography Lab.

Oceanography

Oceanography deals with the study of the ocean, its properties, and the processes that govern its behavior. Oceanographers use a variety of methods to study the ocean, including satellite imagery, oceanographic profiling, and underwater vehicles. The goal of Oceanography Lab is to provide students with the opportunity to apply the concepts learned in Oceanography class through hands-on experiments and data analysis.

This course will cover general concepts for computers and their application. In particular, students will study word processing, education using computers, design using computers, decision-making support systems, and problem solving methods. As a result, the students will be able to take advantage of Artificial Intelligence techniques and master computer application through practice.
Fundamentals of Computer System

Computers are tools to help humans solve problems. They are used in various fields, including science, engineering, and medicine. This course provides an introduction to computer science and programming language for freshmen. It consists of the fundamentals of programming and the basics of C.

L0444.000100 과학 계산을 위한 컴퓨팅 활용 3-2-2

Introduction to Scientific Computation

This course teaches the principles, methods, and applications of computational thinking and data management. It covers a range of topics pertinent to understanding today's digital society, such as block-based coding, Python, HTML, web crawling, and data visualization. Problem sets are designed to inspire students to apply their knowledge and skills.

L0444.000500 컴퓨터 핵심: 컴퓨터로 생각하기 3-2-2

Core Computing: Thinking with Computers

This course teaches students the underlying principles of computational thinking and data thinking. The principles of computation thinking include data structure, abstraction, composition, hierarchy, module, iteration, induction & recursion, sequentiality & concurrency, state & value, framework, cost, and correctness. The principles of data thinking include randomness, probability, exploration & sketches, prediction by search, prediction by modeling, abstraction, and classification.

L0444.000300 인공지능 입문 3-2-2

Introduction to Artificial Intelligence

Artificial intelligence (AI) studies smart machines that think and act like humans. AI technology is based on the understanding of human mind and brain work and requires interdisciplinary research among humanities, natural sciences, and engineering. This course teaches the principles, methods, and applications of artificial intelligence to provide the students with the basic knowledge and skills required by the future-generation creative talents. Not only the students in humanities, social sciences, and arts, but also those in natural sciences, engineering, and medicine will obtain new computational perspectives on human nature, new tools for problem solving, and insights into the industrial and social changes in the digital age. The course consists of lectures and practices. The practices provide the opportunities for the students in team work to get hands-on experience of solving problems with artificial intelligence tools.

L0444.000400 컴퓨팅 기초: 처음 만나는 컴퓨팅 3-2-2

Basic Computing: First Adventures in Computing

This elementary course introduces the fundamentals of programming, computational thinking, and data management to students. Lectures and lab exercises will cover a range of topics pertinent to understanding today's digital society, such as block-based coding, Python, HTML, web crawling, and data visualization. Problem sets are designed to inspire students to apply their knowledge and skills.
Application of Computing: Machine Learning Concept and Applications

인공지능 기술의 발전이 사회 전분야에 걸쳐 큰 변화를 가져오고 있다. 본 과목은 인공지능 기술의 기초에 대한 기계학습에 대한 기초적인 이해와 이의 활용법에 대하여 다룬다. 강의는 기계학습 알고리즘들의 원리를 소개하는 이론 수업과 기계학습 알고리즘을 실제 데이터에 직접 적용하여 실습하는 실습시간으로 구성되어 있다. 학생들은 여러 가지 회기모델, 분류모델, 군집모델 등을 배울 것이며 이를 직접 활용하여 실습을 수행한다. 예를 들어 분류모델을 학습한 후 이 모델을 의료정보에 활용하여 특정 환자의 발병 확률을 예측하는 과제를 수행하는 것이다. 기본적인 기계학습 알고리즘 이외에도 추천시스템, 네트워크 분석 등의 알고리즘 등에 대하여도 다룬다. 파이썬 프로그래밍이 가능한 학생들을 위한 수업으로 익숙하게 프로그래밍을 할 수 있는 능력이 필요하다.

Artificial intelligence technology is making a tremendous impact on society in general and machine learning is one of the most crucial parts of the technology. This course introduces basic machine learning techniques and teaches how to apply the techniques to real-world datasets. Students will learn basic mechanisms of major machine learning algorithms, and perform activities of applying the techniques to real world examples. For instance, after learning some classification algorithms, students will employ the classification models to estimate risk for disease using patients' medical record. The course will also address how to use machine learning for recommendation and network analysis tasks. This class requires Python programming skills.

Application of Computing: Basics of Natural Language Processing

파이썬 프로그래밍과 컴퓨팅 기본 지식을 보유하고 있는 학생들에게 자연어처리를 소개하고 여러 관련 방법론을 실습하는 수업이다. 텍스트의 전처리부터 시작하여 최신 자연어처리 방법론인 트랜스포머에 대해 학습하고, 최종적으로 트랜스포머 기반의 자연어모델을 활용하여 분류, 요약, 생성, 질의응답시스템, 챗봇 등을 구현해 보도록 한다.

This class aims to help students with Python programming and basic computing knowledge understand natural language processing and learn related methodologies. Starting with the preprocessing of texts, we study the state-of-the-art Technology, Transformer. We finally build Classification, Summarization, Generation, Question Answering, and Chatbot systems utilizing the transformer-based pretrained models.
Language and Humanity

This course is designed to have students understand the variations and universals of human language. The course introduces varying characteristics of individual languages, and identifies them in typological terms as well as the ones in applied/interface areas like language contact/variation, bilingualism, second language acquisition, writing systems, sociolinguistics, and natural language processing. Core data will be selected from Korean, English, Chinese, German, French, Russian, Spanish, etc., and the relevant issues will be discussed in the socio-cultural and historical context of the language communities.
In traditional times, Korean literary figures sought out beautiful mountains and rivers, visited historic sites and wrote about them, made frequent trips to the provinces on official business, and even expressed through literature their experiences when they fell afoul of those in power and were exiled to remote areas. In addition, scholar-officials in traditional times recorded their experiences after returning from trips to China and Japan as emissaries, and when in modern times the scope of their journeys broadened to include places such as Russia and the United States, they produced a variety of literary works that expressed their perceptions of this new world. In this context, this course aims to 1) help students understand perceptions of nature, civilization, and the world through classical works that deal with travel, 2) foster understanding of the Korean way of life, from traditional to modern times, through the keyword of “travel”, and, based on the above, 3) familiarize students with the means of properly expressing their own experiences of traveling at home and abroad.

The Depth and Imagination of Korean Literature

Explore our traditional folklore and music to understand the role and function of cultural awareness. In modern times, through the keyword of “travel”, and based on the above, 3) familiarize students with the means of properly expressing their own experiences of traveling at home and abroad.

Korean Vocabulary Training

This course is designed to improve students’ command of Korean vocabulary and expressions (phrases, idiomatic expressions, sayings) needed to compose and comprehend advanced and academic writings. Students must have a strong understanding of the Korean way of life, from traditional to modern times, through the keyword of “travel”, and based on the above, 3) familiarize students with the means of properly expressing their own experiences of traveling at home and abroad.

Understanding Media Literacy

By promoting fundamental and advanced writing and literacy skills, this course will prepare Seoul National University students to become leaders in their respective fields as professional intellectuals. First, students will analyze Korean literature in a variety of cultural media in order to comprehend their nature. Second, they will master the essentials of proper writing. Third, they will identify and correct the various errors in existing texts. Fourth, they will divide into groups and develop specific skills related to writing the types of cultural media texts in which they are interested. Lastly, they will hear from media guest lecturers, who will not only speak about the prospects of their profession but teach proper writing in their respective fields.
vocabulary in order to improve their composition and comprehension abilities. The course will emphasize Sino-Korean vocabulary in order to teach students the structure of Korean words and enable them to expand their vocabulary effectively. Students will be exposed to vocabulary and expressions from various fields of knowledge.

041.010 한국현대시 읽기 3-3-0

Reading Modern Korean Poetry

이 강좌는 1920년대부터 2000년대까지 우리 현대시[現代詩]를 대표할 만한 시인과 대표작을 읽으며 읽고 감상하면서 현대시의 기본적인 원리와 개념을 이해하고 시 각자의 줄거음을 다시 한 번 관찰시켜주기 위한 것이다. 이 과정은 우리의 독자들이 다음 현대시의 코너로 필요한 기본적인 시론과 시사를 정리할 것이다. 아울러 현대시에 나타난 다양한 문학적 체험을 함께 경험해 보으며 이해의 폭을 넓혀보려 한다. 여러 예술 장르를 비롯하여 역사, 정치, 민중 등의 이념뿐만 아니라 사랑, 음식, 패션, 대중가요 등과 같은 대상을 평가하게 산입하고 공부하며 ‘시적 인물’에 대한 원론적인 의미 역시 생겨나다는 것이다. 이 과정에서 다루는 시는 함께 읽으며 ‘향도’할 수 있는, 좋은 시들이 다. 그로써 시를 좋아하는 학생들은 누가 이 강좌를 읽게 되는지, 그로써 현대시에 대한 이해가 깊어질 것이다. 그러나 대학의 교양 수준으로서의 시의 ‘감성’이라는 생각을 읽고 독해하는 수준을 달래시킬 필요가 있다. 우리는 읽은 시의 시름을 알기 위해 몇 두 순간 대상을 관통하는 중요한 시적 정신의 행방을 탐색해 봤을 때, 그 단계가 될 것이다.

In this lecture we will read meticulously and will view the worth of representative poets and masterpiece in Modern Korean poetry from the 1920s to the 2000s. Also, we will understand concepts, basic principles of modern Korean poetry and will study basic poetics and theory of poetry at the same time. In addition, we will widen the extent of the university's level of education and will be able to read poems, by doing so, we will have a time to think of 'What is modern poetry'.

041.017 한국의 한자와 한자어 3-3-0

Korean Usage of Chinese Characters

본 과목은 한국어와 한자어에 대해 충분한 교육을 받지 못한 국내 학생이나 외국 유학생들로 하여금 학습활동 및 일상생활에서 자주 쓰는 중요한 한국어와 한자어를 정확하게 알게 하기 위한 목적으로 한다. 고급 한국어를 구사하고 창의적인 글을 쓰기 위해서는 한국어의 2/3 이상을 차지하고 있는 한자어에 대한 깊이 있는 이해가 필요하다. 이를 위해서 본 과목에서는 사용빈도가 높은 한자어를 중심으로 하여 한자어의 구성 원리, 한자어의 유래와 의 미 등에 대하여 강화한다.

The goal of this course is to improve students' knowledge of classical Chinese as educated persons. Improving the ability to use Chinese characters and Chinese character-based words will establish a foundation for university studies and activity in society as an intellectual. Students will learn Chinese characters and Chinese character-based words, as well as how they are actually used, allowing the students to accurately read and write Chinese characters and Chinese character-based words in everyday life.

041.018 한글맞춤법의 이론과 실제 3-3-0

Theory and Practice of Hangul Orthography

이 과목은 올바른 어문 생활의 필수적인 요소인 한글맞춤법을 비롯한 국어의 어운규범 제반에 대해 그 원리를 이해하고 실제 학습에서 적용할 수 있는 능력을 기르는 것을 목적으로 한다. 어문규범은 교양인이 갖추어야 할 매우 기본적인 소양 중 하나이며 급소기의 가장 기초적인 요소이다. 그럼에도 현대 중등 및 고
동양의 고전 3-3-0

Introduction to Oriental Classics

동양의 고전은 우리나라의 고전과 중국의 경서, 제자집성, 교제류, 문학류 등이 포함되며, 역사적으로 일본, 인도 등의 고전이 포함될 것이며, 생경, 불경, 코란 등의 종교문헌도 포함될 것이다. 이 강의는 동양 고전과 동양의 고전에 나타나는 인간의 본질, 심성, 의무, 사고, 생활 등에 대한 관점을 종합하고, 이에 대한 적절한 주석 및 번역을 가한 교재를 제공한다. 교재에는 사고의 핵심 부분을 명시하며 학생들에게 이에 대한 생각을 하게 하고, 이에 대한 리포트를 제출하게 하고 토론하게 한다. 이 강의는 학생들에게 동양의 고전을 통해 인간에 대한 신비와 사랑을 회복할 수 있기를 기대한다.

이 강의는 동양 고전과 동양의 고전에 나타나는 인간의 본질, 심성, 의무, 사고, 생활 등에 대한 관점을 종합하고, 이에 대한 적절한 주석 및 번역을 가한 교재를 제공한다. 교재에는 사고의 핵심 부분을 명시하며 학생들에게 이에 대한 생각을 하게 하고, 이에 대한 리포트를 제출하게 하고 토론하게 한다. 이 강의는 학생들에게 동양의 고전을 통해 인간에 대한 신비와 사랑을 회복할 수 있기를 기대한다.

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This course aims to develop the ability to understand the principles of general norms of the Korean language including Hangul orthography, and apply them to everyday life. Owing the norms is the most fundamental element for writing as one of the properties required for cultured persons. How-ever, they are not taught well in secondary educations. This course will study classic texts of literature, philosophy and religion from ancient Korea, China, Japan, and India, as well as other Asian countries. It aims to comprehend human nature, thought, and lifestyle through these texts.

L0545.000900 중국인의 언어와 문화 3-3-0

Understanding Chinese Language and Culture

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한국어와 비교해 전 세계에서 중국어에 대해 관심을 보이고 있다. 그렇지만, 그러한 중국어에 대해 공식적, 통용적, 그리고 문화적 배경을 토대로 언어적 특성을 제시한 과목은 거의 존재하지 않았다.

이 때문에 중국어 학습은 그들의 깊고 풍부한 문화적 배경이 배제된 상황에서 이루어져 무기근조한 것이 되었다. 본 강좌는 이러한 점을 극복하고 , 중국어라는 사람을 기준으로, 그들이 사용하고 있는 언어의 면을 꼭작하여 사용이 일반히 보이는 문화적 특성을 가하여 인용을 설명하고 한다. 이를 위해 중국어의 기본적 특성을 우선 습득하고, 이를 토대로 중국내의 소수민족의 언어와의 비교, 표준어와 방언의 비교, 한자어어의 비교 및 한국어로서 중국어를 배울 때 나타나는 특징 등을 논고후 적용하여 중국어에 대한 이해의 폭을 넓히고자 한다.

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041.019 현대사회와 국제어 3-3-0

Modern Society and Global Language

¢ 현대사회와 국제어는 “현대 사회에서 세계어는 필요한가”, “필요하게 이런 왜곡을 가지게 되겠습니까?”, “세계어의 역할은 무엇이며 다양한 분야에서 어떻게 사용되는가?” 등의 여러 문제에 대해 고찰할 것으로, 학생들이 고찰하는 세계어의 중요성을 이해하고 대처할 수 있도록 하기로 한다. 강의는 주로 세계어로서의 역할을 하는 영어를 주제로 하여 영어가 세계어로서의 역할, 영어와 세계어로서의 영어와의 비교, 영어 사회 및 문화에서의 영어의 또 다른 기능 및 변화를 관할한 영어에 대한 이해를 돕기 위하여 현대 사회의 다양한 영어의 역할, 영어를 포함한 여러 문화에서의 영어, 그리고 영어의 역할 등을 고찰할 수 있도록 한다. 이 강의는 학생들에게 다음과 같은 주제에 대해 고찰해봄으로서 국제어의 역할과 그에 따른 인식을 되돌리게 한다.

This course fosters students’ understanding of the fast emerging transnational English-speaking culture by exploring such socio-linguistic themes as language and gender; language and race; as well as cultural diversity. It will provide students with skills needed to make them into international citizens and leaders in today’s global society.

041.022 서양근대문학의 이해 3-3-0

Understanding Western Literature, 1500-1900

시원이 비시양과의 만남을 통해 구성되었으며 그 양장은 서양 근대문학에 나타난née 전체의, 강의의 전반부에서는 서양 근대문학의 성격을 결정한 여러 사항 중 특히 사회성의 발견이 문학작품에 어떻게 분석되고 논의되며, 사회성의 발견으로부터 일정한 사회적 변화를 종합하고, 후반부에서는 서양의 제국주의적 지배와 근대 문학의 접점을 찾아보도록 한다.

Understanding Chinese Language and Culture

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In this course, students will study modern European 1st-terature. The course will focus on literary discussions and representations of the encounter between the East and the West. In addition, the historical events that ushered in the new era, shaping and developing modern European literature, will be examined.

L0545.001000 문학으로 읽는 서양문명 3-3-0

Reading Western Civilizations through Literature

This course is designed for students approaching English literature for the first time. Readings will begin with poems for the first time. Readings will begin with poems and expand the understanding of Anglophone cultures. Various popular genres, such as detective fiction, science fiction, fantasy, and children’s/young adult fiction, can be covered in this course.

041.027 영시의 이해 3-3-0

Understanding English Poetry

This course is designed for students approaching English poetry for the first time. Readings will begin with poems from the Romantic period.

041.028 영어로 읽는 세계문학 3-3-0

World Literature in English

In this course, we will read selected writings of Freud and think about the basic assumptions he brought into his interpretations of human mind, society, and artistic creation, and literature. Finally, we will proceed to the in-depth study of selected literary and/or philosophical texts. Then, we will examine various philosophical issues raised on the side of literature. For our better understanding of the problems, we will read selected literary texts whose contents are closely related to various philosophical issues. Now, we will examine various perspectives and opinions presented by philosophers as to the idea of art and literature. To do so, we will read some philosophical texts whose arguments are closely related to various issues of art and literature. Finally, we will proceed to the in-depth study of a philosophically and literally problematic issue through a specific concept such as tragedy, existentialism, imagination, deconstruction, or romanticism. The issue dealt at this session may be changed every semester.

041.025 문학과 철학의 대화 3-3-0

Literature and Philosophy in Dialogue

This course aims to improve reading proficiency in English literature. This course aims to improve reading proficiency in English literature. The main objective of this course is to examine the inter-relationship between literature and philosophy. First of all, we will review the love-and-hate relationship between literature and philosophy from the ancient mythic age to the present time. And we will delve into the problem of 'perception' and 'interpretation' through selected literary and/or philosophical texts. Then, we will examine various philosophical issues raised on the side of literature. For our better understanding of the problems, we will read selected literary texts whose contents are closely related to various philosophical issues. Now, we will examine various perspectives and opinions presented by philosophers as to the idea of art and literature. To do so, we will read some philosophical texts whose arguments are closely related to various issues of art and literature. Finally, we will proceed to the in-depth study of a philosophically and literally problematic issue through a specific concept such as tragedy, existentialism, imagination, deconstruction, or romanticism. The issue dealt at this session may be changed every semester.

041.023 문학과 정신분석 3-3-0

Literature and Psychoanalysis

In this course, we will review selected writings of Freud and think about the basic assumptions he brought into his interpretations of human mind, society, and artistic creation, and literature. Finally, we will proceed to the in-depth study of selected literary and/or philosophical texts. Then, we will examine various philosophical issues raised on the side of literature. For our better understanding of the problems, we will read selected literary texts whose contents are closely related to various philosophical issues. Now, we will examine various perspectives and opinions presented by philosophers as to the idea of art and literature. To do so, we will read some philosophical texts whose arguments are closely related to various issues of art and literature. Finally, we will proceed to the in-depth study of a philosophically and literally problematic issue through a specific concept such as tragedy, existentialism, imagination, deconstruction, or romanticism. The issue dealt at this session may be changed every semester.
This course introduces various writers from different racial/ethnic/cultural backgrounds who are writing in English or whose works are translated into English. Its aim is to help students develop a comprehensive and critical understanding of the world and its cultures through English as international language. Focusing on a variety of issues including (colonial/postcolonial) identity, gender, race, nationality, etc., students will gain insights into other cultures, not as different national postcolonial identity, but rather as different cultural backgrounds who are writing in English or whose works are translated into English. Its aim is to help students develop a comprehensive and critical understanding of the human nature and culture.

This course is open to freshmen in the French Department and students of other disciplines who are interested in French literature and culture. It contrives an understanding of French literature and culture, focusing on its main authors and their works. The course is built up by commentaries on various works, home reading assignments and discussions.

**Understanding French Masterpieces**

Bolzano & 1-학년 학생들과 불문학, 문화에 관심이 있는 일반 전공 학과의 학생들을 대상으로 하여, 불문학사상의 중요한 작가들을, 혹은 우리에게 널리 알려진 작가들의 작품을 중심으로 불문학과 프랑스 문화에 대한 이해를 도모한다. 강의는 작품 해설, 독서 과제, 토론 등의 형식으로 진행된다.

In this course, we will explore the theme of love in French literature and contemplate on different aspects of human nature, relationships, and society in relation to love. This course will provide an overview of the history of French literature by using various texts from medieval to contemporary ages and will allow students to analyze literature in depth.

**Language in the Mind**

**041.029 말과 마음 3-3-0**

Language in the Mind

We live in the age of ‘Human Cloning’. With ‘Human Cloning’, we usually think of the progress of biology and genetic engineering proceeding drastically. However, from a perspective of humanities, theoretical imaginary knowledge system on human nature, ‘Human Cloning’ is not a vision on future or a recent phenomenon, but a series of attempt since 4 centuries, at the latest from Descartes.

Western literature has made strenuous efforts for both the concrete issue of ‘Human Cloning’ and the essential and abstract issue of ‘mechanical view on Human beings’. This lecture aims at getting an opportunity to speculate the issue of humanities in a complex and fundamental way, grasping ambivalently, positive vision and critical issue-raising of the last 4 centuries concerning two themes, ‘Human Cloning’ and ‘mechanical view on Human beings’. Examining the notion of ‘Human Cloning’ and the specificity of Human beings distinct from the Primates, this lecture attempts fundamental understanding on the human nature and the relation between nature and culture.

This lecture intends an interdisciplinary lecture that combines diverse domains of philosophy and anthropology on the base of methodology of literary research. Hence, for main texts we adopt literary works, and for secondary texts theoretical works related to the themes of those literary works. And also, we refer to recent movies to lay out contemporary meaning of the themes.
The historical and social factors influencing women's discourses are described mainly by male authors. The second half takes a present perspective, focusing on femme fragile and femme fatale, with representative works from the eighteenth century to the contemporary period, students will gain an understanding of man and society.

This course aims to analyze the identity of women described in the literature. The first half of the course deals with traditional themes such as motherhood, eroticism, but also presents issues such as modernity, urbanity, and body. We will consider not only traditional themes such as motherhood, eroticism, but also issues such as modernity, urbanity, and body.

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Literature and Film

Literature and film are used to examine the peculiar ways of representation used in the original novels and their visual equivalents. The course aims to understand how the self-reflective and realistic features of novels are applied to the genre of film. To do this, it examines the original novels and their film versions of Don Quijote and Robinson Crusoe, both of which are considered to have had a significant influence on the development of modern novels, yet are marked by different structural features.

This course explores the complex interplay between literature and film and their respective characteristics as artistic genres by reading literary works and comparing them with their visual equivalents. The course aims to understand how an understanding of the peculiar ways of representation used in literature and film by analyzing the different ways in which various social and cultural issues are represented in literature and film.

Understanding of Hispanic Masterpieces

This course will explore outstanding literary masterpieces and cinematic achievements of Spain and Hispanic America. Its aim is to enable students to understand Hispanic culture, history, and tradition. The examined texts will consist of literary works that have been translated into Korean and films subtitled in Korean or English. Particular emphasis will be placed on student participation.

World Languages

This course extends the concept “language” within a variety of perspectives, and applies the concept to human life and the universe. Thus, the course will let the students explore the universality of “information” and “communication” in many academic fields.

The course will provide the basic understanding of human language—its structure in form and meaning, its nature, its way of existence, and its generative principles. Further, the students will explore the key concepts in more general contexts such as [natural language vs. artificial language], [symbolic systems and tools for encoding world information], [information structures in art/music and design], [the patterns of communication in these “languages”], and [the roles of human participants in the communication].
Western culture will be explored. This course is designed to introduce students to the linguistic, psycholinguistic, neurolinguistic, sociolinguistic and educational aspects of bilingualism. The class will examine how bilingualism is defined and measured, the development of bilingualism, the contact language phenomena of bilingual speakers, the psycholinguistic and neurolinguistic bases of bilingualism, the sociolinguistic phenomena of bi/multilingual societies, the issues of education and language policy for bilinguals.

041.044
Greek Tragedy 3-3-0

Greek Tragedy

This course will build a basic understanding of Greek mythology through reading modern English translations. The relationship between literature and mythology will also be explored by examining how myths are used in works of literature.

041.045
Greek & Roman Mythology 3-3-0

Greek & Roman Mythology

This course is designed to introduce students to the linguistic, psycholinguistic, neurolinguistic, sociolinguistic and educational aspects of bilingualism. The class will examine how bilingualism is defined and measured, the development of bilingualism, the contact language phenomena of bilingual speakers, the psycholinguistic and neurolinguistic bases of bilingualism, the sociolinguistic phenomena of bi/multilingual societies, the issues of education and language policy for bilinguals.

041.046
World of Ancient Greek & Roman Literature 3-3-0

World of Ancient Greek & Roman Literature

This course surveys Greek and Roman poetry, epics, and tragedies to provide a comprehensive understanding of Greek and Latin literature. The characters and themes of these works are analyzed to study the values and “weltanschaung” of ancient Greeks and Romans. They are then compared to the values of modern times.

Reading Masterpieces of Eastern and Western Literature

This course surveys Greek and Roman poetry, epics, and tragedies to provide a comprehensive understanding of Greek and Latin literature. The characters and themes of these works are analyzed to study the values and “weltanschaung” of ancient Greeks and Romans. They are then compared to the values of modern times.
been growing an attention to Drama that is one of the contents produced from new media. Such a keen interest in Drama is expanded to overall cultural industry through ‘storytelling’ or ‘culture contents’. Most of all, it is noteworthy and remarkable that this trend reflects emphasis on the necessity of academical approach as well as the discovery of the dramatic aesthetic values. In this time, the ‘Drama’, the dramatic art in general, could be understood as the comprehensive concept covering theatre, musical, film, television drama and all that sort of things. Drama is a word originated from the ‘behave’, distinguished from a word ‘Theater’ that is derived from ‘See’. It stresses that Drama represents the essence and nature of the Dramatic art. The main objective of the course is to enlarge the understanding of Drama that increasingly gains attention as the significant cultural genre and expose students to both the theory and practice of the Drama. For this purpose, the course considers the nature of the Drama theoretically and study various elements comprising Drama in the first part of the lecture. In the second part, we will have a chance to watch a piece of the Drama in various aspect on basis of these study.

042.003 창작의 세계 3-3-0
Understanding Creative Writing

이 교과목은 서울대학교 학생들의 문학 창작에 대한 이해를 높이고, 문학 작품에 대한 비평적 시각을 제공하며, 나아가 문학작품을 스스로 창작할 수 있는 연습을 수행함으로써, 한국문학에 대한 구체적인 지식과 경험을 습득하는 것을 목표로 삼는다. 이를 위해 이 교과목은 강의자와 학생들의 폭넓은 접촉, 그리고 학생들의 작품 발표, 작품에 대한 감상과 비평 등을 복합적으로 활용하여, 학생들이 창작 세계를 참신하고도 날카롭게 이해할 수 있도록 하 고자 한다. 또한 이 교과목은 문학의 한정에서 실제로 활동하고 있는 작가를 초청하여 강의를 수강할 수 있도록 함으로써 학생들의 형편 또한 다르지 않는 작가를 초청하여 강의를 수강할 수 있도록 하였다. 학생들은 이 과정에서 문학에 대한 감식안을 갖게 되고, 한국문학과 문학 전반에 대한 관심과 흥미를 가질 수 있게 되며, 문학을 보다 전문적으로 공부하기 위한 예비적 준비를 하게 된다.

This subject aims to acquire detailed knowledge and experience of Korean literature by helping Seoul National University students understand creative writing, offering critical views on literatures, and further practicing writing. To this end, this subject combines lecture, students’ discussion and presentations, and literary appreciations and reviews to help students develop a creative insight and have a sharp understanding of creative writing. Also lectures by invited authors give students on-hand experience while increasing interest in this subject. In this process, students can have a discerning eye and interest in various literatures including Korea literature, and get ready for the study of professional writing.

042.004 한국의 신화 3-3-0
Korean Mythology

신화에 관한 한 한국인들이 지니고 있는 즐거운 그리스 로마 신화이다. 오랫동안 동양의 문화 전반에 걸쳐 큰 영향을 미치면서, 특히 한국의 삼국은 단순한 것도 한국 문화의 공통점을 많이 갖고 있어 한국문화에 속하는 것으로 볼 수 있다. 본 과목에서는 한자와 관련된 동양의 문화의 그 속에 담긴 동양의 색과 방식을 상세히 살펴보는 것을 그 목적으로 한다. 강의 내용은 다음과 같은 내용이 포함한다: 1) 한국의 민족과 문명, 2) 신화와 민족의 문명, 3) 한자와 동양의 민속, 4) 한자와 동양의 문화, 5) 한자와 동양의 문학, 6) 한자와 동양의 예술.

Since the form Jiagou wen (Oracle-bone Inscription), Chinese Characters have had a great influence on oriental culture throughout their long history. It is what China, Korea, and Japan have in common in their cultures; thus, they belong to the same cultural field called the “Cultural field of Chinese Characters.” This course aims to foster understanding of the East Asians’ way of thinking as reflected in their own culture through Chinese Characters. The following are the course contents:

1) Historical changes and developments of Chinese Characters
2) Original meaning of Chinese Characters used in today’s - 40 -
practical life.

3) Chinese Characters vis-a-vis Asians’ life: agriculture, names, taboos.

4) Chinese Characters vis-a-vis modern people’s interest: Si junzi (four noble characters; Plum, Orchid, Bamboo, and Chrysanthemum design), calligraphy.

5) Looking for new ways to utilize Chinese Characters and oriental culture: Design.

This course will use various virtual materials that can help students gain understanding on each course content. For part 5 in particular, student participation will be encouraged to determine and discover aspects of Chinese Characters that are applicable to today’s practical life.

042.006 중국어권의 사회와 문화 3-3-0

Understanding the Society and Culture of the Sinophone World

이 강의는 갖수록 그 영향력이 증대되어 가는 현재의 중국(大 中) 및 중국어권(대만, 홍콩 그리고 세계 각 지역의 화교사회)의 사회, 문화적 현상과 행태의 발전방향에 관심을 가진 학생들을 위해 개설되었다. 1970년대 말 개별학과시절 시작한 이래, 연평균 9% 가 넘는 경제성장률을 이어온 중국의 발전은 이제 미국과 아시아를 나란히 하는 글로벌 히트로 인정받는 현상에 이르렀다.

중국이 이룬 급속한 발전의 배후에 대한, 홍콩 및 전 세계 화교사회와의 긴밀한 연계와 협력이 있었음을 풀물이다. 본 강의에서는 오늘의 중국이 이룬 발전을 가능하게 한 요인들을 문화적, 역사적, 정치적 맥락에서 들여다보는 동시에 중국 대륙의 다른 역사적 경향성(발전경로)을 기반한, 홍콩, 기타 화교권이 갖는 내목 관계와 사회적, 문화적 동일성과 차별성에 대한 이해를 통해 범중화권 사회에 대한 신식의 확정확장으로써 미래의 변화에 능동적으로 대처할 역량을 갖추는 데 그 목표를 둔다.

This is an undergraduate course designed for students interested in understanding the society and culture of mainland China and the larger Sinophone world (Taiwan, Hong Kong, and ethnic Chinese communities around the globe). China’s economic growth since its reform and opening in the late 1970s, averaging over 9% per year, has allowed the country to gain influence and to emerge as a global leader on a par with the U.S. Behind this rapid development lie close cooperation of, and coordinations with, Taiwan, Hong Kong, and the ethnic Chinese network worldwide. This course will survey the factors enabling China’s development from cultural, historical, and political perspectives, and seek to understand both the sociocultural similarities and differences marking the Taiwanese and Hong Kong experience, as well as the experiences of diasporic Chinese communities, vis-a-vis mainland China. Attention will be paid to both the present situation and possible avenues of future development. The aim is for students to acquire the breadth and depth of understanding necessary to respond actively to future global changes headed by the Sinophone world.

042.007 미국문화와 현대사회에의 이해 3-3-0

Understanding American Culture and Contemporary Society

미국문화와 현대사회에의 이해를 통해 현대사회에의 이해를 목표로 하는 강의이다. 미국에 대한 복잡하고 깊이 있는 이해를 위해 제2차 세계대전 이후의 다양한 역사, 철학, 대중문화, 문학 텍스트를 고찰하여 미국문화가 현대를 살아가는 우리와 어떤 관계를 맺고 있는지 다각적으로 정점하고자 한다. 이를 위해 현재 미국문화를 구성하며 급증하고 있는 주요한 사회적 현상--미국의 예외주의, 소비주의, 세계화와 대중문화, 다문화주의, 생태주의--들을 공시적, 동 시적으로 살펴볼 것이다.

The main objective of this course is to gain a deeper understanding of the world we live in through an in-depth exploration of American culture. Undoubtedly, the US has emerged as hegemonic power and accordingly, has been wielding an enormous influence over the world since the fall of the Soviet Union. Along with this, American popular culture has also transformed many cultures around the world. Therefore, gaining a proper understanding of the US and its culture is mandatory for SNU students training to become the leaders of 21st-century. This course will introduce students to a variety of texts across various disciplines - history, philosophy, cultural studies, literature etc. - in order to understand how American culture interacts with and shapes the world we live in. Many of the important social and cultural movements and trends since World War II, which have contributed to the reshaping of the contours of American culture - American exceptionalism, consumerism, globalization and mass culture, muticulturalism, ecoculturalism - will be examined from various perspectives, both synchronically and diachronically. We will rely on texts written in English whenever necessary and also utilize visual materials to aid and guide us.

042.008 영미문화 읽기 3-3-0

Reading Anglo-American Culture

정신된 여러 장르의 영미 문학을 꿈꾸는 앞으로 고급 영어 능력을 키우는 한편, 영미의 주류 문화를 깊이 이해하는 것을 목표로 하는 강의이다. 다양한 단편 스토리에 주목하여 수준 높은 영어 글쓰기를 어떤 것인지를 배우기 위해 고급 영어 글쓰기를 위한 초석을 다질 수 있을 것이다. 아울러 여러 시대에 걸친, 여러 장르의 글--예시, 소설, 사전, 회고록, 역사서, 정치, 장편소설 등--의 당대의 문화현상을 재감상하면서 전폭적인 문학정신에 주목함으로써 영어 문화에 대한 신식에 도달하는 데 봉사 가능한 도구로서 한다. 서로 다른 시대와 역사적 상황 속에서 생산된 글쓰기가 사량에 속하는지, 역사와 문화, 인간과 사회, 전쟁과 평화의 동등 현상에도 이론적, 응용적으로 도움이 되는 것임을 각인시켜 주는 데 주목한다.

This course introduces students to Anglo-American mainstream culture by reading selected prose works of various genres-essays, short stories, biographies, historical writings, memoirs, political pamphlets, etc. in English. Through intensive reading of texts, students are expected to improve reading skills in English. Along with this, various writing styles shaped by and resistant to the idea of culture will be discussed in a way that students can gain an in-depth knowledge of Anglo-American culture.

042.009 상상력과 문화 3-3-0

Imagination and Culture

이 강의는 이야기와 상상력이 생생되고 방위되는 상상계와 상상적 공간을 주제로 taught하는 강의이다. 따라서 이 강의의 핵심은 상상사례의 실제성에 관한 문제로 한다. 따라서 이 강의는 상상사례의 실제성에 관한 문제로 한다. 따라서 이 강의는 상상사례의 실제성에 관한 문제로 한다. 따라서 이 강의는 상상사례의 실제성에 관한 문제로 한다.
042.010 프랑스어권 문화의 이해 3-3-0
Understanding of the Francophone Culture

This course will primarily introduce the characteristics of the imaginary world, a place for the creation and manifestation of images. It offers a framework for the understanding of the functions and working principles of imagination. In this course, we seek to deepen understanding of the Francophone society by reading French texts that deal with cultural phenomena in a geographical and historical context of beyond the boundaries of separate disciplines will be performed. Imaginary world, an overview analysis of human studies be order to draw a methodology and a new epistemology of the functions and working principles of imagination. In this course, we will analyze various cultural texts themselves, survey specificity and generality of the cultural text exists independently. Rather all texts exist in the frame of the Russian culture. Also in that process, that is during our survey on the identity of the Russian culture, formed by Russians’ concrete lives, we will deeply understand not only the Russian culture but our own culture within the framework of the world culture.

042.011 서양연극의 이해 3-3-0
An Introduction to Western Drama and Theater

This course surveys the development of drama in countries that speak Germanic (English, German), Romance (French, Italian), or Slavic languages. Students will analyze these ancient as well as contemporary representative works and theories of the theater as part of world literature. Audio-visual materials concerning the performance of classical works will be used to treat the relationship between Western and Eastern drama.

042.012 독일어권 문화의 이해 3-3-0
Understanding of the Germanic Culture

This course aims to enhance students’ understanding of various forms of texts-literature, music, painting, drama, movie texts-which form the base of the Russian culture. No cultural text exists independently. Rather all texts exist in the organic nets of history and society created by human beings. Therefore looking into these texts through micro/macro-analysis, we will survey specificity and generality of the Russian culture. Also in that process, that is during our survey on the identity of the Russian culture, formed by Russians’ concrete lives, we will deeply understand not only the Russian culture but our own culture within the framework of the world culture. Works of art reflect and create unconscious/conscious memories of artists’ experiences, being re-experiences and re-creation of society’s culture which artist belongs to. Especially, analysis of the Russian literary works that identify life with memory enable students to have a broader understanding of the circumstances artists are facing as well as their biographical facts, and analyze texts that can be identified as various

042.013 러시아인의 삶과 문화 3-3-0
Russian Life and Culture

This course aims to enhance students’ understanding of various forms of texts-literature, music, painting, drama, movie texts-which form the base of the Russian culture. No cultural text exists independently. Rather all texts exist in the organic nets of history and society created by human beings. Therefore looking into these texts through micro/macro-analysis, we will survey specificity and generality of the Russian culture. Also in that process, that is during our survey on the identity of the Russian culture, formed by Russians’ concrete lives, we will deeply understand not only the Russian culture but our own culture within the framework of the world culture. Works of art reflect and create unconscious/conscious memories of artists’ experiences, being re-experiences and re-creation of society’s culture which artist belongs to. Especially, analysis of the Russian literary works that identify life with memory enable students to have a broader understanding of the circumstances artists are facing as well as their biographical facts, and analyze texts that can be identified as various
cultural memories accumulated in culture.

042.014 스페인어권 문화의 이해 3-3-0
Understanding of the Hispanic Culture

이 과목은 스페인어로 작성된 신문, 방송, 문학 텍스트 등 다양한 매체를 통하여 스페인어권 사회와 문화 전반에 관하여 전반적으로 다룬다. 이들 매체의 스페인어권에서 일어나는 각종 사회적 및 문화적 변화를 정단적으로 관찰하고, 스페인어권 문화의 특징과 목적으로 스페인어권 문화와 사회적 배경을 살펴보고 이를 체계적으로 학습한다.

In this course, students will acquire knowledge of Hispanic culture through various media including newspapers, broadcasting, and literature. They will examine current issues systematically and concretely and investigate the culture and society of Hispanic countries.

042.015 동양의 미술과 문명 3-3-0
Art and Civilization in Asia

본 과목은 중국, 한국, 일본, 인도, 동남아시아 등 동양의 미술 전통에서 창출된 미술작품들을 예술사와 역사적 맥락 속에서 살펴봄으로써 예술에 대한 인식을 높이고 인류의 예술문화유산에 대한 이해를 증진하는 것을 목적으로 한다. 제한된 시간에 광범위한 범위를 다루어야 하는 만큼 논의와 해석이 요구되나 역사적, 문화적 요인과 다른 시대의 작품들로 제한하여 그 작품의 조형 양상과 문화적 의미를 집중적으로 조명한다. 사상과 종교, 사회와 경제, 다른 예술 분야 등과의 관련 양상을 해명하는 데에도 비중을 두도록 한다.

This course is an investigation of traditional art from China, Korea, Japan, India and Southeast Asia, focusing on the respective country's ideology, religion, society, and economy as well as other fields of art.

042.016 현대종교와 문화 3-3-0
Contemporary Religion and Culture

종교학적 통찰력을 갖고 오늘날 세상 문화를 이해할 수 있는 눈을 길러주는 과목이다. 특히 현대 종교학에서 핵심적으로 강조되는 신앙 및 텍스트 해석, 전통-천문학적 관점, 구조-기능론적 시각, 문물-현상학적 관점, 다양한 문화적 비교 사례 등을 바탕으로, 이들 오랜 인문학적 연구의 주제로 등장한 다양한 문화들(특히 예외 및 농어문화, 생산 및 소비문화, 페미니즘문화, 생명 및 환경문화, 사회 미술로 현대문화, 한국 전통 및 현대문화)을 어떻게 새롭게 이해하게 하는지 고찰한다. 또한 이러한 종류의 여러 문화를 어떻게 해석하고, 이해하고 전개하고자 하는 제제적으로 일관한다. 다양한 종교들 간의 대화문화를 통해서 새롭게 형성되고 있는 세계 종교현상 변화와 새로운 전략적 양식 문화들이 출현하여 비판되는 인간의 종교적 이기적 문화의 기본 일맥을 장조적으로 해석한다.

This course will cultivate students’ understanding of modern culture through religious studies. Taking the various perspectives and ideologies emphasized in modern religious studies as a basis, students will learn numerous ways one can view modern culture.
of art criticism. This course addresses philosophical and methodological questions relevant to criticism of the arts, especially the question of value and evaluation. It discusses the issues regarding interpretation of artworks, examining theories of interpretation with examples of actual artworks. Also, it examines various aspects of art's value including aesthetic value, cognitive value, moral value, etc. It then moves on to the issue of applying standards of evaluation to some controversial cases found in the area such as erotic art, public art and popular art. Finally, some meta-critical issues are addressed. It aims that, through the course, students can develop their ability to appreciate artworks critically, acquire some knowledge about artists, artworks and their cultural backgrounds, and eventually cultivate analytic attitude, 'good taste' and sensitivity appropriate for current multi-cultural society.

**042.025** 音楽論入門 3-3-0

**Introduction to Theory of Music**

This course addresses the validity of the dichotomization and differences between the two.
of viewing sense and reason, investigating the origin of this perspective.

L0546.000800

Introduction to Film Art

“영상예술의 이해”는 학생들의 영화의 기본 개념들과 기술적 분석, 영상이론, 그리고 영상예술을 소개하는 것을 목적으로 한다. 영화는 지난 100여 년간 현대 문화 현상의 중심에 위치해 있었으며, 다양한 시각적 기법이 영화의 변화와 발전이 발전이었다. 따라서 본 교과목은 영화의 이론과 발전과정에 대한 고찰을 통해 영화에 대한 역사적인 이해를 제공하고, 영화 텍스트의 기술적 분석을 통해 영화를 이해하는 안목을 제시한다. 영화에 대한 이론적 접근방법을 소개함으로써 영상미학의 토대를 제공하고자 한다. 주요 주제들은 미장센, 사내타고그래피, 프레이밍, 편집, 네리티브, 작가주의 등의 분석개념들, 그리고 영화에 대한 다양한 이론적 시각들이다. 학생들은 예술 교육을 수용하는 것 뿐 아니라 수업시기 다른 영화들을 더 많이 감상하고 오는 과제가 주어진다.

“Introduction to Film Art” introduces students to the basic concepts, technical analyses, and theories of film. As the title indicates, film will occupy a central position in the course, much as cinema has been the dominant medium for the last 100 years. The study of film has a long and diverse development, the relationship among poetry, calligraphy and arts in Asia, the formation of aesthetic consciousness and its transformation, the reciprocal relations of Confucianism, Taoism, and Zen, the categories used in creative activities and critical approaches, we seek to gain a new perspective on the popular ‘art’. To this end, we will survey previous studies, debates, and perspectives on “popular art”. We will also look at representative examples which show the transformations of genres and medium, and examine how they have forces the aesthetics to adjust its methodologies and perspectives. Popular art is not only for the masses, but also an art given to the masses. And it is often created by the masses themselves. Through the multifaceted analysis and understanding of the stereoscopic aspect of these popular arts, we will share a new dimension of public, culture, art, and sensitivity.

L0546.000700

Understanding Popular Art

이 수업의 목표는 동시대 대중예술의 다양성 및 특이성을 미학적 관점에서 고찰하는 것이다. 일반적으로 미술적 경험 주요 개념들을 사용하며 대중문화를 이해하고 그 미학적 정립된 단면에서 예술-평론 방식을 비평-이론과 접합하는 인문학적 교육을 통해 이를 개인의 직관으로서의 대중예술을 비판과 같은 성립된 태도를 통해 다시 바라보는 수업을 통해서 대중예술에 대한 새로운 관점을 확립한다. 이를 위해 ‘대중예술’에 대한 기존의 연구, 논평, 관점들을 살펴본다. 또한 새로운 대중예술 장르, 매체가 갖고 있는 문화를 대표적 인 사회적 동향을 통해 고찰하고 이러한 변화가 어떤 이론적, 미학적 관점의 변화를 내포하는지 알아본다. 오늘날 대중예술은 대중을 위한 것, 대중에게 인기있는 것뿐 아니라, 대중이 만드는 것이라는 전형이다. 대중예술의 이러한 엮임적인 맥락에 대한 다각화된 분석과 이해를 통해 대중, 문화, 예술, 감수성의 새로운 차원에서 구체화하게 된다.

This course examines the diversity and specificity of contemporary popular arts using aesthetic perspectives. We will analyze popular arts as a everyday experience as well as a collective experience using the main concepts of aesthetics such as art, aesthetic experience, and aesthetic sensitivity, and thereby cultivate liberal humanity that connects cultural experiences with critical theories. Through classes that look back on popular arts as easy, familiar, and entertaining, from critical and reflective approaches, we seek to gain a new perspective on the popular ‘art’. To this end, we will survey previous studies, debates, and perspectives on “popular art”. We will also look at representative examples which show the transformations of genres and medium, and examine how they have forces the aesthetics to adjust its methodologies and perspectives. Popular art is not only for the masses, but also an art given to the masses. And it is often created by the masses themselves. Through the multifaceted analysis and understanding of the stereoscopic aspect of these popular arts, we will share a new dimension of public, culture, art, and sensitivity.

042.032 동양예술론입문 3-3-0

Introduction to Theory of Arts in Asia

동양예술론입문은 동양예술에 대한 다양한 접근 방식들을 가려 미학적 강조를 통해 정신적인 충돌을 고찰해보는 교과목이다. 이 강좌에서는 동양의 예술 개념, 동양예술에 반영된 미의식과 그 현상, 독창적인 판로를 발견하는 사색의 관계, 사회적 충돌을 넘어서서 향연과 본질의 관계, 그리고 창작과 비평에 적용된 예술론의 범주들과 같은 것을 종합적으로 고찰해보는 것이다. 이러한 고찰을 통해 동양예술을 포함한 동양문화의 정수를 파악하고, 그들이 우리의 생활에서 어떠한 역할을 할 것인가라는 전망을 가질 것이다.

This course will inquire into spiritual aspects of Asian arts through aesthetic approaches. It will study the concept of arts in Asia, the formation of aesthetic consciousness and its development, the relationship among poetry, calligraphy and paintings, the reciprocal relations of Confucianism, Taoism and Zen, the categories used in creative activities and criticism, and so forth. Through these studies, it will provide the chance to comprehend the essence of Asian cultures.

042.034 페미니즘 미학과 예술 3-3-0

Feminist Aesthetics and Arts

현재 예술과 문화는 오늘날 대중에게 강요된 것일 뿐 아니라 새로운 대중예술 장르로 받아들여지고 있으며, 따라서 현대예술과 문화현상에 접근하는 데 있어, 창조적 형식에 대한 관조적 태도는 부적절한 개념을 동시에 새로운 감성의 요구라고 할 수 있다. 특히 페미니즘 미학은 예술을 새로운 침략이나 필요를 주장하였고, 예술문화는 단순한 지각적 경험을 넘어서는 문화적 텍스트로 다루면서 새로운 분석적 범위의 도약을 제시하고자 시도하였다. 이러한 상황에서 본 강좌는 페미니즘 예술의 전개와 현대의 사회적 상황에 대한 정명한 이해를 제공하고자 한다. 희극, 음악, 영화, 예술의 같은 전통적인 장르뿐만 아니라 디지털, 설치, 영상 등 새로운 매체를 이용한 예술작의 사례를 통해, 이 강좌는 신세대 예술작품을 위한 새로운 지각적 자극을 וא生活习惯 줄 수 있을 것이다.

In order to understand contemporary arts and culture deeply and widely, we need various views to compensate the phenomena of contemporary arts and culture include complicated matters, namely changes of production process, the rise of new media, various desire of audience, institutionalization of artistic consumption and its challenge. Now that it is not proper to take a contemplative attitude toward style and form, multifarious approaches to contemporary arts and culture is required.

Especially feminist aesthetics has claimed that it should establish the history of arts anew and tried to present new way of reading of artistic experience which should not be regarded as simple perceptual object, but as cultural text. In
이 그림은 디자인과 생활 3-3-0

Design and Everyday Life

본 강의는 디자인을 단순히 장식의 미학이 아니라 ‘미술을 담는 그릇’으로서, 또한 ‘문화적 상정의 해석과 창조’라는 개념에 기초해 그 역할과 무의미한 차원에서 성찰하고 이해하는데 목적이 있다. 이를 위해 시각문화를 구성하는 다양한 도시, 공간, 산업, 이미지에 대한 학적 분석능력을 함양하고, 21세기 문화의 주체가 될 수 있는 능력을 보장하도록 한다.

Understanding the historical and cultural meanings of design. It is based on the concept that is the interpretation and creation of cultural symbol in everyday life. Special emphasis is placed on the interaction between design and cultural identity. Design is not a simple ornamental aesthetic but a vessel of mind. Various urban features, products, and visual images along with a recent media technology are reviewed to develop design literacy and to foster interdisciplinary perspectives to be the subject of culture today.

042.035 디자인과 생활 3-3-0

Perspectives on Asian Art

미술은 전공하지 않는 학생들에게 아시아 미술의 특성과 전개 과정을 포괄적으로 소개하며 미술이 아시아의 시대적, 사회적 상황을 반영하는 시각예술의 기능을 어떻게 수행해 왔는지를 살피며 아시아 미술의 본질과 동서미술의 차이, 특히 현재 아시아 미술의 위상을 올바르게 이해하는 능력을 기른다.

This course is an introduction to the history of Asian art for non-art major students. It will cover the major artifacts of China, Japan, and Korea from the ancient to the modern era and attempt to define the characteristics that distinguish Asian art from Western art. The role of art will be discussed in social, historical, and cultural contexts.

042.036 아시아미술의 이해 3-3-0

Art and Civilization of Western World

기존의 편협한 미술사학적인 관점으로서 이번 강의는 시대적으로 단 época로 단계적 변화, 경제, 종교, 사회, 문화 등과 어떻게 연계하여 이 시대의 아름다움을 존재하고 의미하는지를 종합적으로 이해하고자 한다. 문화의 형성은 신분으로서 서양 미술의 대항이 무엇을 다루는 것인가를 해석하는 데에 대한 연구적 학문의 문제는 이 기간 안에 대두의 대두로 나타난다. 그에 따라 미술작품의 감상과 현장 체험을 수업의 중점으로 도입하고자 한다. 그리고 미술의 역사적 흐름을 고려한 학생들에게 현대미술의 접근 가능성을 경험하게 하자 한다.

This course breaks away from the traditional limitations of conventional art history, and adopts a broader view to understand Western art in the context of the politics, economy, religion, and literature of each era to the Modern age. Instead of dealing with Western art as part of culture, this course focuses on examining the process in which visual culture is formed from within the more expansive territory of civilization. With this wider focus students will understand that art is not limited to the field of the arts as it is commonly defined.

042.037 서양의 미술과 문명 3-3-0

Understanding Western Art

미술을 전공하지 않는 학생들에게 서양미술의 특성과 전개과정을 포괄적으로 소개하며 미술이 서양의 시대적, 사회적 상황을 반영하는 시각예술의 기능을 어떻게 수행해 왔는지를 살피며 서양미술의 본질과 동서미술의 차이, 특히 현대 서양미술의 위상을 올바르게 이해하는 능력을 기른다.

This course examines the characteristics and development of Western art, its differences, and surveys the current status of Western art.

042.039 미술현장의 이해 3-3-0

Understanding Masterpieces of Art

동양과 서양 및 기타 지역의 회화, 건축 등 영역의 실용적인 감성을 통해 미술작품을 바라보는 안목과 미술현장에 관한 이해의 폭을 넓혀 한다.

This course seeks to expand the overall perspective and understanding of art, through the appreciation of masterpiece paintings and architectures of the East, West and other regions.

L0546.000100 현대미술의 이해 3-3-0

Understanding Contemporary Art

오늘날 현대미술은 미술가들의 역할 변화, 새로운 미술 체계들, 그리고 미술제도의 근본적인 변화 등으로 복잡화되고 다원화되고 있다. 이러한 현대미술의 변화에 대한 이해를 키우기 위해 본 수업은 단순한 미술사학적이며 미술제도의 변화에 대한 이해의 확장을 목적으로 한다. 그리고 이러한 미술제도의 변화를 경험한 현대미술가들이 제기하는 새로운 주제와 그 주제를 이해함으로써 현대미술과 미술제도의 급격한 변화에 대한 이해를 보다 전반적으로 이해하게 할 것이다. 또한 본 수업은 이해의 차원에서 수업 자체가 현대미술에 대한 긍정적인 경험이 되도록 미술작품의 감상과 현장 체험을 수업의 중점으로 진행방식으로도 도입하고자 한다. 그러므로 미래의 미술가들에게 현대미술의 접근 가능성을 경험하게 하자 한다.

Contemporary art is becoming more complex and diverse with rapid changes in the role of artists and art institutions, and newly emerging art practices. In order to broaden the students’ understanding of such shifts in the contemporary art landscape, this course moves away from the discourse-oriented, chronological approach. Rather, the students are encouraged to explore first-hand, the art practices that brought about such change; the work of leading artists; and major issues of the art world to ultimately see the contemporary art world as a systemic institution. As such, this course will be centered on not only class lectures but also field trips. The aim of this course is to aid students in understanding contemporary art and the field of art within the context of art institutions, and to make art more accessible, and intriguing to the future gallery-goers.

L0546.000400 음악과 사회 3-3-0

Music and Society

현대사회에서 음악은 단순한 창작예술이 아니라, 문화현상이자 산업이다. 이 과목은 음악의 사회적, 문화적, 상업적, 경제적 측면에 초점을 맞추 음악의 내용을 체계적으로 학습한다. 오랜사, 미
Based on philosophical principles. The purpose of this class is to provide a humanistic viewpoint to understand music. This course is an introduction to Korean traditional music. Through listening to audio-visual materials and learning various traditional musical genres, this course provides a deep understanding of Korean musical culture. Concerts held during class time will provide student a chance to experience the beauty and aesthetics of traditional music. Students will appreciate the modern trends of Korean music as well, so that they can perceive the future of Korean culture.

**Understanding Korean Traditional Music**

The Kyujanggak Archive and Korean Culture

042.043 음악의 원리 3-3-0

The Elements and Structural Principles of Music

본 과목은 세부적인 음악이론의 기저에 놓인 보다 본질적이고 심층적인 측면을 탐구한다. 이를 통해 구체적인 의미의 영역을 초월한 “추상적 대상으로서의 음악”을 미적으로 체험할 수 있는 소양을 함양한다.

Through this course, the students may take further view about substantial and practical principles of music beyond individual music theories. All of the students, who participates this course, whether they are musicians or music-lovers, can cultivate their musical capacity.

042.044 한국음악의 이해 3-3-0

Understanding Korean Traditional Music

The Kyujanggak Archive and Korean Culture

이 강의는 세계적인 문화유산으로서 한국의 기록문화를 재평가 하고자 하는 데서 그린 기록문화학의 중심에 있는 규정가의 역사적 위상과 현대적 활동을 재인식함으로써 한국 인문학 전통의 핵심을 재구성하기 위한 것이다. 강의내용은 규정가 소장자료에 대한 문헌적 접근과 영상적 접근으로 구성되며, 규정가 및 관련현장에 대한 현장 방방 등을 통해 한국기록문화에 대한 임직계 이해를 제고하고, 그 나아가 방방을 모색한다.

This course will evaluate the proudest traditions of the Korean people, including the tradition of creating and pre-
serving detailed documentations. Throughout the semester, the Gyujanggak Archives and its history, invaluable tools in understanding the Korean tradition and where it should be headed will be highlighted. There will be both written and on-screen texts from the archives, as well as pre-arranged field trips.

043.003 한국사의 새로운 해석 3-3-0
New Perspective on Korean Cultural History

이 강의는 서양근대주의의 문화관에 대한 반성 위해서 한국과 역사의 상호작용이라는 새로운 문화사적 시각에서 한국문화의 역사적 흐름을 통찰하고자 한다. 종교, 과학, 예술, 정치, 사회 등의 여러 영역에서 발견되는 한국의 문화적 특징들을 역사적으로 검토하고 이를 인류문명의 보편적인 시야에서 해석한다.

This course will provide new perspectives on Korean cultural history. Students will examine the cultural characteristics of Korean religion, science, politics, society and art. Special focus will be placed on the interactions between cultural history and the environment.

043.004 근대 한국민족주의 3-3-0
Nationalism in Modern & Contemporary Korea

민족주의는 현재 한국인의 사상과 행동을 구성하는 중요한 사상이다. 본 과목은 한국 민족주의가 형성되어온 과정을 살피고 이를 통해 그 특성 및 특징을 파악하기 위한 것이다. 이를 통해 현재 한국 민족주의의 계승 또는 극복 방안을 고찰하게 된다.

Nationalism is one of the most important ideologies that influence everyday life of Koreans. This subject shows the circumstances under which Korean Nationalism has appeared and developed. This subject will show the characteristics of Korean Nationalism and the way to overcome it.

043.007 한국사 3-3-0
Korean History

한국사 전반에 대한 기초적인 지식과 함께 한국사의 필요성을 이해시키기 위하여 개설되었다. 과제에서 근대 현대에 이르는 한국사의 발전과정을 연구하고 그 과정에서 한국의 민족성과 그에 따른 역사적 변화, 인간의 사고의 길을 고찰한다.

This class will not only provide students with a basic knowledge of Korean history, it will also help them understand the importance of learning history. Through an introduction to the academic achievements made in this area, students will be able to understand how Korean history has evolved as a field of study. They will also further develop and refine their scientific thought process, a very necessary skill in historical studies.

043.008 한국인의 역사의식 3-3-0
Historical Consciousness of the Korean People

한국의 역사적 발달과정을 소개함으로써 근대 한국사의 근대적 문화와 함께 한국사의 필요성을 이해시키기 위하여 개설되었다. 과제에서 근대 현대에 이르는 한국사의 발전과정을 연구하고 그 과정에서 한국의 민족성과 그에 따른 역사적 변화, 인간의 사고의 길을 고찰한다.

This class will present the developing process of Korean historical studies, examining the transitions made as pre-Modern historical studies were transformed into Modern-style historical studies. Certain changes in the people’s way of viewing history, and the ways the methodologies were applied to actual studies will also be studied.

043.006 역사와 역사 재현 3-3-0
History and Historical Representation

한국의 역사와 문화에 대해서 역사 소설과 역사 미디어, 그리고 박물관과 기념관 등 역사의 재현물을 통해서 살펴본다.

This class surveys the traditional culture in Korean history through represented architects of history like museums, memorials and historical novels. Students will come to perceive the gaps between their memory and historical truth.

0547.001000 동아시아의 역사분쟁 3-3-0
Disputes among East Asian Countries

동아시아의 역사분쟁에 대한 이해를 통해 한국의 역사를 학문의 세계에 적용할 수 있는 기술을 보유하게 한다. 

This class will present the developing process of Korean historical studies, examining the transitions made as pre-Modern historical studies were transformed into Modern-style historical studies. Certain changes in the people’s way of viewing history, and the ways the methodologies were applied to actual studies will also be studied.
이르기까지 불교가 한국문화의 형성과 발전에 어떤 영향을 미쳤는지 살펴보고 한국사상 불교의 사회·문화적 영향과 의미를 파악해 볼 것이다. 이를 통해 우리 역사 속 불교의 역량과 의미에 대해 이해의 폭을 넓히는 것을 강의의 주요 목표로 한다.

In this class, Korean Buddhism will be examined in relation with the Chinese and Indian Buddhist traditions. In addition, Buddhism, the most powerful ideology through the 4th and 14th centuries, had much relevance to Korean history and culture. This course surveys Korean Buddhism from the introduction to the thriving and decline, and examines the social and cultural meanings of Buddhism on Korean history. The purpose of this process is to invite the students to understand the role Buddhism played in Korean history, and the meaning it had for centuries.

**L0547.000700 한국 근대사회와 민족운동 3-3-0**
Modern Korean Society and National Movements

개항에서 인구 만기까지 전개된 한국인의 민족운동과 사회운동 을, 외국의 침략과 사회경제 체계의 도입으로 발생한 광범위한 사회·문화적 변화와 결합시켜 이해한다. 정책과 제도 차원에서 이루어진 구조적 변화와, 그러한 변화가 한국인의 의식과 생활에 깊이 간접적 변화, 그리고 상급층의 삶의 안정을 추구하여 균형화 목적과 사회개혁을 추구하여 나간 한국인의 활동 등을 서로 연관하여 살펴본다.

This course surveys the various national and social movements in Korea from the late nineteenth century to the end of Japanese colonial rule. The goal is to examine these social movements in relation to broader social and cultural changes that resulted from foreign aggression and the acceptance of a market economic system.

We explore institutional and policy changes, the ways that such structural changes influenced collective mindset and quotidian life of the Korean people, and the various activities through which the Koreans sought a stable life, restoration of national sovereignty, and social reforms.

**043.013 한국현대사의 이해 3-3-0**
Understanding Korean Contemporary History

1945년 해방 이후부터 오늘에 이르는 한국의 현대사를 개괄적으로 강의하는 과목이다. 해방과 분단, 한국전쟁, 그리고 이후의 권위주의 정치체제의 성립과 급속한 산업화 등 임창년 정책·경제·사회적 변화를 겪은 한국의 현대사를 역사학적인 관점에서 바라볼 수 있는 기회를 제공하는 과목이다.

This class will provide students with a general summary of the historical events which occurred after the Liberation of Korea in 1945. Examined throughout the course will be the dramatic political, economical, and social changes such as the Liberation, the subsequent division of the nation, the Korean War and the advent of the authoritarian regimes as well as rapid industrialization. The students will be able to gain new perspectives on contemporary Korean history through-out the course.

**L0547.001100 한국고대사의 쟁점 3-3-0**
Issues in Ancient Korean History

한국고대사는 고조선 이후 통일신라, 삼국사기, 고려, 조선등에 걸쳐 많은 종족과 국가가 종합성사를 건축하면서 한국문화의 원형이 만들어지고 한국민족의 모태가 형성된 역동적인 시대였다. 따라서 많은 사건과 인물의 활동이 포착되며 중국, 일본 등 주변국가와 다양한 형태의 교섭을 진행하였다. 이러한 이유로 인해 일반 시민들의 한국고대사에 대한 지식을 갖는 주제는 매우 큰 폭이며 이를 아우르는 비과학적 서사형 역사학이 사회일각에서 빠르게 현상으로 변이기도 한다. 한편으로는 근대 이후 일제에 의한 식민지 정책, 중국과의 통 복통방의 과도를 둘러싼 논란이 전개되면서 한국고대사와의 관련성들이 부각되고 해석에서도 다양한 전락을 노출하고 있다. 이 과목은 한국사를 전공하지 않는 학생들도 현실적으로 관심을 끌고 있는 한국고대사의 다양한 주제를 다루면서 우리의 역사를 갖추는 것을 목표로 하고 있다.

Ancient period of Korea was a dynamic age when an original form of Korean culture was created and the fertile ground of Korean people was formed with the rise and fall of many ethnic groups and nations including Ancient Joseon, Unified Silla, and Balhae. During the period there occurred a number of events and activities of historical figures, and various forms of foreign relations with adjacent countries especially China and Japan were proceeded. For these reasons, the general public’s intellectual pursuit of ancient history of Korea is especially high, and in some parts of the society there are even attempts to pursue the ancient history in an unscientific and false way.

Meanwhile, as Korea underwent the Japanese colonization period and as the issue of ownership of the northeast region was caught up in controversy with China, important issues of ancient history of Korea came to the fore raising wise variations in interpretations. This course aims to provide students with proper historical point of view for understanding the current historical issues by discussing various subjects related to ancient history of Korea even for those who are not majoring in Korean history.

**043.016 한국의 문화유산 2-2-0**
Cultural Heritage of Korea

한천한 우리민족의 문화유산을 체계적으로 학습할 수 있는 과목이다. 사적과 궁궐 등의 건축물과 불상이나 석탑 등의 조형물에 대해 문화사적 관점에서 체계적으로 배우고, 우리의 문화유산을 바라보는 안목을 기를 수 있는 과목이다.

This class will demonstrate the outstanding qualities of Korean cultural assets. The students will not only enjoy the sheer beauty of the Korean palaces, temples, their Buddha figures and stone pagodas, but they will learn to have a finer appreciation for them.

**L0547.000900 한국사 속의 유학 3-3-0**
Confucianism in Korean History

유학은 동양 삼국에서 역사적으로 가장 많은 영향력을 발휘했던 이데올로기이자 정치·사회적인 운영원리였다. 한국사에서도 특히 조선시대가 국가조직에서부터 민의 존재양태에 이르기까지 유학의 영향력은 절대적이었다. 본 강의는 한국의 유학사상과 유학문화가 어떻게 형성·발전하고 영향을 미쳐왔는지를 살펴보고, 그러한 동 안의 변화의 사상 흐름과는 어떻게 관계 맺어 왔는지를 검토하며, 이야기가 그러한 관점에서 한국사를 이해하는 방법을 가르친다.

Confucianism was the most powerful ideology that has ever existed throughout the history of East Asia. It served as the guiding principles in politics and social regulations. Confucianism influenced the society the most during the
Joseon Dynasty, and the ideology regulated literally everything from the government bodies to the lives of private citizens. In this class, students will have an opportunity to examine how the Confucian thoughts and culture were formed, developed and affected in Korean history, and how this process was related with the development of Confucianism in the East Asia. Through this process, students will understand the Korean history in this aspect of Confucianism.

043.019

Korean History Viewed through Lives of Great Figures

Korean History

This class aims to survey historical achievements and legacies that have produced countless heroes and antagonists. This class provides the students an opportunity to meet those influential figures as represented in historical texts and documents. Such an exposure aims to enable students to reevaluate contemporary Korean history from a fresh and open perspective.

043.020

Division of Korea and Korean War

Korean War

For Koreans the Korean War is one of the most tragic events in their history. The serious repercussions of the war and its aftermath can still be felt. The memories of the atrocities that were committed are still the primary factors that hamper reunification efforts. This class will closely examine the various aspects of the Korean War including questions on the origin of the war, how it continued, as well as the solutions and remedies that were sought after the war.

L0547.001500

Historical Achievements and Legacy of the Joseon Dynasty

Joseon Dynasty

This class aims to survey historical achievements and legacy of the Joseon Dynasty and explores the overall history of Joseon dynasty, stretching from the time of its founding to the onset of Japanese colonization of Korea. This class will take a multifaceted approach to shedding lights on various issues from political, economic, social and ideological perspectives. The issues to be discussed include establishment of the Joseon dynasty and organization of institutional systems, the development of Neo-Confucianism and the growth of new political culture, social transformation and emergence of a new form of culture during the late Joseon period, and the deepening social contradictions and the declining of the nation. From this, students can understand historical achievements of the Joseon Dynasty by comparing with different ages and cultural regions. This class will provide students with historical insights conducive to the formation of futuristic prospects of Korean society through the understanding of legacy of Joseon Dynasty which is embodied in various parts of contemporary Korean society.

L0547.001600

Society and Culture in Medieval Korean History

L0547.000300

Tradition and Modernity in China
Features. Therefore, this course focuses on the Chinese imperial system more than the other countries, and it represents the typical characteristics of the history of that period. Chinese imperial power rose earlier than the others and it demonstrates the typical orientation of the whole state. It needs to understand the Royal Authority who controlled the state if we would like to know the direction the East has been going. Royal Authority, especially in East Asia, is the representation of the whole state. It needs to understand the Royal Authority who controlled the state if we would like to know the direction the East has been going.

This course provides students with a basic knowledge of the dynamic interactions of various civilizations through the Silk Road across Eurasian continent. Especially it aims to view the development of world history around the area of Central Asia. Royal Authority, especially in East Asia, is the representation of the whole state. It needs to understand the Royal Authority who controlled the state if we would like to know the direction the East has been going.

This course surveys the history of Islamic civilization from the rise of Islam to the present, generally exploring the basic mode of operation of the states and societies, economic institutions, cultural standards, religion and philosophy and so forth. It would emphasize major historical trends and developments as well as interactions in world history rather than details of historical events. Translated sources from Arabic or Turkish (mostly into English) will be used to promote vivid understanding of history. As mass media stress exceptionality and uniqueness of Islamic culture, we need to focus on critical perspectives about transformations of the Islamic civilization and conjunctions and contexts of various time periods. The course will mostly focus on the history of the Middle East that had been the center of Islamic civilization, inevitably excluding India, Southeast Asia and Africa for the sake of convenience.

This course surveys the Royal Authority in traditional East Asia. Royal Authority, especially in East Asia is the representation of the whole state. It needs to understand the Royal Authority who controlled the state if we would like to know the direction the East has been going. Royal Authority, especially in East Asia, is the representation of the whole state. It needs to understand the Royal Authority who controlled the state if we would like to know the direction the East has been going.
China and Its Neighbors in History

Throughout history, Chinese civilization has functioned as the center of East Asian civilization. The confidence in its cultural superiority was expressed as the distinction between the 'central state' and 'the barbarians', which formed a Sino-centric world view. This course will trace the history of the relationship between China and its neighbors, and will examine its characteristics. Although its centrality was weakened at the beginning of modern era, China is rising again as the new 'center' of East Asia and the world. Therefore, historical knowledge and understanding of the relationship between China and its neighbors in the past is essential for understanding contemporary East Asia and for predicting its future. This course will provide an outline of the past and present of the East Asian world order through surveying the general history of the relation between China and its neighboring countries.

Major Personalities in Japanese History

This course seeks to explain Japan's salient historical developments through major personalities. Instead of merely examining their characteristics, we will approach developments through major personalities. Instead of merely looking at them, we will explore their actions and their role in shaping the world. This course will provide an outline of the past and present of the East Asian world order through surveying the general history of the relation between China and its neighboring countries.

Cultural Traditions of the West

This course surveys Western history from the ancient times to the French Revolution. It provides a deeper understanding of history by using various materials. The instructor will choose twelve important issues from each period and provide students with appropriate materials pertaining to those issues. Through critical reading, discussion, and/or writing papers, the students will gain a more in-depth understanding of history.
The intellectual history of mankind is woven with different streams of mental pursuit - analyses and interpretations of existing societies on one side and aspirations and concepts for utopian life on the other side. This course covers the history of utopian thoughts in the Western history. In the first part, students analyse the utopian elements in the works of pre-modern authors: Platon's Politeia, Augustine's Civitas Dei and the utopianism of Thomas More. In the second part, students are presented with varying historical interpretations, both old and new, helping them gain deeper understanding of the formation of existing societies on one side and aspirations and concepts for utopian life on the other side. This course covers the history of Christianity as well as Western society. Furthermore, this course will help students gain a deeper understanding of the relationship between Christianity and the West and the world history. By illuminating the formation and spread of Christianity to Europe and the New World, this course will help students gain a deeper understanding of the history of Christianity as well as Western society. Furthermore, by looking at the relationships between Christianity and the cultural characteristics of European nations in various historical context, this course aims to help students understand today's European culture. Examining Christianity in the context of politics, economy, ideology, and culture will help get the insight into overall Western civilization.

L0547.002300 기독교와 서양문화 3-3-0
Christianity and Western Civilization

L0547.002350 서양문화의 역사 1: 고대에서 르네상스까지 3-3-0
History of Western Civilization 1: from Antiquity to the Renaissance

L0547.003600 서양문화의 역사 2: 종교개혁에서 냉전까지 3-3-0
History of Western Civilization 2: from the Reformation to the Cold War

L0547.003800 서양사 속의 제국 3-3-0
Empire in Western History

History is a "dialogue between the past and the present." By surveying major themes in Western history from the ancient period to the Cold War, this course aims to help students gain valuable insights into humanity's past and the present, leading to a more refined perspective on the future. Students are presented with varying historical interpretations, both old and new, helping them gain deeper understanding of historical subjects. Challenging conventional euro-centric perspectives, this course guides students toward a more critical understanding of Western civilization. This course is the first half of a two-part survey of Western history, covering ancient period to the Renaissance.
History of Nationalism

Throughout the nineteenth and twentieth centuries, the world had been preoccupied with establishing the nation as an unalterable historical and political entity. Nowadays it is widely acknowledged that national boundaries and identities are not predetermined but historically constructed. This course focuses on the making of nations in history and the role of states in the process of nation-building. It is also important to investigate the new wave of nationalism from a comparative perspective.

History of Sexuality and Love

This course examines sexuality and love in Western history. Sexuality and love have long held an important place in the realm of popular imagination, and lately have also emerged as pertinent academic research topics. Central to human relationships and social institutions in many ways, throughout history sexuality and love have been constantly reconstructed and transformed. "Private lives" are not trivial subjects as political history had traditionally assumed, but form a central site in which social changes, power relationships, and identity formation are mediated, reproduced and also resisted. This course investigates changing attitudes of sex and love from the ancient times to today, and looks into various emotional, scientific and medical discourses and practices attached to human bodies. Ultimately, it will help students to understand love and sexuality not merely as a realm of morals or ethics but as changing historical constructions.
dia can be turned into fascinating tools for learning more deeply about history while enhancing one’s media literacy and aptitude for critical historical analysis. The course looks into how popular media describe, reconstruct, and interpret historical facts, and how diverse historical interpretations intervene in media reproduction of history. Students will be thus encouraged to critically consume history-related media and engage with ongoing public debates on how to represent specific historical events or figures.

This course provides an overview of Western history from ancient times to the 20th century for students who have not previously taken Western or world history courses and wish to gain basic knowledge about it. Through this course, students will become familiarized with major analytical concepts and methodology of archaeology, and the development of manmade culture. For a more effective approach, lessons will be accompanied by visiting and experiencing site excavations and museums/laboratories.

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### 043.041 문명의 기원 3-3-0

**The Origin of Civilization**

This course will investigate the characteristics and developments of Korean art from the Three Kingdoms Period to the Joseon Dynasty. The survey, which includes painting, sculpture, craftwork, architecture, and other areas of art, will be undertaken with a focus on understanding the diversity of Korean history and culture.

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### 043.044 한국미술사입문 3-3-0

**Introduction to Korean Art**

This course is an overall survey of the characteristics and developments of Korean art from the Three Kingdoms Period to the Joseon Dynasty. The survey, which includes painting, sculpture, craftwork, architecture, and other areas of art, will be undertaken with a focus on understanding the diversity of Korean history and culture.
understand the history of Eastern culture as well as its contribution to other cultures. This will not only enable students to understand Korean history and culture, but also help them comprehend the future of different cultures.

043.046 서양미술사입문 3-3-0

Introduction to Western Art

This course is an overall survey of the history of western art with an emphasis on important works that have had a tremendous impact on the development of the culture of mankind. An accessible introduction to art from the Egyptian, Greek, Roman, Byzantine, Romanesque, Renaissance up till the Contemporary period will be given with a special focus on the varying characteristics of the different schools and styles.

043.047 서양철학의 이해 3-3-0

Understanding Western Philosophy

The objective of this course is to examine the nature of important philosophical problems and topics. The first part of the course deals with the basic question: What is the distinctive characteristic of philosophy? The second part deals with the various philosophical problems related to art, religion and other sciences. Also examined are key issues in metaphysics and epistemology such as existence, essence, knowledge, truth, empiricism and rationalism.

043.048 동양철학의 이해 3-3-0

Understanding Asian Philosophy

This course introduces representative works in western philosophy and topics. The first part of the course deals with the basic question: What is the distinctive characteristic of philosophy? The second part deals with the various philosophical problems related to art, religion and other sciences. Also examined are key issues in metaphysics and epistemology such as existence, essence, knowledge, truth, empiricism and rationalism.
Introduction to Philosophy

This course will delve into the various aspects of the nature of philosophy. It asks why human beings cannot avoid philosophy due to their nature, and what are the characteristics of the philosophical questions usually asked. The philosophy due to their nature, and what are the characteristics of philosophy. It asks why human beings cannot avoid philosophy due to their nature, and what are the characteristics of the philosophical questions usually asked. The course also provides perspectives on our current philosophical problems.

Understanding Buddhist Philosophy

This course will focus on the historical understanding of Buddhist philosophy, which spreads out over 2,500 years in India and East Asia, and the central themes of Buddhist philosophy, such as the Four Noble Truths and dependent origination. The course will also include aspects of the historical influence of Indian Buddhism on East Asian culture. In addition, we will discuss contemporary ethical issues, i.e., environmental ethics, animal rights etc. from the perspective of Buddhist philosophy.

Bio-Medical Ethics

This course deals with the philosophical issues concerning biomedical fields such as abortion, euthanasia and organ transplants. It will investigate the moral and ethical grounds on which decisions are made, including philosophical discussions of these topics. Students can expect to improve their ability to objectively and critically examine important, ethical problems.
ity help attain truths about the world? Does science progress? Is scientific activity rational as is often argued? Is science interest-independent? How can we draw the line between science and pseudo-science?

043.069

Philosophy of Gender and Sexual Morality

남녀 성 차이와 성 차별에 대한 이론들, 현재 여성주의의 다양 한 주장 및 반론 등을 통해 인과 성(gender)에 대한 철학적 이해를 토대로 논의하고 성(sex)과 결혼 및 사랑의 관계, 동성애와 이성애, 성적 도덕과 변성, 페르노그라피 등 성 윤리와 관련된 것들에 논의하는 가운데 인간과 사랑 그리고 성에 대한 각자의 입장을 살펴보는데 도움을 주고자 한다.

The course aims at helping students develop their own views on love and gender by studying theories about sexual distinctions and discriminations. It examines various debates and theories regarding love and gender by studying theories about sexual distinctions and discriminations. It examines various debates and theories regarding love and gender by studying theories about sexual distinctions and discriminations.

L0547.002800

Artificial Intelligence and Philosophy

이 과목은 인공지능의 중요한 철학적, 인문학적 측면을 고찰 한다. 기계는 생각할 수 있는지, 인공지능은 가능한지, 기계가 감정이나 의식을 가질 수 있는지 등의 존재론적 묻음뿐 아니라 인공 지능의 도덕적 저위와 로봇 윤리의 문제, 그리고 인공지능과 실존적 위협에 관해 다룬다.

This course examines the significant philosophical problems surrounding artificial intelligence. It includes the ontological issues on the possibility of artificial intelligence, the moral status of AI, the ethical and social issues involved in designing ethical AI systems, and the problems of superintelligence and existential risk.

043.071

Logic

논리학 과목에서는 형식을 기반으로 하는 논법과, 비형식, 즉 내용을 기반으로 하는 논법이 있는데, 이 과목은 주로 논리의 형식적 측면에 있어서 워커의 논리를 보면 부호화와 원 리를 알야하고, 이를 이용해 논리를 목적으로 한다. 그 다음은 내용 은 일반 안의 기반위치에서 이루어진 형식적 아리스토텔레스 논리학에서부터 전통논리학의 새로운 해석과 가설화를 통해 이루어 진 현대논리학 즉 명제논리와 술어논리 등 기호이치논리학 전반에 이르고 있다. 이 과정에서 논리학의 구문론적 접근과 의미론적 접근의 비교방법도 포함되어있다.

The goal of the course is to teach how to distinguish the right from the wrong argument from a formal perspective. It deals not only with the traditional Aristotelian logic, but also with the contemporary symbolic logic such as propositional logic and predicate logic. The comparison between the syntactic and the semantic approach to logic will also be discussed.

L0547.000100

Moral Reasoning

이 과목은 가치다원적 사회에서 도덕적 불일치에 직면하여 우리가 합리적으로 구사할 수 있는 도덕적 추론을 교육한다. 이 과목은 수상한 사례들 하여금 현실의 도덕적 문제에 부딪히거나 도덕적 불일치 상황에 직면하였을 때 어떤 태도를 갖추어야 하는지를 안내하며, 현실과 도덕적 이슈에 관한 토론을 통해 그 과정을 체득하 게 하는 것을 목적으로 한다. 도덕적 사고의 특성, 주관주의적, 상 대주의적 도덕에 대한 대응, 기존적인 도덕이론의 도덕적, 논증 의 종류와 문제점과 평가, 전략적 문제해결에 대처하는 것으로서의 도덕적 문제해결, 여러 현실 속의 도덕적 이슈들로 다룬다.

The aim of this course is to help students to argue about moral issues in the situation of moral disagreement. In particular, the course aims at sharpening students’ understanding of some important issues about morality and to guide students in the situation of moral disagreements about 1) what attitude is to be taken, 2) which factors are morally relevant, 3) how to reason about it. Students are expected to acquire and internalize reasoning process through discussions about moral issues.

043.072

Chinese Classics and Chinese Thoughts

중국고전은 중국문화의 근원이자 핵심으로 중국의 가치관을 형성하였으며 중국의 도덕적 가치관, 사상관, 세계관, 문화관을 신장하고 중국의 도덕적 가치관, 사상관, 세계관, 문화관을 형성하였으며, 중국의 도덕적 가치관, 사상관, 세계관, 문화관을 담임하였다. 수천 년의 이자극적으로 중국고전은 중국문화에 깊은 영향을 미쳤고, 일본이나 중남아시아에서 중국고전은 중국의 도덕적 가치관, 사상관, 세계관, 문화관을 형성하였으며, 중국의 도덕적 가치관, 사상관, 세계관, 문화관을 형성하였으며, 중국의 도덕적 가치관, 사상관, 세계관, 문화관을 형성하였으며, 중국의 도덕적 가치관, 사상관, 세계관, 문화관을 형성하였다.

This course examines the significant philosophical problems surrounding artificial intelligence. It includes the ontological issues on the possibility of artificial intelligence, the moral status of AI, the ethical and social issues involved in designing ethical AI systems, and the problems of superintelligence and existential risk.
Law and Values

The goal of this class is to critically examine the precedents of the Constitutional Court and the Supreme Court of Korea (e.g., the cases about euthanasia, capital punishment, and discrimination against smoking and gambling), to understand basic ideas of moral and political philosophy through those cases, and to develop critical thinking skills through class discussion.

Religious Wisdom in East and West

The course aims at developing students' insight into human beings and cultures by introducing various perspectives that help understand religious symbols, which is, I believe, one of the universal mental inheritances of humankind. By offering students theoretical explanations and training them to interpret religious symbols, students will better understand the role of being Christians in modern pluralistic context.

Understanding Bible and Christian Thought

This course begins with an introduction to the biblical sources and discussion of the central figure of Jesus. Then it will deal with concise but comprehensive discussions of religious traditions.

Understanding Religious Symbols

The course will deal with concise but comprehensive discussions of sources and discussion of the central figure of Jesus. Then it will deal with an introduction to the biblical sources and discussion of the central figure of Jesus. Then it will deal with concise but comprehensive discussions of religious traditions.

Understanding Religious Studies

Understanding Religious Studies is designed to provide students with basic knowledge of the academic discipline of religious studies and to help them take an objective view of religion, which is believed to involve the most complicated contemporary cultural phenomena, as well as symbols seen in the classics. To achieve this goal, first students will study basic theories that explain religious symbols. Next, they will examine religious symbols of various religious traditions, starting with primitive (or archaic) religion, and then moving on to world religions including Christianity, Buddhism, and Islam. Finally we will consider new religious movements of the modern world. Audiovisual materials will be used extensively in this class. Students will be expected to develop their own creative interpretations of religious symbols in various contemporary cultural contexts. They will look at movies, literature, sports, and arts to develop their interpretive skills. Throughout each step, students will be trained in critical writing skills and be asked to participate in class discussion; they will learn to express their ideas in a clear and convincing manner. I am confident that students will develop a deeper understanding of different worldviews.
and profound human thoughts and emotions. Students will be encouraged to examine various academic perspectives through which scholars have approached religion and to study the way they have explained central topics of religious studies, including myth, ritual, religious experience, and sacred place/time. In addition, this course will ask students to have a broad view of religion, as well as religious studies, by illuminating major methodologies that have been used to elucidate religion by scholars of subdisciplines or related fields, such as comparative religion, sociology of religion, psychology of religion, and anthropology of religion. Students will also be expected to ferret out delicate religious issues of the contemporary global world, for instance conflicts between religions, and to think over how religious studies would contribute to their settlements.

043.078 Man and religion

The course is on the foundations of the significant problems and methods in the history of aesthetics and contemporary aesthetic thought.

043.079 Myth and History

This course introduces the various religious traditions of meditation and practice. The aim of this course is to understand the aspect of ‘practice’ in religious traditions, which originate in different time and space, and to develop an attitude of mature reflection on religious diversity as well as an attitude of constructive dialogue with the religious practitioners.

043.080 Introduction to World Religions

This course provides an overview of various religions and their histories, including the differing faiths of the world and their practices.
between self-reflection and self-realization. Presupposing that which is relevant to modern society. It adds a philosophical analysis on the nature of justice can be ethically responsible for the society which determines forces anymore, an attempt is made to see how an individual determined by society and not by supernatural or natural affected. Since an individual's life and destiny are primarily future and history, how individuals and society are mutually course tries to see, through an analysis of the nature of culture and history, how individuals and society are mutually affected. Since an individual's life and destiny are primarily determined by society and not by supernatural or natural forces anymore, an attempt is made to see how an individual can be ethically responsible for the society which determines him. It adds a philosophical analysis on the nature of justice which is relevant to modern society.

Self-reflection and Self-realization

This course is a philosophical reflection on the relations between self-reflection and self-realization. Presupposing that man as an individual has first been understood in his relation to the gods, then to nature, and recently to society, this course tries to see, through an analysis of the nature of culture and history, how individuals and society are mutually affected. Since an individual's life and destiny are primarily determined by society and not by supernatural or natural forces anymore, an attempt is made to see how an individual can be ethically responsible for the society which determines him. It adds a philosophical analysis on the nature of justice which is relevant to modern society.

Social Thought and Ethics

This course assists students as responsible citizens in developing the ability to understand human nature and society. Reading major texts in great books in political philosophy and ethics, It will discuss some important topics that are central to the design of the well-ordered society. Particular attention will be directed to the ways in which they contribute to a broader conversation about freedom, justice, virtue, democracy, citizenship, and so on. Students are expected to gain a normative perspective on their own and to pursue the subject through presentations and discussions.

Tradition and Modernity in India

This course is planned to help students achieve a holistic understanding of India and the Indian civilization through an introduction to the physical environment, history, religions, society, and culture of the Indian subcontinent. We aim to look beyond the popular images and prejudices of India, and examine the current social phenomena and problems through a survey of Indian history, the trajectory of various religions in India, and the social changes in India as well as Indian studies through the turmoil of colonial rule and independence. We will also discuss architecture and art, clothes and food, popular culture with a critical perspective.

War and Peace in History

This course enables students to understand the changing nature of contemporary politics. The world is undergoing rapid social changes, such as post-modernism, globalization and
informationalization. Because of these changes, the traditional political view that human beings are essentially 'political beings' has been greatly transformed. Moreover, the content and form of politics and the role of the state have changed radically.

044,003  Politics and Political Ideology

This course analyzes contemporary Korean politics from four perspectives: international politics, political economy, political culture, and international relations. It examines the state and dynamics of international politics. It will place special focus on the history and future direction of Korean foreign policy and the ways international politics has challenged the Korean Peninsula.

044,006  Introduction to Political Science

Introduces students to politics and world leaders through films, in which they apply the theories and ideas from their handouts and textbooks. Students form into two groups per week to help their classmates navigate through the pre-selected clips of films they will watch later in class. The class consists of discussion led by two teams and a session to watch some parts of the films chosen.

044,007  Introduction to International Relations

This course introduces students to politics and world leaders through films, in which they apply the theories and ideas from their handouts and textbooks. Students form into two groups per week to help their classmates navigate through the pre-selected clips of films they will watch later in class. The class consists of discussion led by two teams and a session to watch some parts of the films chosen.

044,004  Understanding and Analyzing Korean Politics

This course analyzes contemporary Korean politics from the four perspectives: international politics, political economy, political culture, and political processes. From the perspective of international politics, how Korean politics has been influenced by international politics surrounding the Korean peninsula. From the political economy perspective, how Korean politics has influenced its economic development and vice versa is introduced. From the political culture perspective, contemporary Korean culture is compared with traditional political culture to find out what continuities and discontinuities there are between them. From the political process perspective, characteristics of Korean political process are described in comparison with other democratic countries.
Public diplomacy is one of the most salient issues of foreign policy in the 21st century, which seeks gaining hearts and minds of the foreign public rather than foreign governments. Especially, public diplomacy in the age of digital communication, the role of public diplomacy has become increasingly important with the growing activities of civil society and further activated world public opinion. Students are expected to visit public diplomacy-related government and non-government organizations and how different fields of study explain differently the role and influence of public diplomacy. By inviting several experts in various fields of study, this lecture discusses how media and digital communication, art and culture, trade and technology could take part in achieving the goals of public diplomacy.

Emerging Issues on Peace and Unification of the Korean Peninsula

21세기 한반도의 새로운 세대들에게 있어서 독일보다 평화가 우선적 가치가 되어 급증한 일이며, 이 새로운 세대 사이에 서는 한반도 평화와 통일과 연관되어 토론되어야 할 이슈의 외연이 확장될 가능성이 높다. 따라서 보건, 환경, 에너지, 경제, 행정, 기술, 이주, 교육, 문화 등에 다양한 새로운 실험의 가치가 있으며 사용자들의 이해가 높아져 토의와 활성화가 필요하다. 통일, 통합, 평화의 과정에 서 중요하게 제시될 것으로 예상된다. 담당 교수를 비롯한 다양한 분야의 전문가들이 공동으로 진행하는 강의를 통하여 수강생들은 평화와 통일에 대한 전통적인 시각과 이에 대한 비판, 그리고 신지정학적 입장에서 평화와 통일과 연관되는 다양한 방식과 논의들을 비교하고 관찰하고 다양한 시각에서 제공받을 수 있으며, 한반도의 평화와 통일과 관련된 환경, 주제, 인식 그리고 그 방법에 대한 새로운 이해를 높일 수 있다. 또한 본 강좌는 수강생들이 수업을 들은 후 직접 참여하는 토론 주간을 통해 서로가 갖고 있는 다양한 의견에 대한 차이를 이해하고, 나아가 평화와 통일 에 대한 공감되는 인식의 기반을 발견함으로써 향후 미래 한반도가 어떠한 방향으로 나아가야 하는지를 스스로 모색하는 기회를 제공하고자 한다.

In the coming decades it is likely that peace will become a priority value rather than reunification for the young generation of South Korea, and thus the outline of issues related to peace and unification of the Korean Peninsula will be expanded significantly. It is therefore expected that understanding of diverse and practical issues such as health, environment, energy, local administration, technology, migration, welfare, education, and culture will be important in the newly emerging process of peace, coexistence, integration and unification. In this lecture, students can analyze different aspects of peace and unification under traditional positions and their opposition, and neo-politicians discourse with comparative and multi-dimensional perspectives from many experts, including the main lecturer. In addition, through discussion sessions, students can also enhance their understanding of the differences in the various opinion among themselves, discover the basis of shared understanding of peace and unification, and finally find out the future path of the Korean peninsula for themselves.
This course surveys Economics and its objectives by introducing the correlation between economic policies and theories. Students will explore conditions for economic freedom, the economic aspects of political and social systems, and solutions to economic inequality.

**044.011** Prospects of South-North Relations and Unification

This class aims at understanding changes and prospects of the South-North relations. This course analyses the origin of the division of Korean Peninsula, the history of the development Northeast Asia, and the development of the Korean Peninsula and the development of Northeast Asia. This course will introduce students to the environment in which business is transacted in modern times by presenting an overview of functional areas of business and the basic concepts of the business world. Students will learn about the external and internal environment of business. Especially, this course deals with real issues on the strategic management, human resource management, and the organizational structure of a firm to develop student’s skills at understanding the business world. This course focuses on management issues from the case study and group activity. Students will have the opportunity to experience the processes and problems involved in working with other group members to reach a specific objective.

**044.012** Business and Society

This course focuses on corporate structure and we discuss visions and methods that make it possible to accomplish positive relationship between business and society, by responding actively to continuous changes of business environment and performing social responsiveness. This course introduces basic theories and advanced literature on business and society, and emphasizes diversified methodology with regard to socially responsible management. In addition, we study topics and cases about problems of macro management in our country.
the social function of laws and the legal system. To critically analyze legal appearances, we should teach students with a social scientific method. Discussions on various legal appearances and the social function of laws will increase the students’ critical awareness on legal matters. Active participation in discussion sessions is very important.

Gender and Law

Gender and Law

Gender and Law

This course offers, to the undergraduate students entering the initial stage of the highest education in their respective fields, a forum to take seriously-and further develop their genuine perspectives therein-the structure of our government and its operation and the fundamental values as norms in our society, as established and ordained in our fundamental law of the constitution. During this course, the participating students will discuss the nature of the individual fundamental rights through the analysis of actual constitutional law provisions and cases, and will obtain a basic understanding on the governmental structure and its operations as a means to better protect the democratic values and the basic rights of the individuals. This course further includes discussions on the necessity and the mechanisms for the protection and preservation of the constitution. Finally, this course intends to be an advocacy for the heightened awareness of civil rights and of the responsibility towards the community and the constitution among the students as the democratic citizens of our society.
Introduction to Law

법학이란 무엇이며, 어떠한 원리들이 법학의 토대를 이루고 있는가에 관하여 소개하는 학문이다. 대체로 법철학의 문제 식하고 있는 원리들을 토대로 하여 법학을 위한 현행 활성법이 어떠한 사회를 구축하고 있는가를 개괄적으로 소개함으로써 법학적 지식을 갖출 수 있도록 하는 강의이다.

This course offers an introduction to the study of Law, and to the principles which constitute the foundation of studies in Law. This course provides general outlines of issues related to current law, including the Constitution, and the basis of legal philosophical principles.

Art and Intellectual Property

한국이 고도산업사회로 발전하고 선진국가에 근접함에 따라 지적재산에 대한 법률적 보호가 국가적으로도 중요한 과제가 되고 있는 상황입니다. 본 과목에서는 대학자들을 위한 일반 교양 과목 차원에서, 예술보호에 가장 밀접한 법률로 할 수 있는 지적재산권법에 도입학습하게 됩니다. 특히 지적재산권법 중 하나인 저작권법은 종전까지 이론작품을 주된 대상으로 하다가 현재는 창작정보통신기술에서 파생하는 다양한 법문제와 가장 밀접한 법이 하나가 되었습니다. 본 과목은 저작권법을 중심으로 하여 예술보호 문제를 다룹니다.

As the Republic of Korea develops into a highly industrialized society and approaches the ranks of advanced countries, legal protection of intellectual property is becoming a national issue with high priority. In this course, undergraduate students will learn intellectual property law at the level of general education. This is because intellectual property law is the most relevant area of law protecting artistic property. This course especially focuses on copyright law, one of the intellectual property laws, which is most pertinent to the diverse laws and regulations derived from the most current information and communication technology. Relevant intellectual property legal system, which has changed dramatically with the advent of Internet technology, will be introduced as well. Introducing a legal system inevitably entails introducing the court decisions - domestic and foreign - in a dry manner.

Crime and Punishment

다양한 전공을 탐구하는 대학생의 기본 소양으로서 우리나라의 형법과 형사소송법의 기본 개념과 원리를 체계적으로 이해함을 돕기 위해 범죄학문대학원이 제공하는 교양과목이다. 이 강의는 현대민주주의 사회에서 형법의 역할과 한계를 분석하고, 수사기관과 법사기관의 역할과 구조, 수사, 기소, 재판 등 형사절차 등을 종합해나가며, 나타가 실제 발생한 형사사건 사건을 분석한다. 법률해석론에 집중하는 범죄학문대학원의 형법 및 형사소송법 수업과 달리, 형사법 고전 강독과 형사법에 대한 법률학적, 법적정치학적 분석이 이루어진다.

Offered by the School of Law, this course aims to provide systematical comprehension of the basic concepts and principles of the Korean Criminal Law and Criminal Procedure Law for students with various educational backgrounds. This course deals with the role and limitations of criminal law in modern democratic society, the role and structure of investigation agencies and judicial institutions, criminal procedures such as investigations, prosecutions, and trials, and furthermore analyzes actual criminal law cases. Unlike Criminal Law and Criminal Procedure Law courses in Law School which tend to focus on legal interpretation, this course puts emphasis on reading original texts regarding criminal law and analyzing criminal law from perspectives of sociology and politics.

Democratic Citizen and Fundamental Human Right

정치적 민주화가 정착된 이후 우리 사회에서는 인권과 관련된 논의들이 활발히 전개되고 있다. 민주화 이후의 민주주의의 발전과 성숙을 위해서는 정치과정에 참여할 여지를 확보한 보장이 필요하다는 사회·경제적 평등의 실현, 소수와 집단의 보호 등이 관심이 된다는 인식은 대부분의 사람들 사이에 공유되고 있다. 따라서 우리 학생들이 민주민주적으로 보장되는 기본적인 인권과 함께 이를 보장하기 위한 각종 제도들에 대한 기본적인 지식을 습득하는 것은 우리 사회사회의 일원으로서 지나칠 수 없다. 특히 기본권의 보장과 내용을 구체적인 우리 사회와 역사적 맥락에서 이해하고 그 실천의 갈등에 대해 직면하게 되는 기본적 인권을 법제도의 면에서 접근하여 이해하는 것이 필요하다. 이를 통해서 학생들은 중심이 되는 분야에 대한 주제로서 활동하면서 통합하게 될 인권의 이해 및 행위와 관련된 다양한 상황에 해결하기 위한 기본적인 준비를 할 수 있게 된다.

Since the Korean society established the political democracy, the discussion on basic human rights has further developed. The social/economic equality and protection of minorities are indeed essential in developing democracy after democratization. As such, students need to learn how the democratic society protects the basic human rights and what institution is required to protect such rights. And the study on social/historical/institutional background unique to Korea will help students better understand the contents of basic human rights and the relief we can resort to when our rights are infringed upon. Such understanding will equip the students with problem solving skills in the context of basic human rights.

Sovereign States and International Courts

이 과목은 국제사회의 핵심 주체인 주권국가들이 어떠한 법적 권리와 의무를 토대로 국제사회의 질서를 구축하고, 이를 통해 상호간 분쟁을 해결하여 나가는지를 살펴보는 것을 기본 목표로 하고 있습니다. 특히 국가 간 다양한 법적 분쟁이 여러 국제법원에서 어떻게 다루어지며, 이들 국제법원이 어떻게 구성되고, 여기에 이루어진 절차가 적용되는지 여부 등 국제법원의 기본적인 구체적인 학생들에게 전달하고자 합니다. 또한 주요 국제기구로서 국제법원이 갖는 다양한 특성으로도 입문하고자 합니다.

This course aims to provide a comprehensive, general overview of the rights and obligations applicable to sovereign states in the modern global community. Based on this overview, students will understand how and why legal disputes arise between sovereign states. In particular, the focus of the course is to be placed on international courts and tribunals such as the International Court of Justice, International Tribunal for the Law of the Sea, World Trade Organization Dispute Settlement Proceedings, Investment Arbitration, and State Arbitration.

Courses for General Education

Law and Criminal Procedure Law courses in Law School which tend to focus on legal interpretation, this course puts emphasis on reading original texts regarding criminal law and analyzing criminal law from perspectives of sociology and politics.

Democratic Citizen and Fundamental Human Right

정치적 민주화가 정착된 이후 우리 사회에서는 인권과 관련된 논의들이 활발히 전개되고 있다. 민주화 이후의 민주주의의 발전과 성숙을 위해서는 정치과정에 참여할 여지를 확보한 보장이 필요하다는 사회·경제적 평등의 실현, 소수와 집단의 보호 등이 관심이 된다는 인식은 대부분의 사람들 사이에 공유되고 있다. 따라서 우리 학생들이 민주민주적으로 보장되는 기본적인 인권과 함께 이를 보장하기 위한 각종 제도들에 대한 기본적인 지식을 습득하는 것은 우리 사회사회의 일원으로서 지나칠 수 없다. 특히 기본권의 보장과 내용을 구체적인 우리 사회와 역사적 맥락에서 이해하고 그 실천의 갈등에 대해 직면하게 되는 기본적 인권을 법제도의 면에서 접근하여 이해하는 것이 필요하다. 이를 통해서 학생들은 중심이 되는 분야에 대한 주제로서 활동하면서 통합하게 될 인권의 이해 및 행위와 관련된 다양한 상황에 해결하기 위한 기본적인 준비를 할 수 있게 된다.

Since the Korean society established the political democracy, the discussion on basic human rights has further developed. The social/economic equality and protection of minorities are indeed essential in developing democracy after democratization. As such, students need to learn how the democratic society protects the basic human rights and what institution is required to protect such rights. And the study on social/historical/institutional background unique to Korea will help students better understand the contents of basic human rights and the relief we can resort to when our rights are infringed upon. Such understanding will equip the students with problem solving skills in the context of basic human rights.

Sovereign States and International Courts

이 과목은 국제사회의 핵심 주체인 주권국가들이 어떠한 법적 권리와 의무를 토대로 국제사회의 질서를 구축하고, 이를 통해 상호간 분쟁을 해결하여 나가는지를 살펴보는 것을 기본 목표로 하고 있습니다. 특히 국가 간 다양한 법적 분쟁이 여러 국제법원에서 어떻게 다루어지며, 이들 국제법원이 어떻게 구성되고, 여기에 이루어진 절차가 적용되는지 여부 등 국제법원의 기본적인 구체적인 학생들에게 전달하고자 합니다. 또한 주요 국제기구로서 국제법원이 갖는 다양한 특성으로도 입문하고자 합니다.

This course aims to provide a comprehensive, general overview of the rights and obligations applicable to sovereign states in the modern global community. Based on this overview, students will understand how and why legal disputes arise between sovereign states. In particular, the focus of the course is to be placed on international courts and tribunals such as the International Court of Justice, International Tribunal for the Law of the Sea, World Trade Organization Dispute Settlement Proceedings, Investment Arbitration, and State Arbitration.
Understanding the Legal Aspects of Civil Life

The aim of this course is the objective comprehension of legal issues that they may encounter in the real world. The local areas and issues covered in this course are as follows:

1.sale of goods and the protection of consumers; (2) land transactions and the registration systems; (3) leases and commercial leases; (4) money loan and security rights; (5) marriage and succession; (6) legal persons such as foundations and companies; (7) labor contracts and the protection of laborers; (8) an overview of civil procedures; (9) key legal expressions and terminology.

This course deals with the basic knowledge of private law that we, i.e., citizens, need to know in our daily civic lives. It aims at equipping students with the capacity to cope with legal issues which they may encounter in the real world. This course will cover seven major topics: state authority and the individual, freedom, economical equality, social justice, tolerance, political obedience, and civic duties and virtues.

Global Issues and Ethical Thinking

International ethics, various ethical traditions have been presented, including realism and liberalism. This course will consider how each of these traditions provides guidelines for ethical judgment and action. Along with each tradition, this course will consider a case study approach on various global problems. The approach will provide a useful lens through which to focus on discussion of the larger theoretical debates and the recommended courses of action. The issues examined are justice, just war, terrorism, humanitarian intervention, global poverty and foreign aid, and economic sanctions. This applied approach helps students develop their skills in policy analysis while gaining the several perspectives for understanding the morality of the actions of state and non-state actors which play a crucial role in shaping international relations.
The Modern State and Public Administration

This course aims to bring a better understanding of public policy theories and to encourage the students to study public policy more deeply. It deals with academic and real issues related to public policy phenomena including participants in policy making processes such as president, congress, bureaucrat, the judicial, interest groups and policy communities, and major theories in policy making, policy analysis, policy implementation and policy evaluation.

Understanding Public Administration

This course is to help students understand these historical changes in public administration, current reforms, and their implications through the four lenses of state theory: pluralism, elitism, liberalism, and Marxism.

Introduction to Public Policy

This course assists students in developing skills to ascertain ways of improving the current state of human rights in Korea in accordance with the changing environment of the international community. Also, the students will learn to understand and evaluate the validity of current human rights regulations and institutions. Finally, through assessment of theoretical debates about social movements as well as evaluating such movements in Korean society, they will develop the ability to analyze Korean civil society and social movements.

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Gender and Crime

This course is designed to explore the intersection between gender and crime. We will look at the gendered experiences play in creating, legitimating, and perpetuating the fear of crime; the social construction of masculinities leading to criminal behavior; considerations that ultimately impact women in the criminal justice system; technology and crime prevention policies that differentially involve or affect men and women. A focus will be to learn about the major debates and topics within criminology relating to gender and crime. This course will allow us to investigate a feminist response and engagement in criminological theorizing of gender and sexuality. Through this class, students build critical views on play a good guide for modern people who live in the low birthrate society and social-life of modern society. The question of why the prediction has been changing the form of family, capital, structure of labor, science and technology has been deeply infiltrated. This lecture has an objective of reflecting on how state, family, capital, structure of labor, science/technology on life has been deeply infiltrated.

Evolution and Human Society

This course deepens students’ understanding of Man and his cultures by examining the relationship between human biological nature and life styles. Students are led to reflect on their own culture through analyses of other cultures. The course will cultivate attitudes and perceptions necessary for facilitating inter-cultural communication in the modern world.

Language and Society

This is an introductory course in language and society that provides an overview of the major studies that analyzes language and speech from the perspective of society and culture. Systematic attention will be paid to the introduction of a variety of recent empirical studies in the field of sociolinguistics, and to the discussion of significant aspects of language use as practiced in Korean society.
한국 전통문화는 일제 강점기 이후 근대화-서구화-자본주의화 과정 속에서 많은 변화를 겪어 왔다. 그리고 최근에는 소설, 영화, 웹툰 등 다양한 장르에서 문화콘텐츠로 활용되며 한국인의 삶에 새롭게 뿌리내리고 있다. 본 강의에서는 영화 등 대중매체를 통해 현대 한국인의 일상에 자리하고 있는 전통문화의 변화과정과 인주 소를 살펴보고자 한다. 이를 통해 수강생들이 현대 한국인의 삶과 전통문화의 관계 및 관광 상품문화현상을 통해 전통문화에 대한 깊은 이해를 갖기 위한 시도도 한다.

본 강의의 궁극적인 목표는 수강생들이 전통문화의 토대에 구상된 한국사회에서 자신의 삶을 보다 잘 설계하고 영위해 나갈 수 있는 역량을 함양하는 데에 있다.

In this lecture, we will study the process and current status of the traditional culture in the daily life of modern Korean people through the media such as movies. Through this, students will understand the relationship between modern Korean life and traditional culture, and new ways of traditional culture such as tourism products and cultural contents.

The ultimate goal of this lecture is to cultivate the ability for students to design and conduct their own lives in a Korean society based on the traditional culture.

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본 교과목은 인구의 고령화, 의료기술의 발전 및 전자구매와 같은 변화된 사회문화적 환경 속에서 젊게 중요한 사안으로 등장하고 있는 문화, 경건과 절반 간의 관계에 대해서 살펴보고는 수업이 다. 강의를 통해 학생들은 절반과 경건의 문제가 단지 의례적 탐구의 대상일 뿐 아니라, 정치, 경제, 사회, 문화적 맥락에 대한 고려 속에서 더 깊이 이해할 수 있는 문제라는 것을 배우게 될 것이며, 다양한 역사적, 지역적 사례의 비교 분석을 통해 한국 사회에 적용 가능한 방식에 대해 고민해보는 기회를 갖게 될 것이다.

This course explores the relationships among culture, health, and illness, which become more important in today's socio-cultural context of aging, advanced medical technology and globalization, through examining various regional and historical examples in the world. In this course, students will learn that illness and health are not only the issues of medical exploration but also are the subjects that can better understand in the political, economic, social and cultural contexts.

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L0549.001600 전통과 일상의 한국문화 3-3-0

Tradition and Korean Culture in Everyday Life

한국 전통문화는 일제 강점기 이후 근대화-서구화-자본주의화 과정 속에서 많은 변화를 겪어 왔다. 그리고 최근에는 소설, 영화, 웹툰 등 다양한 장르에서 문화콘텐츠로 활용되며 한국인의 삶에 새롭게 뿌리내리고 있다. 본 강의에서는 영화 등 대중매체를 통해 현대 한국인의 일상에 자리하고 있는 전통문화의 변화과정과 인주소를 살펴보자 한다. 이를 통해 수강생들이 현대 한국인의 삶과 전통문화의 관계 및 관광 상품문화현상을 통해 전통문화에 대한 깊은 이해를 갖기 위한 시도도 한다.

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L054.01400 국 라이프 식리학 3-3-0

Psychology of Good Life

This course aims to offer psychological perspectives on the question of how to live a good life. It will consist of three major themes: 1) the happy life, 2) the meaningful life, and 3) the classy life. The happy life will discuss the definitions and measurement of happiness, the antecedents and consequences of happiness, the characteristics of happy nations and happy individuals. The meaningful life will examine the meanings of meaning, the sources of meaning, goals and achievements, and self-control. Finally, the classy life will discuss topics such as the virtuous life, rationality, and achievements, and self-control. The course will also discuss the significance of interpersonal relationships. Focus will be on the four major kinds of human relationships: family members, friends, colleagues, and between different sexes. Furthermore, methods for analyzing and improving one’s human relationships are investigated through lectures and small group activities.
migration, political geography and geopolitics, and inequality problems of development.

045.018  행복한 삶과 사회복지 3-3-0

Happiness and Social Welfare

This course will begin with a question of ‘what makes our life happy?’ and deals with welfare state characteristics and its origins. Secondly, theories on the history of welfare state are explored. Thirdly, issues on welfare state are discussed, including the necessities of welfare state, criticisms on the welfare state, and the relationship between social welfare and economic growth. In addition, the issues of globalization and social welfare, privatization, and changes of Swedish model are reviewed. Finally, discussions are made on Korean social welfare and the prospects of Korean welfare model.

045.022 미디어와 현대사회 3-3-0

Media and Contemporary Society

This course will examine the political, economic, cultural factors that create the context in which mass media operate and affect ideological processes in society. We will study the history and structure of the mass media and take a close look at mass media in our society in many forms. The purpose of this course is to increase the students’ understanding of the various dimensions of the media so they will become more competent to carefully consider and criticize mass media contents.

045.024 페미니즘의 이해 3-3-0

Understanding of Feminism

여성학은 학문의 세계에서 여성의 배제와 차별에 대한 문제 인식에서 출발한다. 본 과목에서는 대학원 과정에서 여성학을 전공하고자 하는 학생들뿐만 아니라, 각자의 학문 영역에서 여성주의적 관점에 입각한 연구를 하고자 하는 학생들에게 페미니즘에 대한 이해를 도모하는 것을 목적으로 한다. 현재 페미니즘의 한정적 성찰과 학문적 논쟁과 학문적 이슈, 기본적인 이론적 용어들을 이해할 수 있는 권장이 되도록 한다.

The field of Gender Studies was established to define, analyze, and work against the exclusion and discrimination of women in academia. This course provides a historical and theoretical perspective of Feminism, giving students a foundational understanding of the nature of Feminism in order to clarify their academic goals within the feminist paradigm.

054.000100 섹슈얼리티와 성평등 3-3-0

Sexuality and Gender Equality

This course will focus on understanding gender issues arising in everyday life, and teaching students to critically analyze and address gender inequalities. It will examine the political, economic, cultural factors that influence gender relations and social norms. Additionally, the course will explore the historical and structural understandings of gender inequality and examine the role of the media in perpetuating gender stereotypes.

First of all, this course begins with the question of ‘what is welfare state?’ and deals with welfare state characteristics and its origins. Secondly, theories on the history of welfare state are explored. Thirdly, issues on welfare state are discussed, including the necessities of welfare state, criticisms on the welfare state, and the relationship between social welfare and economic growth. In addition, the issues of globalization and social welfare, privatization, and changes of Swedish model are reviewed. Finally, discussions are made on Korean social welfare and the prospects of Korean welfare model.
Life and Education

045.025

This course addresses educational theories necessary to study and evaluate education in terms of a discipline. It covers examples of educational lives of Jesus, Confucius, Buddha, and Socrates. The course also deals with the intrinsic principles of education.

045.026

Understanding Education

This is a beginner’s course for the understanding of education in its most general aspects, including the general concepts, the general areas of discourse, and the general systems of education. Values in education, the structure and activities of education, and the nature of educational subjects are to be studied. Discussion will be attempted concerning both the theoretical possibilities and the limits of the public education system in modern society.

045.028

Parenting

This course aims at an understanding of parental beliefs, values, and roles. The necessity of parental education will be discussed in relation to the trends in and problems of modern society.

045.029

Marriage and Family

This course will deal with the meaning of marriage and family, love, marital selection, and the process of getting married. Through a practical approach, it will help students to plan their future family life and to adjust to problems in their own family life.

Sustainable Society and Institution

This course aims to study various institutional responses to realize a sustainable society. Especially, this course focuses on responses to environmental problems which were the background of the advent of the concept of sustainable development. It explores theoretical discussion on environmental administration and policy and institutional arrangement to solve environmental problems, and examines alternatives to realize a sustainable society through literature reviews and case studies. It explores global environmental problems responses as well as domestic ones. Students will comprehensively understand institutional responses required to realize a sustainable society with lectures, discussions, field works, and mock role play provided by this course.

LO549.001200

Justice and Law

<Justice and Law> is a course which deals with the nature of justice underlying our society. This course aims to give comprehensive explanations on the basis of philosophy of law as to theories on justice which have been developed by political philosophy and moral philosophy and to examine universal foundations upon which people can coexist justly in society. The course, with the aim of achieving this goal effectively, provides students with an opportunity to analyze...
cases in which disagreements and conflicts on justice arise in various areas of the society and to explore what principles underpin the fundamental system of our society. This leads to the process of identifying the substantial principles of justice inherent in law and order of Korea and reconstructing them, allowing students to elaborate their own perspectives on justice.

The development of digital medias made the visual a core element of popular culture and social communications and it is a course designed to have students understand the substantial principles of justice inherent in law and order of Korea and reconstructing them, allowing students to elaborate their own perspectives on justice.

Throughout history, mathematics has been one of the most important factors in the development of mental world and civilization. Topics discussed in this course include axioms for Geometry by Euclid, Calculus by Newton and Leibniz, concept of computation by Turing and von Neumann, art and mathematics, society and mathematics, science/technology and mathematics, Oriental/European culture and mathematics.

The development of digital medias made the visual a core element of popular culture and social communications and it led to each development of individuals becoming both a consumer and producer. Advanced visual technology constitutes a key part in both the development of sciences and culture. It greatly influences knowledge production and acquisition, communication, creation of interfaces and relationships and the play. Neither individuals nor groups are free from this influence. This course will treat the ethical issues brought by the development of visual technology which relate to violation of human rights. The goal of this lecture is to raise the students ability in critical reflection on visual practices of our daily lives.

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저는 소개하고자 한다. 이를 통해 학생들이 현대 물리학의 어두운 이론을 돕고자 하는 것이 본 강좌의 목적이다.

The main aim of the course is to help student understand the fundamental concepts of statistics. In this course various practical examples that show uncertainty and statistical methodology used to solve the problem are discussed.

046.004 양자개념과 인문역경 3-3-0

Quantum Theory and Human Civilization

가끔씩 수학적 의존자도 양자개념에 입각한 현대물리학의 발전으로 인해 물리학에 어떤 변화가 생겨나온지 공부한다. 특히 우주와 물질의 생성, 양자개념에 입각한 물질의 미세구조, 그리고 양자역행이 가져와 준 현대과학 영역과 관련된 내용에 대해 알아본다.

Without using mathematics, this courses aims to introduce students with basic concepts of quantum theory and their influences on human civilization. Topics to be discussed in some detail include the origin of the universe and matter, how quantum physics has contributed to our understanding of the physical universe, and modern technological advancements made possible by quantum theory.

046.005 미시세계와 거시세계 3-3-0

Micro-world and Macro-world

본 과목은 현대사회의 지식이며 반드시 알아야 할 현대자연 과학의 기본 내용과 논리적 사고방식을 물리학의 관점에서 조명해 보는 핵심교양과목이다. 주요 주제는 물리학의 기본구조, 현대물리학의 태동과 그 철학적 배경, 미시세계에서의 물리와 거시적 현상 사이의 관계, 그리고 아주 최근의 과학이론과의 연결 등이다.

This is a core liberal-arts course on modern physics, designed to provide students with some knowledge of the natural world as perceived by physicists and to introduce the methodology used by them. Major topics include the birth and the structure of modern physics, its philosophical background, interrelation between microscopic physics and macroscopic phenomena, and the connection to the newest developments in science.

046.006 인간과 우주 3-3-0

Man and the Universe

본 강좌는 전 학년 학부생을 대상으로 전공에 무관하게 우주의 산비에 대한 인간의 원초적이고 궁극적인 의문들에 대해 설명하고자 한다. 특히 우주의 환경 파괴와 핵전쟁이 가져올지 모르는 멸종 위기의 실체를 알아보고, 이들의 지적 생명과 인류의 지구화 계획과 야심 찬 성간 이주 계획 등을 소개하는 동시에 학생들의 학기 과제 연구의 결과를 발표하고 토의한다.

This course aims at understanding whether the chemical and biological evolutions on the Earth could be a universal phenomenon in the Galaxy. From astronomical point of view we will examine the evolution of cosmic matter up to heavy elements, which are essential ingredients for forming biological creatures. We then examine how modern techniques have enabled us to search exo-planets in the Galaxy. Particular emphasis will be paid on limitations of the current techniques and also the promises of the future searches. The formation of terrestrial planets is to be distinguished from that of the Jovian ones. Orbits of the exo-planets so far detected will be analyzed in the sense whether they could be examples of solar terrestrial planets. We will then briefly follow the evolutionary path the Earth went through over last 4.6 billion years. The chapters include: evolution of cosmic matter through nucleosynthesis; formation of stars from dark molecular clouds; dynamic evolution of self-gravitating, rotating disk; formation of terrestrial planets in the proto-solar nebula; formation of Jovian planets in the proto-solar nebula; discovery of exo-planets and exo-planetary systems; Goldilock's problem of the atmospheric evolution; chemical evolution in the Earth; biological evolution in the Earth; birth and growth of civilization; parameterization of human ignorance by Drake's equation; Gaia, and Ohn-SaengMyung; interstellar communication; terraformation of Mars; heavens and hells.

046.009 우주의 진화 3-3-0

Evolution of the Universe

지구로부터 외부와의 적이 시각적 관측 가능한 전 우주 내, 모든 천체들의 관측적 특성을 학습한다. 이들 요소의 생존기간의 특성을 알아내고 이들을 해석함으로써 대폭발론에서 생성된 우주가 오늘날의 이론무대를 통해 진화한 과정을 살펴본다. 이를 바탕으로 오늘에 이르기까지 우리 인간이 가진 세계와 우주의 역사와 변화와 현 세가 우리가 알고 있는 우주의 구조에 이해하고, 향후에 우주과학의 새로운 우주와의 기술적 발전과 현세의 우리 시대의 관심과 현세의 우주에 대한 연구를 접하게 된다.

This course introduces the cosmos to students by surveying observational facts about the nature of the universe starting from the earth, the solar system, stars, nebulae, galaxies, to large-scale structure of the universe in time and space.
The Big Bang theory is brought to attention to describe the origin and evolution of matter, radiation and how the universe evolved from a state of simplicity into its present complex state. The observed facts are put into a broader context of our search for an understanding of the universe and our place in it.

Energy

현재의 과학기술 문제에서 가장 중요한 주제인 에너지는 동시에 자연과학에서 가장 기본이 되는 개념이다. 한 학기 동안 에너지 과목에서는 에너지의 기본 개념부터 실험실에 미치는 영향까지 물리, 화학, 생명과학, 지구과학의 주제들로 연결된 에너지를 다룬다. 에너지의 기원, 증가, 보존법칙과 전기에너지로부터 시작하여 다양한 에너지원을 소개하고, 태양광을 이용하는 광합성 등 다양한 에너지 저장 및 변환과정을 이해하도록 한다. 또한 화석연료로 인한 지구온난화와 대체 에너지, 한국의 에너지 생산과 소비를 다루어 세계를 선도하는 정의적 인재가 갖추어야 할 기본 교양교육을 뜻하는 Energy class will cover the basic concepts of energy and the application in daily life through the topics widely spread in physics, chemistry, biology and earth science. The origin, the definition and the conservation of energy will be introduced and various topics will be covered including the photosynthesis using solar energy to deepen the understanding of students on energy storage and conversion in nature. Also, the class will cover global warming from the use of fossil fuels, renewable energy, the production and the consumption of energy in Korea. The class will help students have the vision and global leadership for the future.

A Billion Dollar Molecule

정보, 의약, 자동차 등 현대 산업사회의 근간을 이루는 주산업들 의 근본에는 놀라운 만큼 작은 크기를 가진 새로운 분자들의 발명이 그 산업의 핵심이자로서 전대미적 역할을 감당한 경우가 대부분이 다. 이러한 작은 분자들이 정교한 설계와 합성의 과정을 거쳐 수십억억억의 시장을 이루는 새로운 산업을 일으키는 원동력의 구심점을 이루는 현상을 파악하는 것은 경이로운 일이다. 본 강의에서는 한 개의 분자가 10억억 이상의 엄청난 부가가치를 가질 수 있게 되는 과정을 다양한 새로운 기술들을, 즉 BT (Biotechnology), IT (Information Technology), NT (Nanotechnology), 및 ET (Environmen T Technology)의 측면에서 살펴보고자 한다. 고등학교 과목에서 물리, 화학, 생물 등의 과학과목을 공부하지 않은 학생들에게도 쉽게 이해할 수 있도록 간단한 분자들의 위리부터 이러한 분자들이 21세기 첨단산업의 근간기술의 핵심을 이루고 있는 메커니즘을 이해하게 한다.

Small molecules have played a key role in the development of core technologies such as those in information, medicine, and automobile industries. It is marvelous endeavor to fathom the process through which these small molecules composed of a few elements such as carbon, hydrogen, oxygen and nitrogen are placed in the focal point of the construction of brand new industries. In this class the birth process of billion dollar molecules will be delineated especially in the light of new highlighted knowledges as
In spite of recently enhanced concern about global environmental changes and natural disasters, general understanding lacks detailed information on how the earth environments change and how such environmental changes are urgently perceived. Owing to recent advances in sciences and technology, natural disasters can be better assessed and better understood presently than in the past. This course introduces our technological efforts, challenges, and limitations to better understand and predict the natural disasters, and examples of cutting-edge technologies to overcome the limitations. Students will be able to realize that the natural disasters are not unpredictable phenomena but the ones to be managed and prevented, and eventually elucidate societal understanding on the natural disasters.

046.014

Understanding Science in the Historical Setting

This course deals with the role of technology development, processes and stages of technological innovation, and the social effect from technological change. The course is designed to analyze the wide spectrum of technological engines (digital computer and software) behind the modern information technology. Equipped with such understanding students can lead, create, or at least anticipate innovative applications in each of their specialties.

- Students will understand clearly the underlying principles, future possibilities, and inherent limitations of the technological engines (digital computer and software) behind the modern information technology. Equipped with such understanding students can lead, create, or at least anticipate innovative applications in each of their specialties.

046.015

Western Civilization and Science and Technology

This course aims at deepening students’ understanding of the nature and method of science as well as its roles in society by surveying the history of scientific changes from the ancient times to modern era in intellectual and social contexts. The emphasis is on the changes in essential concepts & theories, and the intellectual & social contexts of those changes.

046.016

Computational Civilization

Students will learn through a series of concrete examples the underlying principles, future possibilities, and inherent limitations of the technological engines (digital computer and software) behind the modern information technology. Equipped with such understanding students can lead, create, or at least anticipate innovative applications in each of their specialties.

- Students will understand clearly the underlying principles, future possibilities, and inherent limitations of the technological engines (digital computer and software) behind the modern information technology. Equipped with such understanding students can lead, create, or at least anticipate innovative applications in each of their specialties.
Internet Security and Privacy

Internet security and privacy is becoming increasingly important as Internet services are increasingly being used in daily life. Students of all disciplines should be aware of what security issues exist and how private information can be leaked in using Internet services. The contents of this course will be made easy so that the students of all disciplines can take this course. This course consists of two parts: security and privacy. In the security area, we deal with the basics of the security, encryption/decryption, authentication, security devices, and the security of web. In the privacy area, we first take examples of privacy leakages in social networks. Then we walk through the legal and social issues in the Internet privacy. Students also learn privacy enhancement technologies including anonymization techniques like Tor. Lastly, Bitcoin and digital forensic technologies are discussed.

Semiconductor in Daily Life

Semiconductor devices are used in daily life, manufacturing companies, and development process for students without background knowledge about semiconductor. It explains the types and functions of semiconductor devices used in smartphones, home appliances, computers, and automobiles used in daily life. Representative companies that make these semiconductor devices are introduced and their growth history and competitiveness are explained. In addition, researchers who have made great achievements in the semiconductor field are introduced. This course covers the overall process of semiconductor product planning and development processes. It explains the technology and equipments necessary for semiconductor manufacturing and its impact on environment. It also introduces future market prospects and promising semiconductor products.

Understanding Life

This is an undergraduate course offered to non-biological science majors. The course is designed to introduce the information and knowledge caused by the advances in biological sciences. The first half of the semester is focused on the development, cells, genes, mind and behavior. Various topics concerning biological information and society are reviewed in the second half. Biology and ethics of abortion, sexual orientation, religion and life science, origin of life, infectious disease and cancer are also discussed and lectures on controversial subjects are given by guest speakers from outside.
Global Environment Change

Water crisis such as water disaster due to climate change, water conflict, water pollution etc is becoming a reality and expected to be even worse. This kind of water crisis should be managed by all the people in the world regardless of the major based on the scientific and engineering common sense.

In order for ordinary citizen to prevent water crisis, it is most important to understand the world water problems, the historical solution of water crisis. By doing this, water illiteracy can be overcome and each people in the earth can make a sound logic for an action. The purpose of this class is to teach the students of non engineering major to have a right common sense about the basic ideas about water, how water affected the cultural history of mankind, and how to prepare for the future water crisis. The findings from this class will help students from various academic background to learn how to solve the conflict in the society and develop the sustainable society as leaders of society in Korea as well as in the world.

L0551.000400 숲의 이해 3-3-0
Understanding Forests

Water crisis such as water disaster due to climate change, water conflict, water pollution etc is becoming a reality and expected to be even worse. This kind of water crisis should be managed by all the people in the world regardless of the major based on the scientific and engineering common sense.

In order for ordinary citizen to prevent water crisis, it is most important to understand the world water problems, the historical solution of water crisis. By doing this, water illiteracy can be overcome and each people in the earth can make a sound logic for an action. The purpose of this class is to teach the students of non engineering major to have a right common sense about the basic ideas about water, how water affected the cultural history of mankind, and how to prepare for the future water crisis. The findings from this class will help students from various academic background to learn how to solve the conflict in the society and develop the sustainable society as leaders of society in Korea as well as in the world.

L0551.000300 바다과학기행 3-3-0
Voyage to the Sea

This course teaches global environment changes and mechanisms in the past, differences between past and present changes, and expected global changes in the future. Emphasis will be placed on (1) present anthropogenic changes such as global warming and destruction of ozone layer, (2) natural mechanisms in the past, differences between past and present changes such as early earth's climate evolution, glacial-interglacial cycles, abrupt climate change, and (3) future changes and our responsibility.

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047.013 Revolution of Life - Biotechnology

"Revolution of Life - Biotechnology" course is designed for students with a background in biology or chemistry. It will introduce the fundamentals of biotechnology in detail. This course will cover comprehensive and up-to-date contents in biotechnology, such as transgenesis, animal/plant cloning, biotechnology in animal, plant, medical, and food science. Also, history, research methodology, consumer concern and ethical consideration of biotechnology, and career in biotechnology are also introduced.

047.014 Insects and Humans

This course will lecture on the various inevitable relationships between insects and human society. Students will study on how insect pests have affected our lives, and in human lives. Students will study on how insect pests have affected our lives, and in human lives. The course will also include discussions on the evolution of insects as basic tools for the fundamental study on the beneficial insects as useful resources, and on how we have controlled pest populations. Students will also be introduced to the applications of insects in other fields such as forensic science, environmental science, robotics, etc.

047.015 Nutrition for Health

Nutrition for Health is designed for students to understand the importance of nutrition and health for optimal nutrition and healthy lifestyle. This lecture provides students with factual, unbiased information about those topics in a way that could be understood by those without a background in biology or chemistry.

047.016 Food and Environment

The course will lecture on the various inevitable relationships between insects and human society. Students will study on how insect pests have affected our lives, and in human lives. The course will also include discussions on the evolution of insects as basic tools for the fundamental study on the beneficial insects as useful resources, and on how we have controlled pest populations. Students will also be introduced to the applications of insects in other fields such as forensic science, environmental science, robotics, etc.

047.017 Drug and Health

Drug and Health is designed for students to understand drug-related issues such as the following: dosage forms; method for avoiding medication errors; drug metabolism; drug abuse; diabetes; antibiotics; health-related regulations such as health insurance; and the health care system. This lecture provides students with factual, unbiased information about those topics in a way that could be understood by those without a background in biology or chemistry.

047.018 Understanding the Human Body

Understanding the Human Body is designed for students to understand the anatomical structure and physiological functions of the human body, based on medical knowledges. Through learning classical cases of physiological experiments and state-of-art cellular physiology studies, the students are expected to have rational and scientific views on the phenomena of our biological life. This course would be delivered mostly as lectures by professors in the department of physiology and anatomy. The major evaluation would be done by term examination and reports.
047.019 
Structure and Function of Human Brain

본 교과목에서는 우신 사람뇌의 구조와 각 영역별 뇌기능의 이해를 통하여 사람뇌에 대한 기본적인 정보를 제공한다. 또한 각 구조 및 기능의 영역과 기법 소개와 함께 다양한 실험 방법을 통하여 해부학, 심리학, 인지과학, 의학적 등 다양한 학문 간의 접목·복합 학문의 관점에서 사람뇌의 이해를 가능하게 한다.

Through this course, the students are expected to understand the structure and function of the human brain, and also to perceive brain study as an interdisciplinary research, integrating anatomy, physiology, behavioral and cognitive neuroscience, neuroimaging, and many more. Furthermore, several techniques for depicting human brain function and structure in vivo will be introduced, providing students with an opportunity to learn the research techniques of the human brain in vivo brain studies.

047.020
Introduction to Human Life Science

한대는 과학의 시작이라 할 수 있고, 최근의 놀라운 과학의 발달에 일현이 생명은 하나나 그리 신비가 밝혀지고 있다. 본 강좌는 복잡한 생물식체계의 이해와 인간건강과 환경의 관계를 소개하고 의학적인 이해를 위한 기본적인 정보를 제공한다. 무엇보다도, 본 강좌는 의학의 전문가에 많은 학생들을 대상으로 인간의 다양한 질환에 대처할 수 있는 기본요강을 제공하고자 한다.

The present age is the science age and the rapid progress of science is uncovering the veil of life. This course will introduce complex biological systems and their relationship with human health and the environment and general information for a clinical understanding of medical science. First, it aims at providing precise knowledge to cope with various human diseases to non-specialized students.

047.021
Topics in Medicine for Well-Being

‘well-being’은 한글로는 ‘복지, 안녕, 건강’ 등으로 번역될 수 있는데, ‘well-being’의 원래 의미는 ‘안녕히’가 가장 가까운 의미로도 사용된다. 본 과목의 목적은 복잡한 현대사회에서 건강을 잘 유지하며 평안한 삶을 유지하기 위해 필요한 의학상식과 기본적인 응급의학서적을 전달하는 데 있다.

본 과목의 목표는 복잡한 현대사회에서 건강을 잘 유지하며 평안한 삶을 유지하기 위해 필요한 의학상식과 기본적인 응급의학서적을 전달하는 데 있다. 건강 및 질병에 대한 응급의학 개론으로, 입상 각기별 질병이란 안전하게 평안한 삶을 유지하기 위한 필요한 의학상식과 기본적인 응급의학서적을 전달하는 데 있다.

The course begins with medical common senses that helps students to learn medical knowledge necessary to enjoy healthy lifestyle with medical tests and basic clinical knowledge commonly encountered. They are blood tests and transfusion medicine including blood donation; medical radiology; characteristics and suggestions for all the representative diseases from head to toe such as traffic accidents, eye diseases, otitis media, thyroid diseases, diseases of lung and heart, diseases of stomach and liver, kidney problems, diabetes, herniated inter-vertebral disc, arthritis and other diseases.

047.022
Understanding Death: A Scientific View

이 교과목의 목적은 의학을 전공하지 않은 다른 모든 전공학생이 교수수의 강의를 통해 우리 삶의 마지막 장면 즉을 관찰에 대한 과학적 이해를 높이고 이러한 지식의 바탕이되는 역사·철학적 합의를 분석하여 현대 사회에서 죽음에 의한 다양한 사회 현상의 특성에 대한 학문적을 통한 죽음에 의한 의학과 관련된 일반적 학문적 자료를 제시하고, 현대 사회에서 필요한 죽음의 현상에 대한 의학적·철학적 고찰을 통해 죽음에 대한 명확한 사고를 가르치고자 한다. 기본적으로 이 강의에서는 죽음에 관한 인류의 역사적 인식, 사회적 합의 및 철학적 합의와 더불어 병태생리, 복합학 및 사회·의학적 분야의 과학적 연구와 현대 사회에서 죽음과 관련된 복잡한 사회현상에 대한 과학적으로 접근하는 방법을 탐구하게 될 것이다.

The primary goal of this class is to provide a basic knowledge for the interpretation of scientific/medical facts associated-death, and the circumstances surrounding explained or unexplained causes as well as historical and philosophical stuffs related to death. This class will offers a quality knowledge and methodology focused on academic and social needs in death-associated phenomena. Essentially, major topics can be categorized into pathophysiology, toxicology, and medical jurisprudence associated with deaths.

047.023
Obesity and Health

비만과 건강관리

비만의 증상은 체중이 과도하게 증가하여, 유전과 함께 건강의 가장 큰 위험인 것으로, 비만은 현재의 주요 사망원인인 당뇨병, 심혈관질환, 일부 암( columna, 대장암 등)의 위험요인일 뿐만 아니라, 다양한 근골격계 및 정신건강 문제와도 관련성이 있는 것.

The word, ‘well-being’ means ‘welfare, peace, or good health’. The ‘well-being’ is more true to peace in its original sense and also contains the meaning of ‘good health’. The objective of this course is to learn medical common senses and basic clinical knowledge necessary to lead a healthy and peaceful life style in a modern world.

The objective of this course is to learn medical common senses and basic clinical knowledge necessary to lead a healthy and peaceful life style in a modern world. This course is an overview of medical science which deals with health, illness and common medical problems frequently encountered in each medical specialty. Students should also learn medical knowledge necessary to enjoy healthy life style and to understand common diseases with emphasis on living active and healthy life.

The course begins with medical common senses that helps maintaining health before diseases process gets in. It contains growth and development, nutrition and obesity, physiology of man and woman, pregnancy, smoking and drinking, sports medicine and first aid. The latter part of the course deals with medical tests and basic clinical knowledge commonly encountered. They are blood tests and transfusion medicine including blood donation; medical radiology; characteristics and suggestions for all the representative diseases from head to toe such as traffic accidents, eye diseases, otitis media, thyroid diseases, diseases of lung and heart, diseases of stomach and liver, kidney problems, diabetes, herniated inter-vertebral disc, arthritis and other diseases.
course of reviews of major causes and state of those problems at present and exploring the solution to them.

047.025 환경과 건강 3-3-0

Environment and Health

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Human activities can negatively affect environment and ecosystem. Inversely, environment can influence population health and quality of life. Understanding such interaction is critical for undergraduate students with various backgrounds to develop comprehensive aspects of environmental health sciences.

This course will cover the aspects of a human being’s health and wellbeing in a rapidly changing environment. It is critical to teach this multidisciplinary areas to undergraduate students. We expect that students will develop understanding of environmental health applicable to any areas. Since all fields are somewhat associated with environmental health, this example-based pedagogy can be useful to enhance quality of regional and global environment. When students develop comprehensive understanding of environmental health, they can contribute their own areas through multidisciplinary approaches.

This course will consider environmental disaster, environmental toxicology, water pollution, air pollution, global climate change, indoor environmental, environmental microbiology, industrial health, industrial hygiene and health impact assessment. This course will view popular films that explore issues in environmental health. After viewing films, a discussion follows focusing on the ethical, legal, social, and scientific issues raised by the films. Such activities can contribute to technical and social approaches to enhance environmental health. Final report will summarize three domestic newspaper articles and two international articles that are related with environmental health.
교양과목(Courses for General Education)

∴학문의 세계(Worlds of Knowledge)

c`

047.026

생활구강건강관리 3-3-0
Understanding Oral Health in Life

구강건강은 복지의 필수요소이다. 본 강좌는 구강건강을 파탄시
키는 중대구강병인 치아우식증과 치주조직병을 예방하고, 초기 발
견하여 조기 치료하며, 계속 구강건강을 관리하여 구강건강을 증
진유지 시키는 원리와 방법을 교수한다. 학생은 구강건강 및 구강
건강 관리법에 관한 구강보건지식을 학습하여, 구강보건에 대한
긍정적 태도를 기르며, 나아가 올바른 구강보건습관을 형성하는
구강보건행동개선을 추구한다. 주요 교육내용은 일상생활에서 나
타나는 구강건강의 문제를 개별적 차원에서 해결하는 개인 구강건
강관리와 사회적 차원에서 해결하는 공중 구강건강관리이다. 개인
구강건강관리는 치통, 구강안면통증, 턱관절장애, 입냄새, 칫솔질 시
출혈, 치아상실과 임플랜트, 교정, 치아미용, 잇몸맛사지 및 구강보
건용품 등의 세부내용을 포함한다. 공중구강건강관리는 구강암, 불
소농도조정사업, 치주건강과 전신건강의 관련성, 구강진료이용, 구
강진료비 및 건강보험 등의 내용을 포함한다.
Oral health is indispensible to wellbeing. This class understand principles and measures managing two major oral diseases such as dental caries and periodontal disease: the prevention, the early detection and early treatment, and the cyclic oral health care. Students learn the knowledge about oral
health and oral health care for fostering positive attitudes on
oral health and ultimately changing behaviors about oral
health. This class consists of two major parts, individual oral
health and public oral health. Individual oral health includes
orofacial pain, temporomandibular disorder, jaw pain, mouth
odor, the tooth loss and implants, orthodontics, esthetic teeth,
gum massage and oral health products. Public oral health includes oral cancer, water fluoridation, the relationship between periodontal health and systemic health such as abortion and cardiovascular disease, dental inequality, dental payment and health insurance.
047.027

녹색 생활과 소비 3-3-0
Green Life and Consumption

환경변화와 생태계에 대한 소비자의 관심이 커지면서 지속가능
한 환경을 만들기 위한 친환경 제품의 개발과 생활하는 과정에서
발생하는 환경영향 등이 사회와 기업의 중요한 문제로 대두되고
있다. 이에 따라 상품 및 서비스의 라이프사이클인 구매-사용-처분
이라는 전 과정에서 탄소배출과 자원 사용량을 저감하는 노력의
일원이자 친환경적인 라이프스타일의 기반이 되는 녹색소비의 확
산이 점차 부각되고 있다. 본 강의는 환경문제의 피해자이면서 동
시에 원인제공자인 소비자의 소비행위에 초점을 두고, 소비자가
소비와 생활환경을 되돌아보는 기회를 제공하고자 한다. 구체적으
로는 생태계와 소비자와의 관계를 시스템 이론을 통해 살펴보고
우리 사회의 의식주 생활을 각 항목별로 녹색소비의 관점으로 검
토해 볼 것이다. 나아가 소비자의 의사결정 단계별 논의를 통해
녹색소비의 실천적 역량을 높이는 것을 목적으로 한다.
With the growing concern on the ecosystem and climate
change, consumer awareness on eco-friendly product as well
as the impact of human behavior on environment have become an important issue in the society and business. Green
Consumption which in effort is the outcome of reduction of
carbon emissions and resources in the physical life-cycle of
a product or service - from purchase, usage to waste - has
been spreading while being implemented as the basis for an
eco-friendly lifestyle. This course is structured to focus on
consumers behavior patterns (as both the villain and the victim of climate change) while providing opportunities to ex-

amine the consumption style and its surrounding social environment. The relationship of ecosystem and consumer will be
dealt through the System Theory, and today’s lifestyle consisting of clothing, dining, and living will be critically evaluated through the lens of Green Consumption. The final objective of this course will be to discuss consumer’s decision
making process and to propose ways to increase Green
Consumption in the real world.
047.028

녹색 에너지 3-3-0
Green Energy

에너지는 현대 인류문명의 발전과 유지에 필수적인 재화이며
그와 동시에 세계 정치⋅경제⋅분쟁의 중심 재화이기도 하다. 그
러나 20세기의 급속한 에너지의 사용의 증가는 지구온난화를 비
롯한 많은 문제점들을 양산하였으며 이러한 문제를 해결하기 위한
다양한 노력이 경주되어왔다. 기존 에너지 사용의 부작용을 줄이
기 위한 대표적인 대안이 바로 재생에너지(renewable energy)를
비롯한 이른바 녹색에너지(Green Energy)의 개발 및 사용의 확대
이다. 그러나 이들은 높은 비용, 낮은 에너지밀도, 불규칙한 에너
지생산, 생산과정에서의 환경피해 등 또 다른 문제점들을 갖고 있
다. 본 교과목에서는 ‘녹색에너지’의 개념과 관련 기술 및 활용
현황을 알아보고, 에너지를 둘러싼 여러 문제들을 해결하는 방안
으로서의 녹색에너지의 역할과 그 한계에 대하여 학습, 토론한다.
특히 학생들이 주도적으로 참여하는 문제중심 학습을 통하여 우리
나라 녹색에너지의 현 주소를 알아보고 에너지의 선택에 대한 토
론과정을 통하여 미래 에너지를 이끌어나갈 리더십을 배양하고자
한다.
Energy is an integral resource for the advancement and
maintenance of human civilization. It is also at the center of
international politics, economics and conflict. The rapid increase in energy consumption has resulted in a multitude of
ill side-effects including global warming, and the call to
solving these problems are evermore increasing in urgency
and importance. One key to overcoming energy insecurity is
through facilitation of development and use of “green energy” including renewable energy. Green energy, however, is
high in cost while low in energy-density, is yet unreliable in
its supply, and may also create environmental damage during
production. This course will explore the concept of “green
energy”, study the available technology and its use, and further discuss the role and the limits of green energy as a solution to energy security issues. Students will study the current state of green energy in Korea, and contemplate the future of energy. The class is designed to encourage students
to raise problems, and seek answers through discussion and
debate, thereby fostering leadership qualities that will lead
society into a new energy paradigm.
047.029

기후변화와 건강

3-3-0

Climate Change and Health

기후변화는 인류가 당면한 가장 중요한 현안의 하나로, 궁극적
으로 사람과 생태계의 건강성을 위협한다. 기후변화로 발생되는
건강 영향은 어느 한 특정 영역의 노력과 변화로 해결되는 부분이
아니기 때문에 학제적 접근과 다양한 층의 지식습득을 필요로 한
다. 따라서 이 강좌는 기후변화로 인한 건강영향 문제의 배경과
현황, 사회 정치적 맥락을 고찰함으로써 주제에 대한 전반적인 틀
을 다지고자 한다. 구체적으로는 기후변화가 건강영향에 미치는
직접적 영향과 함께 그 외 매개곤충, 생태 등의 문제가 초래한 생
물학적 요인, 환경오염 등의 화학적 요인을 검토하여 기후변화가

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동반한 건강문제에 대한 이해를 높이고자 한다. 나아가 건강문제에 대한 적응과 대응 전략을 다양한 접근방법을 통해 모색해보는 기회를 갖고 궁극적으로는 지속가능한 사회로 나아가기 위해 필요한 지점을 인식하고 학습할 것이다.

Climate change is one of the most important issues against which human future is challenged and human intelligence is tested. Due to the level of intensity and diversity required in addressing the impact of climate change on health, students will accumulate multidisciplinary knowledge and learn approaches of health, natural, and engineering sciences. Overall, this course will provide students with understanding on basic background and current status of the health problems directly or indirectly related to climate change, as well as the socio-political issues. Specifically, direct health impacts from climate change, biological factors including insect vector and the ecosystem, as well as chemical factors such as pollution will be covered. Efforts toward sustainable society as well as adaptation and mitigation strategies will be discussed. This class will cover broad area of climate change from a perspective of health and will serve as an introduction for the undergraduate students of all major.
Volleyball is a sport that can be enjoyed by everyone. Other than the skills needed, the rules, responsibilities, and manners will be taught through the actual practicing of the sport.

051.005
Archery

Archer's mastery of the art of archery, bow use, and hunting skills will be practiced and studied.

051.006
Baseball

This course will focus on the fundamentals of baseball as a team sport. Emphasis will be placed on the following areas: catching, throwing, hitting, defense strategy, and offensive strategy. Fundamental skills (catching, throwing, hitting form), complex skills (catching and throwing of the hit ball, the skill for each position, hitting a pitched ball), strategy skills (hit and run, bunt and run, tag up play, double play, relay play), and actual games (played with other teams) will be covered.

051.007
Taekwondo

Taekwondo is a sport that can be enjoyed by everyone. Other than the skills needed, the rules, responsibilities, and manners will be taught through the actual practicing of the sport.
영과목(Courses for General Education)

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**Aerobics**

아유로빅의 개념을 이해하고 아유로빅 운동과 아유로빅 댄스를 정확히 구분하여 실기 지도한다. 구체적인 교수내용은 아유로빅 운동의 정의, 아유로빅 댄스의 정의, 의지, 효과, 필요성, 아유로빅 댄스의 종류 등이며, 아유로빅 댄스의 실제로서 기본동작을 지도한다.

Students will be required to understand the general theory of aerobics. Aerobics exercise and aerobics dance will be defined and practiced. Their importance and effects will be explained as well.

**Korean Dance**

우리나라 춤의 본질을 사상 고찰과 이론적 배경을 통해 분석한 후, 기본적이고 대표적인 전통 춤의 습득에 중점을 두어 실기 지도한다. 구체적으로 교수내용으로는 한국무용의 역사, 한국무용의 종류(종무용, 민속무용, 의식무용, 가무용, 신무용), 한국무용의 기본 움직임(등기, 감기, 엉기, 제가기) 등이 포함되며, 우리나라 무용의 특성을 담당하는 움직임, 우리만한 움직임, 섬세한 움직임, 힘 있고 유연한 움직임을 바탕으로 하여, 기본움직임을 익힐 때 우리나라 춤의 묘미를 살릴 수 있도록 실기 지도한다.

The essence and history of Korean dance will be studied in this course. The different types of Korean dance will be studied and practiced, including their basic steps and forms. This course is designed for an understanding of the history and types of Korean traditional dance (court dance, folk dance, mask dance, modern dance). Basic movements will be practiced to improve plasticity, grace, delicacy, strength and flexibility in the students.

**Modern Dance**

현대무용의 의의와 특성을 이해하도록 하고 기본 동작을 지도한다. 또한 간단한 운동동작을 통해 작품을 창작할 수 있는 능력을 기르도록 한다. 구체적으로 교수내용으로는 한류의 기본 동작(등기, 심리적 축구, 주제, 대상), 창작의 실체(주제의 산정, 창작의 과정, 기본동작), 현대 무용의 기본 동작(바운스, 스트레치), 바이어동작(브라운, 레그스터드, 스윙, 포올, 센터동작(포올, 바운스, 스윙) 등이 포함된다.

The significance of modern dance and its distinctiveness will be taught through its basic moves. By practicing simple moves, the students should learn to create their own pieces. The course covers the basics of creation (aim, topic, desire, motivation), actual creation (choice of topic, motions), basic moves (bounds, stretch), bar motion (pil, leg extension, swing, kick), and center motion (bounds, swing).

**Swimming 1**

강의를 통하여 수영의 역사 및 생리적 사회적 특성을 이해시키고, 평영의 기초동작인 발동작, 다리동작, 호흡 등을 단계적으로 연습을 통하여 지도함으로써 기본영법을 체득할 수 있도록 한다. 구체적인 교수내용으로는 수영의 개요(역사, 특성 및 효과, 수영의 생리적 가치와 사회적 가치), 평영의 기초동작(기본동작, 다리동작의 연습, 발동작의 연습, 문자의 동작의 연습, 호흡법) 등이 포함된다.

The history of swimming and its physiological and social characteristics will be covered in this course, as well as a step-by-step guide to practicing the basic movements of the breast stroke. Main contents include an introduction to swimming (history, characteristics, effects, physiological value, social value), and the basic movements of the breast stroke (motion, practice of leg motion, practice of arm motion, connection of leg and arm movements, breathing methods).
improvement of game skills.

051.016 수영 5(경험) 1-0-2
Swimming 5

강의를 통해 수영의 경기 방법 경영의 중요성을 이해하고, 경영의 기본동작이 발동작, 작동작, 호흡 등의 단계별 지도와 종합 동작의 지도를 통하여 경영의 정확한 동작을 체득하도록 한다. 구체적인 교수내용으로는 경영의 중요성과 기리, 경영의 과학적 원리, 출발방식과 반환방식, 경영의 복잡성, 기본사태, 다리동작, 팔동작 및 다리동작의 연결, 호흡작, 종합동작 등이 포함된다.

In this course, students will learn the butterfly swimming techniques including game methods, basic leg motion, arm motion, and breathing methods. Topics will cover swimming events and distance, scientific theories of swimming, methods of starting and returning, characteristics of the butterfly style, basic form, leg motion, arm motion, connection of arm and leg motion, breathing methods, and overall motion.

051.017 호신술 1-0-2
Martial Arts

예측할 수 없는 많은 위험에 직면한 현대 사회에서 자신의 몸을 보호하기 위해 요구되는 체력과 자기 방어態度를 기초부터 단계적으로 교수한다. 어떤 위급한 상황에서도 자신을 보호할 수 있는 능력을 기르기 위해 필요한 체력을 연마하고, 위급한 상황에 대비할 수 있는 능력을 기르도록 한다.

In modern society, one cannot predict the dangers that surround us in everyday life. It is therefore important to learn to protect oneself and to build physical strength by stage. Various kinds of self-defense techniques will be covered in this course because one should be able to protect oneself in any situation. Judo, taekwondo, kendo, and aikido skills will be used to build physical strength and more demanding fighting skills will be studied so that students can react appropriately to emergency situations.

051.018 체력단련 1-0-2
Weight Training

체력의 개념과 체력단련의 중요성을 현대생활에 비추어 강의의 주요내용으로 골프의 기초자세, 그립, 스윙스윙, 볼로브 등의 기초기술과 단식, 복식에서의 경기방법, 기초기능의 연무방법, 기본적인 심리관련 등이 포함된다.

In this course, students will discuss physical strength and the importance of physical training in modern society. They will write a physical training program suitable for each person and cultivate the basic capacity by following the program. Students will train each part of the body. Training and lectures will be provided so that students can apply scientific principles and exercise prescriptions for building up stamina. The course will also focus on an understanding of the effect of physical strength. It will be important to plan suitable training time, intensity, frequency, and build one's own physical strength.

051.019 테니스초급 1-0-2
Beginner’s Tennis

테니스에 입문하는 과정으로 테니스의 역사, 특성 및 효과, 심리 및 용구, 경기방법, 용어, 매치에서의 경기방법과 경영을 이해시킨다. 테니스의 기초기술을 습득하도록 한다. 초보자들에 대상으로 하기 때문에 간단한 지도를 통해 기본 기술을 익히도록 하고 동시에 테니스와 관련된 과학적 원리를 알도록 한다. 구체적인 교수내용으로는 공격상태, 스톱포드(Student, 백핸드), 서브, 라이, 스프린트, 로브 등의 기초기술과 단식, 복식에서의 경기방법, 포지션에 따른 경기방법, 기초기술의 연습방법, 기술적인 실수에 대해 그르는 학습에 의한다.

In this beginning course on tennis, students will study the history, special characteristics, effects, game methods, etiquette, equipments, terms, international games, and background of tennis. They will also learn the basic skills through individual lessons and explore scientific principles related to tennis. Topics will cover basic skills such as grip, stroke (forehand and backhand), serve, receive, volley, smash, and serve. Also covered will be the rules for single and double matches, different positions, practice methods, and refereeing.

051.020 테니스중급 1-0-2
Intermediate Tennis

경기에 필요한 경기방법과 기초기술 및 융용기술을 습득시키며 단식 및 복식 경기를 할 수 있는 능력을 갖추도록 교육한다. 여기 환경으로 테니스를 즐길 수 있는 수준만 아니라 평생 스포츠로 즐길 수 있는 수준까지 도달하도록 한다. 구체적인 교수내용으로는 서브의 전략, 백크로프로센트 및 단식경기에 필요한 전술, 그리고 서브와 파트너의 위치, 로우시의 전략 등복식경기의 전술 등이 포함된다.

In this course, students will learn the basic skills of tennis so that they can play single and double matches. They will be encouraged to play well enough so that they can enjoy the game as a lifelong sport. Lessons will include strategies of serving, base line strategies, back court rally, position change, and single and double match strategies.

051.022 골프초급 1-0-2
Beginner’s Golf

평생 스포츠로 인기가 높아지고 골프의 특성과 효과, 기능 기능 등을 단계적으로 교수하여 실제 필드에서 게임을 즐길 수 있는 능력이 배양될 것이다. 초보자들을 대상으로 간단한 골프스테일에서 스타일에 이르기까지 과학적 기술을 습득시킨다. 본 과목에서의 교육은 공부를 진행하며, 주요내용으로는 골프의 기본기술, 스윙(아이드레스, 백스윙, 다운스윙, 플로브스윙) 등이 포함된다. 잘못된 스타일이나는 개별지도를 통해 교정하여 원활한 기술을 익히도록 한다.

As a lifetime sport, golf has gained popularity. In this course, students will learn the characteristics, effects, and basic skills of golf and develop the ability to play a real game in the fields. The course will involve the basic positions and swing such as addressing, back swing, down swing, and follow-through. Students will receive individualized attention to identify their swing positions and to correct them on outdoor golf ranges.
Dance Sport

Waltz, tango, cha-cha, foxtrot, polka, rumba, samba, and swing as well as dance etiquette. They will learn to respect and cooperate with partners. By dancing, students will improve their physical fitness and sociability.

Beginner’s Basketball

The course is about health and the causes of bad health such as lack of constant exercise and irregular eating hours. Such issues are important in the modern world where physical activity is limited. Main contents are the concept of health, health promoting methods, exercise methods, and methods for overcoming emotional anxiety.

Beginner’s Table Tennis

The study of Sports Dietetics involves researching and investigating a suitable diet for an individual carrying out a specific physical activity. The basic knowledge of nutrition and a general study of vitamins and minerals will be needed. Diets appropriate for various physical movements and how energy is created through regulated consumption will be covered. To summarize, Sports, Dietetics is concerned with...
developing a healthful diet that will enhance the performance of physical activities.

051.031 육동과 건강 1-1-0

Exercise and Health

Physical exercise can improve one's health, and the exercising procedures will also be covered in this course. The physical diagnosis, the effects of exercising, and the exercising procedures will also be covered. The importance of constant, regular exercising on one's health, and its physiological, psychological, and social effects will be covered in this course. The physical diagnosis, the effects of exercising, and the exercising procedures will also be covered.

051.033 현대사회와 스포츠 1-1-0

Modern Society and Sports

This course teaches the characteristics and effects of handball, and handball tactics. In addition, students can learn how to play handball and rules. Students also learn the basic skills of handball and game skills through this class.

L0652.00100 핸드볼 1-0-2

Handball

This course teaches the characteristics and effects of handball, how to play and rules. Students also learn the basic skills of handball and game skills through this class. Students can experience the basic skills of handball, application skills, and handball tactics. In addition, students can learn how to play handball and the rules of handball, and then improve their understanding of refereeing.

052.001 도예의 기초 2-0-4

Introduction to Ceramics

This course examines the nature of clay and provides over-all processes of ceramic handicraft practices.

052.002 수묵화의 기초 2-1-2

Introduction to Sumukhua

This course is for non-art major students as an introduction to the basic techniques of Asian brush and ink painting. Students will get near to drawing into their daily life. The basic theory of Sumukha and the Sagunja; Four Gracious Plants (plum, orchid, chrysanthemum and bamboo) and the painting in the literary artists style will be taught. A proper understanding of the relevant aesthetic concepts and practices will also be emphasized in order to broaden students' perspective on traditional art.

052.003 수채화의 기초 2-0-4

Introduction to Watercolor

This course introduces watercolor painting, through actual practices of depicting figures and nature in transparent and opaque watercolors.

052.004 소묘의 기초 2-0-4

Introduction to Drawing

This course teaches the characteristics and effects of handball, how to play and rules. Students also learn the basic skills of handball and game skills through this class. Students can experience the basic skills of handball, application skills, and handball tactics. In addition, students can learn how to play handball and the rules of handball, and then improve their understanding of refereeing.

052.005 교양연주-합창 1-0-2

Music Performance-Chorus

This course introduces watercolor painting, through actual practices of depicting figures and nature in transparent and opaque watercolors.
교양과목(Courses for General Education)
∴
선택교양(General Education Electives)

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적 소양을 계발한다. 수강생들은 약간의 기초적인 시창 및 가창 능력을 필요로 하며 매 학기말 수강생 전원이 함께하는 합창 연주회를 개최한다.

Through vocal exercises, vocal ensemble and choir, the students develop their musical attainments and interests. The students must have elementary ability for sightseeing and singing. At the end of each semester, a choir-concert will be held.

052.006 교양연주-색소폰 1 1-0-2
Music Performance-Saxophone 1

대로적으로 많은 사람을 받고 있을 뿐만 아니라 상대적으로 배우기 쉬운 색소폰을 배우면서 보다 능동적인 예술적 체험을 할 수 있는 음악적 소양을 함양한다.

Through taking saxophone lessons, the participants might have more active musical experiences besides musical appreciation.

052.007 교양연주-색소폰 2 1-0-2
Music Performance-Saxophone 2

대로적으로 많은 사람을 받고 있을 뿐만 아니라 상대적으로 배우기 쉬운 색소폰을 배우면서 보다 능동적인 예술적 체험을 할 수 있는 음악적 소양을 함양한다. <교양연주-색소폰 1>과 연결된 하나의 과정이다.

Through taking saxophone lessons, the participants might have more active musical experiences besides musical appreciation.

052.008 교양연주-가야금 1-0-2
Music Performance-Gayageum

음악을 전공하지 않는 학생들에게 가야금 연주 경험을 제공하는 실습과목으로써 연주능력을 습득하고 그 과정에서 이론적, 실제적 경험을 통해 한국 전통 음악에 대한 이해를 듣는다.

Through Gayageum (a Korean traditional 12 string instrument) lesson, students can deepen their understanding of Korean traditional music.

052.009 교양연주-거문고 1-0-2
Music Performance-Geomungo

음악 비전공 학생들에게 연주 경험을 제공하는 실습교과목으로써 연주능력을 습득하고 그 과정에서 이론적, 실제적 경험을 통해 한국 전통 음악에 대한 이해를 듣는다.

Through Geomungo (a Korean traditional 6 string instrument) lessons, students can deepen their understanding of Korean traditional music.

052.010 교양연주-단소 1-0-2
Music Performance-Danso

음악을 전공하지 않는 학생들에게 단소 연주 경험을 제공하는 실습교과목으로써 연주능력을 습득하고 그 과정에서 이론적, 실제적 경험을 통해 한국 전통 음악에 대한 이해를 듣는다.

Through Danso (a Korean recorder) lesson, students can deepen their understanding of Korean traditional music.

052.011 교양연주-해금 1-0-2
Music Performance-Haegeum

음악 비전공 학생들에게 연주 경험을 제공하는 실습교과목으로써 연주능력을 습득하고 그 과정을 통하여 한국 전통음악에 대한 이해를 듣는다.

Through haegeum (2 string Korean fiddle) lessons, students can deepen their understanding of Korean traditional music.

053.001 신입생세미나 1-1-0
Freshman Seminars

신입생 세미나는 새내기들의 사고력 향상과 성공적인 대학생활을 목표로 한다. 이 강좌를 통해서 새내기들은 작은 클래스에서 교수님과 만나 학문탐구의 기본태도를 형성하고, 진로를 모색하며 동시에 인생을 얘기하고 세계를 나름볼 수 있는 기회를 가진다. 또한 이론 강의와 함께 토론, 현장학습, 초청강연 등의 다양한 방식으로 운영되어 기존 강의와 구별되는 자유로운 분위기 속에서 진행된다.

The Primary goal of the freshman seminars is to enhance the student’s intellectual potential and to increase the student’s capability for a successful college life. The freshman seminar program offers opportunities for freshmen to work with members of the faculty in small group settings and to formulate the foundations for the various modes of academic inquiries. In the seminars, students are encouraged to contemplate their future careers and to share their views about life and the world. The seminars will explore topics of special interest through lectures, class discussion, field trips, and presentations by invited speakers, and thus freeing the faculty and students from the usual constraints associated with a regular course offering.

L0654.000100 한국 수화 언어의 이해 2-2-0
Understanding Korean Sign Language

한국 수화언어는 전통 단일 민족, 단일 언어를 사용해 왔다는 민족적 인식으로 인해 한국어 외의 언어 사용자에 대한 사회적 수용성이 현저히 부족한 것이 현실이다. 또한 의료적 접근으로 인해 ‘재활’과 ‘정상화’라는 개념이 사용자인 농인(聾人)을 비정상의 범주로 분류하는 관점이 사회에 퍼져 있다. 이러한 이유로 농인들은 전 생애 주기에 걸쳐 많은 제약을 받고 있으며, 삶에서 많은 것을 상실한 채 살아가고 있다.

수어에 대한 바른 이해와 사용자의 저변 확대는 농인에 대한 차별과 소외의 근본적 원인을 없애줄 수 있다. 즉 한국 수어의 학습은 사회에서 쉽게 드러나지 않는 소수자의 삶과 언어 및 문화의 다양성에 대한 인식을 확장시켜 줄 수 있는 것이다.

또한 음성언어와 달리 사고 동작 체계로 이루어진 언어에 대한 학습은 인간의 의사소통 체계에 대한 새로운 인식을 이끌어낼 수 있다. 특히 한국의 농사화가 독자적으로 생산해 온 한국 수어의 생성 과정 및 조언 특성, 수어 사용자 공동체에서 형성된 다양한 독창문화의 사례를 통해 한국 수어가 가지고 있는 언어로서의 가치를 알아볼 수 있는 기회도 마련될 수 있다.

Korean sign language is completely different in structure and grammar from the Korean language per se. Korean society is noticeable for linguistic and racial homogeneity, which has led to a low tolerance for the users of foreign languages. Also widespread in Korean society is the pathological approach that recognizes hearing impairment as an abnormal
condition requiring medical rehabilitation and normalization. These add to the numerous handicaps and exclusions that the hearing-impaired have to live through in all stages of their life.

Learning and sharing sign language is a step towards eliminating the causes of the discrimination and alienation to which the hearing-impaired are exposed. In other words, it helps us better understand the language, lifestyle, and cultures of the specific minority group whose presence in society is otherwise not easily visible.

By learning a manual-visual language, students familiar with oral-aural languages will obtain a new understanding of human communication systems. They will also have an opportunity to appreciate the values and possibilities of Korean sign language by exploring its historical development and methods of word formation, along with diverse subcultures of hearing-impaired communities.

Volunteer Social Service 1

Volunteer Social Service 1 is designed to provide in-depth understanding of volunteer work and leadership of volunteer programs for the students who have successfully completed the Volunteer Social Service 1 course. The course is designed to provide in-depth understanding of volunteer work and leadership of volunteer programs for the students. The students are expected to learn about the concept and meaning of effective leadership in volunteer programs by applying leadership skills while doing volunteer work at various social service agencies. Throughout the course, leader’s role as an active participant to initiate social change and development is emphasized.

Volunteer Social Service 2

Volunteer Social Service 2 is for the students who have successfully completed Volunteer Social Service 1 and Volunteer Social Service 2. The course is designed to provide an self-initiated volunteering experience including Planning - Practice - Evaluation of the volunteer activity. The students are expected to take an initiative for assessing clients’ needs and to design a volunteer activity based on their assessments. Also, they will be able to implement their plan in the field and evaluate their work. Volunteer Social Service 3 is composed of basic education, final evaluation and direct practice of volunteer activity at various social service agencies.

Volunteer Social Service 3

Volunteer Social Service 3 is for students who have successfully completed Volunteer Social Service 1 and Volunteer Social Service 2. This course is designed to help students understand the relationship between the university experiences and future professional roles by facilitating them to gain hands-on works and field experiences at private and state-owned companies, and non-governmental organizations in Korea. Only undergraduate students are eligible for this course and receive academic credits based on their internship reports.

Global Internship 1

This course is designed to help students understand the relationship between the university experiences and future professional roles by facilitating them to gain hands-on works and field experiences at private and state-owned companies, and non-governmental organizations in Korea. Only undergraduate students are eligible for this course and receive academic credits based on their internship reports.
053.008  
Career Development: Exploration and Planning

This course is designed to help students address career issues including enhancement of career self-efficacy, career goal setting and career planning. To meet such objectives, the course-work will be composed of group activities and alumni interviews. The course themes will include self-exploration, workplace exploration (mostly interviews), career goal setting and career planning. To meet such objectives, the course will include contents of fundamental knowledge on environmental issues, it is important to understand and learn their diverse social aspects.

This course aims for students to understand and correspond to the environmental challenges in proper and wise manner of ways. Through this course, opportunities will be provided to the students to improve their environmental capacities such as creative thinking skills and green leadership through the course. Also, the course will arrange meetings with green leaders who work in environmental fields. The course includes contents of fundamental knowledge on environmental issues, vision setting, decision making methods, and communication skills.

053.011  
Green Leadership Internship

The objective of this course is to integrate in-class learning materials about the environment and sustainability with real-world on-site experiences through internships at government organizations, enterprises, research institutes, or civic groups. Upon completion, the student is expected to have acquired practical skills and knowledge that will provide insights on sustainability and which could be applied to future career pursuits.

In order to further such objectives, the students will be staying together in dormitories during the five-week internship period. Throughout this, the students will regularly communicate with fellow students and advisors about their work and progress while putting green leadership skills into practice.

Green Leadership

053.011  
Green Leadership Internship

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In order to further such objectives, the students will be staying together in dormitories during the five-week internship period. Throughout this, the students will regularly communicate with fellow students and advisors about their work and progress while putting green leadership skills into practice.
As liberal education program, students may select research themes, research methods, and advisors in interdisciplinary fields or contemporary issues. Students would submit research proposals and conduct research of their own with the support of the professor(s). Students would receive academic credits (1, S/U) based on their individual seminar portfolio and group seminar reports.

054.004
Gwanak Omnibus Course (Historical Figures)

The Primary Purpose of the Omnibus courses is to interpret and analyze a theme, and an event, a book, or a historical or political figure. These courses nurture student's capacity of multi-dimensional thinking through the training to investigate the subject from multiple angles, and to be exposed to a broad scope of interpretations.

054.006
Gwanak Omnibus Course (Themes)

The Primary Purpose of the Omnibus courses is to interpret and analyze a theme, and an event, a book, or a historical or political figure. These courses nurture student's capacity of multi-dimensional thinking through the training to investigate the subject from multiple angles, and to be exposed to a broad scope of interpretations.
Gwanak Omnibus Lectures: Community

This course offers an educational program situated in the residence halls at Seoul National University. It consists of a series of lectures on the general theme of ‘living with others’, combined with smaller discussion group seminars that supplement the lecture content and enable students to incorporate the themes and spirit in them, through the experience of living with others. Also, as team projects require every student to engage in greater depth with the course lectures and readings. The course will offer students an opportunity to reflect critically on the experience of living with others as part of their educational experience at Seoul National University. Students who do not live in the residence halls are welcome to enroll in the course. Themes to be discussed include minority and refugee experience, displacement, disability, living with robots, and globalization.

Creative Thinking and Life

The course, “Creative Thinking and Life”, aims to help students to establish interdisciplinary theoretical frames of reference on creativity and develop their own creative thinking by reflecting critically on the experience of living with others as part of their educational experience at Seoul National University. Students who do not live in the residence halls are welcome to enroll in the course. Themes to be discussed include minority and refugee experience, displacement, disability, living with robots, and globalization.

Great Books Reading Seminar

The course “Great Books Reading Seminar” consists of two pivotal parts, which are omnibus lectures and team projects. Omnibus lectures provide students with an opportunity to understand creativity in thought and life. Also, as team projects require every student to engage in a certain problem solving task, the students can experience how one’s creative ideas contribute to the formation and solution of difficult problems.
exceptions of the good life that these approaches suggest, we hope to provide a basis on which each of us can find a way for us to achieve a full, flourishing life for each of us and for the society of which we are members.

L0655.000600 융합주제강좌: 생명 3-3-0

Life: An Interdisciplinary Approach

 자연 탐구의 역사에서 ‘생명’란 초기 공간으로 오랫동안 숨겨진 대상이 있달까? 생명은 무엇인지, 무엇으로부터 기원하였고 어떤 원리로 작동하는지, 그 비밀은 언제나 맞춤설립되지 않았다. 그 력거에 더 이상 이해할 수도 극판할 수도 없는 수많은 생명은 우리가 왜 ‘생命’이라는 고리표를 벗어만 든가. 하지만 21세기 현대과학은 눈부시게 발전하였고 생명의 정체도 거의 밝혀진 것처럼 보인다. 생명이 무엇인지 정의하였고 DNA를 통해 생명학성을 해독하였으며, 이를 바탕으로 생명을 변형시키고 새롭게 창조해내는 시도까지 이루어지고 있기 때문이다.

이 강좌의 목적은 생명을 둘러싼 오늘날의 다양한 논의를 과학, 예술, 관습, 정책의 관점에서 동시에 살펴보고, 이를 통해 새롭게 직면한 생명의 문제를 함께 고민하고 그로 인해 발생하는 윤리적 책임을 논의할 것이며, 이러한 과학의 발전은 무엇으로부터 기인하였고 어떤 맥락에서 제시된 테마들을 통해서 학생들이 개인의 미래, 라디나 사회나 인류의 미래를 구성하고 고찰할 수 있는 기회를 제공하는 것을 중요한 과제로 삼다. 많은 면에서, 생명과 대면이 있는 시대를 통해 새롭게 직면한 생명의 문제를 풀기 위해 학생들에게는 생각의 불확실성과, 한번 이러한 생명의 문제를 함께 고민하고 그 답을 찾아보는 것에 있어요.

What is life? Where does it come from? And how does it function? What is the meaning of life? And... What is the meaning of life?

L0655.001300 융합주제강좌: 기술혁신 3-3-0

Technological Innovation: An Interdisciplinary Approach

본 교과목의 주제는 기술혁신에 대하여 개인, 사회 및 글로벌 커뮤니티라는 세 가지 다른 각도에서 비판적 관점과 효용을 쉽게 이해하고 분석해 보는 것이다. 첫째, 개인의 관점에서는 스마트폰을 사용하며 경험하는 정보기술발전에 대해 분석해보는 한편 초대형 기업 (예: 구글, 애플, 마이크로소프트, 페이스북)의 유료서비스에 대한 논의와, 둘째, 사회적 관점에서는 정보기술 플랫폼 (예: 우버, 에어비앤비, 레스토리) 발전으로 인한 급격한 영향과 더불어 기술을 응용하여 말방식을 피하기는 어렵지 않지만 기술의 영향에 대해서도 논의할 것이다. 마지막으로, 선진국의 기술혁신이 개발도상국의 저임금 노동력을 적극적으로 활용한 사례 등으로 개발도상국의 경제 발전에도 다양한 영향을 미칠 수 있음을 논의한 것이다.

This course will encourage students to think and speculate about multiple futures. The premise of the course is that the future is plural and still in the making. This course will address the personal futures of individuals as well as the collective futures of the human species; the futures of human societies, corporations, and national states; and the futures of nonhuman life forms. We will discuss the future organization of space and knowledge; technology and gender; art and science. The goal of the course is to approach these futures across multiple fields of knowledge and to open up the future to creative investigation, speculation, and representation. As a final project, students will collaborate in representing the future through concrete representations across various media.
Evading taxes, laws, and stakeholder protections. It could erode the societal achievements of the past 150 years. Eventually, at the third level (i.e., the level of the global community), we demonstrate that the technological innovation and social exploration of human life (that is: the stage of birth, love and marriage, social cooperation and competition, and death). The goal of this course is to approach and discuss the theme from an interdisciplinary perspective: from a literary, biological, and legal perspective. Through this course, we expect that students will have the opportunity to hone their analysis and judgment, furthermore, to coordinate their opinions by team, effectively presenting their opinions.

This course will encourage students to consider and discuss the problem of evil. When the conflict escalates, each group tends to accuse the other as absolute evil, while it justifies itself as a force that defends good. Therefore, how to define evil is a key element that shows the ideology, political cooperation and competition, and death). The goal of this course is to approach and discuss the theme from an interdisciplinary perspective: from a literary, biological, and legal perspective. Through this course, we expect that students will have the opportunity to hone their analysis and judgment, furthermore, to coordinate their opinions by team, effectively presenting their opinions.

This course will encourage students to consider and discuss the problem of freedom and choice in our life. The theme we will address and co-deliberate is the significance and depth of our freedom and choice in the four stages of human life (that is: the stage of birth, love and marriage, social cooperation and competition, and death). The goal of this course is to approach and discuss the theme from an interdisciplinary perspective: from a literary, biological, and legal perspective. Through this course, we expect that students will have the opportunity to hone their analysis and judgment, furthermore, to coordinate their opinions by team, effectively presenting their opinions.

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This course aims to foresight the frontier of the future through overlooking science, technology and society. Its inter- and multi-disciplinary approach combines academic approaches of natural sciences, social sciences, humanities. This course starts with reviewing various methods of future research for understanding their meanings and limitations to establish a student’s own perspective on the interactions between S&T and the future. As one of many examples, the evolution of AI and data science will be examined. The students will be requested to consider the social aspects and the roles of science and technology for a desirable future. This course consists of lectures and following discussions on each topic.

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This course aims to enable students to develop nuanced understandings of human/non-human "rights" and how they work, as well as their "responsibilities" as global citizens in their respective societies. It offers interdisciplinary explorations of how rights and responsibilities are relevant in helping to understand and solve some of our contemporary world’s most pressing problems. As such, this course is fundamentally about constructive problem solving. It teaches students how to understand and research complex social issues (for example systematic violations of human rights and human dignity, inequality, or climate change) and design relevant intervention strategies to address these problems. Students will work in collaborative and interdisciplinary teams as they work through a series of structured brainstorming exercises. Students will also devote a substantial portion of the course towards an individual project where they are able to explore a social issue of their own choosing. The course is facilitated by an interdisciplinary team of faculty from across SNU, each of them bringing their diverse disciplinary and methodological perspectives into the course.

This course will be taught in English.

Student proposed course

This is a student-centered, innovative course comprising various subjects and issues that students themselves propose. Professors develop and provide courses that deal with the subjects and contents that the SNU students aspire to learn and understand, as manifested, for instance, in the recent ‘Student Course Proposal Contest’. The particular subjects for various classes covered in this course include, but are not limited to, ‘understanding of laughter’ and ‘queer literature’. The course aims to reflect as much as possible the students’ educational demand and interests to bring in fresh and differentiated themes that are often overlooked in pre-existing curriculum or academic fields. The course focuses on the academic understanding and case analysis of the themes that

러닝주체강좌: 기후위기와 인류 3-3-0

Climate Crisis and Humanity: An Interdisciplinary Approach

This course is taught in English. It is a student-centered, innovative course comprising various subjects and issues that students themselves propose. Professors develop and provide courses that deal with the subjects and contents that the SNU students aspire to learn and understand, as manifested, for instance, in the recent ‘Student Course Proposal Contest’. The particular subjects for various classes covered in this course include, but are not limited to, ‘understanding of laughter’ and ‘queer literature’. The course aims to reflect as much as possible the students’ educational demand and interests to bring in fresh and differentiated themes that are often overlooked in pre-existing curriculum or academic fields. The course focuses on the academic understanding and case analysis of the themes that

러닝주체강좌: 권리와 의무 3-3-0

Rights and Responsibilities: An Interdisciplinary Approach

This course covers the climate change that the earth has experienced from the birth of the earth to the present, the impact of climate change on mankind, the history of human response to the climate change, anthropogenic impact on climate change after the industrial revolution, socio-economic effects of the climate crisis, and policies and environmental movements to minimize the damage from climate change and to reduce carbon emissions. This course will adopt an interdisciplinary approach with the perspectives of earth science, archaeology, history, and economics. In order for the students to develop integrative thinking and problem-solving skills, this course will fully utilize diverse approaches including lectures, discussions, field trips, and lab experiments. Students will be able to acquire knowledge about the causes and impacts of climate change, human responses and limits to climate and nature, and policy measures to mitigate climate crisis from the humanities, social sciences, and natural science perspectives. This course aims for the undergraduate students to develop leadership competencies to tackle impending global issues such as climate change.
students deem significant and interesting. The students are expected to examine various theories, phenomena and texts and to become the important educational subjects themselves while actively participating in the discussion, special lectures, field studies, and various other student-centered activities.

Through this process, students will cultivate their own critical perspectives on numerous issues and circumstances surrounding themselves and the world. Moreover, students will have a chance to develop autonomy, civic virtue and leadership through the unique educational interaction with the professors who design the courses based on students’ own proposals.

054,008 소그룹 고전원전읽기 1 1-2-0
Readings in Classics 1

This course is an intensive reading comprehension class designed to help students improve their understanding of classical texts written in foreign languages (including Latin and Greek, or classical Chinese) under a guidance of an instructor. Established in July, 2005 as a part of the four-year Humanities Development Program, this course aims to foster creative learning process and provide custom-made opportunities to students with diverse interests. Less than five students will meet in the instructor’s office, and choose a book from the reading list provided by the instructor. This class is recommended to students with intermediate level in comprehension skill.

054,009 소그룹 고전원전읽기 2 1-2-0
Readings in Classics 2

This course will adopt a multi-dimensional approach to a topic related to a selection of classical texts, which the teaching faculty, a group of three professors of different expertise, will choose. Lecture will focus on reading, writing, presentation and discussion of the given material. Course topic will range freely from traditional and classical topics to contemporary and practical ones. Text selection will be made with great flexibility to cover any region and area and can encompass any genre such as literature, language, arts, history, philosophy. Besides, the course could also consider texts from social sciences and sciences if necessary. The overall structure of the course could either focus on a single classical text employing a variety of perspectives, or explore multiple texts from different time periods and regions together.
freely from traditional and classical topics to contemporary and practical ones. Text selection will be made with great flexibility to cover any region and area and can encompass any genre such as literature, language, arts, history, philosophy. Besides, the course could also entertain texts from social sciences and sciences if necessary. The overall structure of the course could focus on a single classical text employing a variety of perspectives, or consider multiple texts from different time periods and regions together.

Finally, students will have demonstrations of their instruments. The demonstration includes explanation and performance.

By the end of the course, students will have acquired knowledge of various creative design methodology and better for-mative ability.
interested in. Any pre-requisite knowledge in art and design is not required for taking this class. Students will learn the ways to define and analyze ideas and themes. They will also learn the skills to communicate with audience and develop new ways to describe the exhibition content. The art museum environment will allow students to experience many aspects of museum facility. Students will have chances to manipulate museum space, temperature and humidity control settings, and lighting structures. They are expected to find their relationships. In addition, students will search for evaluation methods to determine the levels of interactions between the audience and exhibition. Students will form extensive ways of thinking based on their understanding of the museum. Each student will select a unique topic regarding objects and various materials and creates a story. Each exhibition will be based on each student’s story. Two exhibition topics selected through a discussion during the course are to be implemented an on-site exhibition at the Museum of Art, Seoul National University; the others are to be presented in the format of a virtual exhibition. Team projects will support students to become more interactive and promote their leadership skills.

054.023 과학기술과 대중문화 3-3-0
Science, Technology, and Popular Culture

이 과목에서는 과거 또는 현대 사회의 대중문화와 과학기술의 상호 관계를 탐구한다. 과학기술을 단지 그것을 생산하는 과학자가 공학자의 관점에서 봤 아니라 그것은 소비하고 활용함으로써 그 발전 방향에 큰 영향을 미치는 대중문화와의 관련 하에서 살펴본다. 특히 다양한 시대, 다양한 사회에서 과학기술과 대중문화의 관계를 다루고 이를 상호 비교하여, 과학과 사회문화의 관계에 대한 더 깊은 통찰을 얻는 것을 목적으로 한다.

This course examines interactions between science and popular culture in a variety of historical settings. This will provide students with a deeper insight to understand the complex relationship between science and culture, and in which the latter very often exerts substantial influence on the former. Students also understand that popular culture is no longer a mere external background of science and technology but one of the essential elements in shaping the features of science and technology in a given society.

054.024 과학기술과 사회 3-3-0
Science, Technology and Society

현대사회에서 과학과 기술이 사회와 연결되고 있는 다양한 측면들을 체계적이고 종합적으로 다루며, 사회 속에서의 과학기술의 역할, 각국의 과학기술의 현황과 발전방향, 과학기술관련 사회적 문제, 과학기술자의 사회적 책임 등의 주제를 포함한다.

This course surveys various aspects of the relationship between science & technology and society in a systematic way. The topics include the roles of science & technology in society, social issues related to science & technology, and social responsibilities of scientists and engineers.

054.025 공학윤리와 리더십 3-3-0
Engineering Ethics and Leadership

산업현장에서 졸업생들의 활동의 상당수가 일반국민들의 생활과 연결되어 있다. 따라서 이공계 학생들은, 특히 엔지니어가 갖는 윤리와 리더십은 매우 중요한 요소가 된다. 산업현장의 안전과 다양한 환경문제는 이들 문제들 중 대표적인 것이다. 본 강좌에서는 이러한 문제에 대한 윤리적 접근과 리더십 배양의 관점에서 교육을 시도한다. 윤리 및 관련법규, 리더십과 의사소통 방법을 연구, 학습하며 또한 사례연구와 팀별 심습을 통하여 학교에서 배운 과학기술과의 연계를 통해 이공계 지식의 응용성과 종업생으로서의 소양에 대하여 학습한다. 따라서 본 과목은 이공계 관련 학과의 학생 모두가 가능하다.

Ethics and leaderships for engineers and natural scientists are the main topics of this course. When engineering graduates start to apply knowledge obtained in-class lectures in the real life, ethics and leadership of the engineer become very important as various engineering practices affect many aspects of ordinary people’s life. Safety and environmental problems are among them. Lectures on ethics and related laws as well as leadership, teamwork and communication skills will be provided. Also, various application case studies will be introduced and discussed.

054.028 특허와 기술창업 3-3-0
Patent and Technology Entrepreneurship

R&D 과정을 통해 얻어진 우수한 결과들을 연구자(발명자)들이 활용하기 위해서는 이를 지식재산권이라는 형태로 보호해야 하고, 이를 태안에 라이센스하거나 혹은 자신이 직접 창업하여 하용 방법으로부터의 기술적 이익을 얻을 수 있다. 본 과목에서는 특히 흥미를 모으는 과학기술에 대중문화의 소양을 갖춘 것의 중요성을 강조한다. 특허법을 포함한 지식재산권에 대한 소양은 사업에 대한 이해와 연구자의 다양한 요소들을 효과적으로 상호 관계에서 활용할 수 있는 기술을 공급하고 팀프로젝트를 통해 자신이 갖고 있는 아이디어를 어떻게 사업에 연결할지에 대한 구체적인 방법을 습득하게 된다.

Researchers protect their intellectual property resulted from their R&D in the form of property rights (patents), and capitalize the invention either by licensing out the rights to other enterprises or by starting up a company by themselves. This course teaches what is the intellectual property, how researchers’ inventions are protected, and what knowledge and skills are need to start a technology based company, and allows students opportunity to practice knowledge and skills they learned through a team project.

L0655.000700 빅데이터의 이해 3-3-0
Understanding Big Data

본 교과목의 목적은 수강생이 빅데이터의 의의와 기회 그리고 한계 등을 정확히 이해하여, 각자의 관심 분야에 적합한 "빅데이터" 문제를 찾을 수 있는 능력을 배양하는 것이다. 이를 위해 빅데이터가 생성되는 환경의 변화와 기술적 배경을 배우고, 이미 다양한 분야와 적용된 응용 사례를 공부하며, 각자 자신들의 관심 분야에서 가능한 새로운 연구 및 응용 아이디어를 제안한다.

The purpose of this course helps students to understand big data’s significance, opportunities and limitations so that they can find good big data applications in their respective areas of interest. They will learn what drives the change and its technical background. In addition, they will study applications in various areas. At the end of the course, each student will present ideas about new applications in the area of their choice.
on the environment and the social changes derived from the increasing number of people to bicycle. Furthermore, we should consider how we will increase bicycle users among SNU students.

### Geographical Understanding through Geophotos

This course explores the development of cities, growth of citizens, and spatial organization of the city. It covers also such subjects as urban politics, urban planning, urban economy, and urban culture. The issues of housing, transportation, environment will be dealt with in this course as well.

#### Interpreting Cities

The purpose of this class is to provide understanding of mystery of human body and research a scientific theory of body movement as well as it would give an opportunity to improve understanding of human body through experiment of body movement. Also, you will look through how our body reacts to learn about not only nature but also the atmosphere of the mountain; fresh air, beautiful scene, smell of the wet dirt and so on. Moreover, you will make a full use of the mountain; fresh air, beautiful scene, smell of the wet dirt and so on. Furthermore, you will find the way of health improvement and maintenance by evaluating the level of individual fitness and provide a specific health-maintenance guideline.

#### Bicycle and Sports Science

This program provides Korean language lessons and opportunities to experience Korean culture in the process of language learning. Classes will be offered at two levels of proficiency.
This course will provide a review on the literati culture of East Asian societies, focusing on China and Korea. Topics will include: (a) socio-economic and political status of literati in the traditional era, (b) contributions of the literati in the formative period of the East Asian civilization, and (c) meaning and impact of literary activities in maintaining societies.

055.005 한국근대소설의 이해 3-3-0

Modern Korean Fiction

이 강좌는 한국 근대소설의 출발에서부터 1945년 해방까지의 소설에 대한 개괄을 포함하지만, 주요 초점은 1945년 이후 한국 소설, 특히 1960년 4월 혁명 이후의 주요 소설 작품들은.

이 강좌는 1960년 이래 현재까지 어떻게 한국 소설문학이 4월 혁명의 직결된 영향을 소화하면서 한국 사회의 당면 문제들에 대처했는지, 근대적 국민문학 내지 민족문학을 건설하기 위해 노력한 반면에, 근대주의와 민족주의적 논쟁이나 민주주의, 여성과 소수자 문제 등을 회의하거나 역설할 가능성이 있던 시기 이후 어떻게 다가가고 다양한 문학적 성과를 거두었는지를 살펴본다. 덧붙여 현대 북한문학에 대한 간략한 소개와 함께 합동으로의 문학적 함께는 영향에 대해서도 논의한다.

This course deals with modern Korean fiction since the late 19th century. The course will include a survey of modern Korean novel from its beginnings to 1945, but the main focus will be on Korean novel since 1945, especially on major works of fiction written after 1960.

The April Revolution in 1960 is definitely a historical watershed in that it proved, for nearly the first time in modern Korean history, that people power could pull down a dictatorial political regime to set up a new government. Almost all the creative writers since 1960 up to the present have much to do with the spirit of the revolution. The course will discuss why and how Korean writers have tried to achieve “national literature”, at the same time trying to dispense with the limitations of nationalist discourse, which often suppresses the issues of gender and minorities, and even democracy itself. The course will also give a brief mapping of the contemporary literature of North Korea.

Students will be asked to address the following topics: the national literature and the nationalist literature; the double project concerning modernity in the national literature movement; realism, modernism, and postmodernism as literary movements.
055.006 Life in Contemporary Korea

This course aims to provide students with an understanding of important issues that have shaped contemporary Korean culture and society since the late 20th century. We will examine the country’s historical background before attempting to get an overall picture of everyday life in contemporary Korea. We will discuss Korean life as diversely manifest in literature, movies, television, newspapers, magazines, advertising, sports, shopping centers, theme parks, and other forms of popular culture. The emphasis will be on discovering the ways in which Koreans have responded and adapted to the rapidly changing world. Visits will be made to cultural sites and events relevant to the course content.

055.007 Introduction to Korean Literature

This course aims to introduce students to Korean literature in English translation. The first half of the semester will be devoted to pre-modern texts, including prose fiction, essays, and poems with an emphasis on Buddhism and Confucianism; in the second half, short stories and poems of the 1920s through the 1980’s will be examined against the backdrop of the Japanese colonization and the Korean War.

055.008 Buddhist Culture in East Asia

Buddhist Culture in East Asia aims to provide students with an understanding of the development of Buddhism in East Asia, from its origins in India to its various forms in China, Korea, and Japan. The course will attempt to answer this question by looking at some of the key visual legacies of this tradition, including Buddhist imaginations of the afterlife, the development of the stupa, and the art of Zen Buddhism. The main focus will be on the pre-modern era, but due attention will be paid to the current manifestations of Buddhism in China, Korea, and Japan.

055.015 Contemporary Korea

This course is intended as a general introduction to the study of modern Korean society. Korea is widely regarded as a spectacular success story of modern capitalism. It emerged from the ashes of a civil war and the battleground of the first East-West confrontation in the mid-1950s as one of the poorest countries in the world. But it soon embarked on a rapid road to industrialization and modernization, and transformed itself into an Asian industrial powerhouse in the late 1980s. The story of modern Korea is an indispensable part of the turbulent history of the 20th century.

Students are not required to have prior knowledge of neither Korean nor Korean language as most course material is in English. The course covers a broad range of topics about Korean society from its culture and economy to national security, and enrollment is open to students of all majors.

055.016 Two Koreas: Modern Korean History and Society

Two Koreas: Modern Korean History and Society is a course that examines crucial topics in modern Korean history and society through lecture, movies and discussion.

* Purpose of this class
1. To examine crucial topics in modern Korean history and society through lecture, movies and discussion.
2. To approach division, armistice system and North Korea through lecture, movies, documentaries and dis- cussion.

* Schedule
Topic 1. General Introduction 1: Korea’s Position in the World (Week 2)
Topic 2. General Introduction 2: Topics and events in Modern Korean History and Society (Week 3)
Topic 3. Korean War (Week 4: lecture, Week 5: Movie and discussion, Week 6: students’ presentation and discussion)
Topic 5. Armistice system in the Korean Peninsula (Week 10: lecture, Week 11: Movie and discussion,
학부과정에서 핵심이 되는 요소이다. 세계음악의 권역별로 나눠 그 문화적 배경과 함께 소개되며, 동아시아 근대 사회를 논할 때 종교의 역할에 초점을 맞춘다. 이번 강의에서는 동아시아 근대 사회에서 종교의 역할을 연구하고자 한다. 동아시아 근대 사회는 종교와 종교의 갈등과 위기의 중심에 자리해왔다. 이를 위해 많은 시청각자료를 활용하여 강의한다. 이후에는 다양한 세계음악을 권역별로 나누고, 그 문화적 배경과 함께 소개하는데 있으며, 최근에는 동아시아의 종교와 종교의 갈등과 위기의 중심에 자리해왔다. 이를 위해 많은 시청각자료를 활용하여 강의한다.

This course provides students with an introduction to Korean music-genres, aesthetics, performance styles. The class is for general students with an interest in learning more about korean culture through music. The course will be taught in English.

This course introduces different world music cultures of each continent with their cultural backgrounds. Each civilization in its personal background has developed its personal culture and made diverse color from it. Between all these culture circumstances, music is the one which shows clearly this nature. To understand a specific music, we have to know all about the civilization of this music but understanding the music first, gives the occasion to know more easily the different civilization. Audio visual materials will be used to have a large view of the world and to understand the universality and the difference of several civilizations. A tour from Africa, West Indies, Oceania, America, Southern Europe, Northern Europe, Eastern Europe, Arab, Central Asia, Southern Asia, Southeast Asia, Japan, China of the Far East Asia and to Korea will complete the term. For more information about the structure and the contents of this lecture, please refer to its plan. The lecture and teaching materials will be in English. The basic material will be introduced at the first lecture and a CD of audio visual materials will be distributed to each student. This lecture will move ahead with a group presentation of studies done before and a written opinion of the lecture, thoughts and hearing, a free discussion and a supplementary appreciation. The evaluation will be done with a midterm and a final examinations, an written assignment, the attendance and the participation in the class.
Japan). “Modern” in this case will be defined as the era starting with the Opium Wars, or the beginning of Western Imperialism in the region. This redefined the religious landscape, challenging the existing traditions and introducing new ones. This religious challenge had important implications for the formation of modern East Asian states, and the way religions shaped modern societies will form the backbone of this course. However, the main focus will be on developments after 1945. Although religion is often relegated to a footnote when discussing the modern societies of East Asia, religious values, myths, and practices actually remain a key part of the identity formation process. Since identity for most people remains an implicit factor, such factors often only come to the fore in crisis or conflict situations, which force people to take a position in terms of their identitary fix. Since it is not possible to give a comprehensive picture of the whole history of religion in Modern East Asia, the course will be driven by case studies that will help the students understand the larger flow of change.
인문대학
College of Humanities
Life and Humanities

the humanities. To critically consider the social functions and roles of study-
key capabilities in relation to their majors, and have a chance to prac-
tical. Students taking this course are expected to develop
program. The lecture can cover issues that are both directly
analyzing critically and proposing alternatives.

This course is designed to provide freshmenn of the College
broad survey of diverse central problems in
humanities. It is aimed at acquainting students with
the aims, significances and methodology of various disciplines
in humanities. This course will therefore focus on special topics in humanities
are focused on historical and theoretical examination. This course will focus on spe-
cial topics, ones that have not yet been dealt with in
“Special Topics in Humanities 1”, and enhance students’
skills and capabilities such as analytical thinking, critical in-
sight and suggesting alternatives with regards to issues in the field of humanities.

Teaching faculty will freely select the course topic with
the aim of meeting the requirements of the undergraduate program. The lecture can cover issues that are both directly relevant to the topic and ones more contemporary and prac-
tical. Students taking this course are expected to develop key capabilities in relation to their majors, and have a chance to critically assess the social functions and roles of studying the humanities.

This course is designed to serve as complement to courses such as lecture, introduction and detailed exposition which are focused on historical and theoretical examination. This course will therefore focus on special topics in humanities and enhancing related skills and capabilities such as analy-

Teaching faculty will freely select the course topic with
the aim of meeting the requirements of the undergraduate program. The lecture can cover issues that are both directly relevant to the topic and ones more contemporary and practical. Students taking this course are expected to develop key capabilities in relation to their majors, and have a chance to critically consider the social functions and roles of studying the humanities.

M2169,008100 소그룹 인문학 주제 탐구 1 2-2-0

Special Topics in Humanities 1

이 교과목은 강독 또는학문방법론과 개념론 각론 및 그 각론에
대한 사전, 이론적 고찰 중심으로 설계된 전공 교과목과 상호보완적
역할을 수행하기 위하여 마련되었다. 이를 위해 이 강좌에서는
인문학 분야의 특정 주제를 집중적으로 다루며, 이를 통해 인문학
적 분석과 통찰, 대안 제시 역량 등을 강화하고자 한다. 주제는
학사과정 전공교육 목표 실현에 부합하는 범위 안에서 개설 학과
의 담당교수가 자유롭게 선택하며

This course is designed to serve as complement to courses such as lecture, introduction and detailed exposition which are focused on historical and theoretical examination. This course will therefore focus on special topics in humanities and enhancing related skills and capabilities such as analy-

Teaching faculty will freely select the course topic with
the aim of meeting the requirements of the undergraduate program. The lecture can cover issues that are both directly relevant to the topic and ones more contemporary and practical. Students taking this course are expected to develop key capabilities in relation to their majors, and have a chance to critically consider the social functions and roles of studying the humanities.

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Language and Humanities

This course is designed to have students understand the variations and universals of human language. The course introduces varying characteristics of individual languages, and identifies them in typological perspective. The topics include theoretical issues in morphology, syntax, semantics, pragmatics, information structure, lexicology as well as the ones in applied/interface areas like language contact/variation, bilingualism, second language acquisition, writing systems, sociolinguistics, and natural language processing. Core data will be selected from Korean, English, Chinese, German, French, Russian, Spanish, etc., and the relevant issues will be discussed in the socio-cultural and historical context of the language communities.

한국어연구입문 (Pre-major Tracks for College of Humanities)

This course will offer comprehensive explanations on the questions concerning the study of Korean literature. It will provide the students a basic level of Korean literary knowledge that is needed to study and understand its works. Students will systematically examine the context, scope, genre systems, historical development, as well as the characteristics of themes and aesthetics found in its literature. Such an examination will strengthen and sharpen the student’s research skills for more advanced studies in this field.

Introduction to Chinese Linguistics

This course is to provide an overview of major linguistic features of the Chinese language and a basic analytic methodology to examine linguistic phenomena and data. Students are also given opportunities to explore the Chinese language in various fields of linguistics, i.e., phonetics, phonology,
lexicology, syntax, pragmatics, writing system, history and dialectology.

100.106 중국의 대중문학 3-3-0

Chinese Popular Literature

이 과목은 역대 중국인들에게 친숙하게 읽었던 대중문학 작품들을 대상으로 하여, 원시 개론적인 이해를 위하여 대중문학의 의미 및 가치, 사회적 전통 상황 등에 대해 살펴보고, 이후 개별적인 작품에 대한 심화된 접근과 부분별 강독이 이루어진다. 다루어지는 작품은 주로 소설과 희곡으로부터 선별된다. 이 과정에서 학생들은 중국문학의 주요한 면모를 심도 있게 학습하는 기초를 마련한다.

This course will provide students with an overview of Chinese life and culture and the value of popular literature in the context of dynastic social circumstances.

100.107 중국현대영어작품의 세계 3-3-0

Masterpieces of Modern Chinese Literature

이 과목은 20세기 이후 창작된 중국현대문학 작품 중에서 명작으로 논의 가능한 작품을 골라 희곡, 소설 등에 대해 다룬다. 이 과정에서 학생들은 중국현대문학 muốn, 식후, 세기 후, 사회적 특성, 문화적 특성, 영문학의 개념과 범위, 고전문학과 현대문학의 개념을 배우게 된다.

This course gives students a solid foundation in the modern history of Chinese poetry, fiction, and literary criticism. It provides students with opportunities to read, interpret, and savor the masterpieces of poetry, novels, and plays from twentieth century China.

100.108 중국고전문학탐색 3-3-0

In Search of the World of Chinese Classical Literature

이 과목은 중국고전문학의 개념과 그 연구 대상 및 연구 방법 등에 대하여 알아보고, 학생들이 그린 작품들을 보다 잘 이해할 수 있도록 기본적인 설명과 강의의 기회를 제공한다. 이 과정에서는 학생들은 중국고전문학의 개념과 범위, 고전문학과 현대문학의 개념을 배우게 된다.

This course will familiarize students with the concerns, concepts, and methods of Chinese Classics Studies. Students will learn about the range, genres, processes of historical development, and aesthetic characteristics of Chinese Classics to form a solid foundation that is essential for future studies in this field.

100.109 영어학입문 3-3-0

Introduction to English Linguistics

영문과 전공탐색과목, 영어학의 여러 분야와 문화적 인식문화 및 탐구방법 등을 소개함으로써, 영어학의 정의, 기본정의에 관한 이해를 높이고, 영어학 연구의 내용, 방법, 활용 등에 대한 기본을 익히는 것을 목표로 한다. 전반부에서는 주로 영어의 음성의 변화, 계어, 문장, 문법, 문화의 구조와 관련한 다양한 현상을 탐구하고, 후반부에서는 주로 영어사용의 환경적, 사회적 특성, 코퍼스 자료를 이용한 영어 연구, 영어학과 영어교육 등 응용분야를 다루고, 각 분야별 특성과 현상에서 초점을 맞추어 로너트학 연구에 대한 실험적인 이해를 돕는다.

This is an introductory English linguistics course for freshmen who have no previous background in linguistics. It provides an overview of various fields in English linguistics, both theoretical and applied, and helps students understand what types of linguistic phenomena are of interest and how such phenomena are dealt with and analyzed in each field.

M1236.000600 영문학입문 3-3-0

Introduction to English Literature

영문과 전공 탐색 과목. 시, 소설, 드라마 등 각 장르에 걸쳐 작품들을 읽고 영문학 연구를 위한 기.HTTP을 읽는 개요과목이다. 비교적 빠르게 이해할 수 있는 작품을 영문학으로부터 고무한다. 영문학의 기본 개념, 장르, 문학의 성격, 표현방식, 비평방법, 시청각적 기반으로서의 프로소리 등은 작품을 읽으면서 자연스럽게 습득하도록 한다.

This preparatory course introduces the major genres and concepts of literary analysis in English literature, and is for all English majors Content and emphasis vary according to instructor.

100.112 영미영작의 세계 3-3-0

The World of English Masterpieces

영문학과 전공탐색과목, 영문학의 대표적인 고전들을 선별하여 읽으면서 문학 패턴을 분석하는 법을 배운다.

In this preparatory course for English majors, students will read British and American classics in English and discuss the works' influence on culture and society.

100.113 세계속의 프랑스어 3-3-0

French in a World Perspective

현대 유럽 문화의 한 중심지에 프랑스가 위치하고 있다고 볼 때, 프랑스어가 유럽과 전 세계에 미친 정신적, 문화적 영향력을 엄청나게 만드는 영어를 이해하는 것은 중요하다. 이 과정에서는 프랑스어의 영향력을 통한 유럽 문화의 역사적, 문화적 요소를 연구하며, 프랑스어의 영향력을 통해 결정되는 문화적, 문화적 요소를 이해한다.

The artistic, philosophical, spiritual and cultural influence of France on Europe and on the world is tremendous. This course views said influence through the historical currents and expansion of European culture. In addition, we will study the syntactic and structural differences between French, neighboring European languages, and Korean, focusing on the usage-rate of French in the world. Also examined will be the genealogy of French in the Indo-European language family.

100.115 프랑스문학과 예술의 호흡 3-3-0

Trends in French Literature and Art

프랑스의 저술가들이 사랑하고 연습한 많은 문학가들 은 작가로서 동시에 문학적이고 미술, 건축가 같은 분야의 비평가였고, 실제는 철학가이기도 했다. 이러한 프랑스 문학은 예술의 전반적인 흐름과 분리해서 이해할 수 없는데, 우리는 중세부터 현대에
This course prepares students for studying Russian literature in depth as their major with the overall knowledge of the Russian intellectual history. The readings and discussions of the texts on literature and intellectual history in the course will provide the students with profound understanding of the Russian society and history melded in the confluence of literature and thoughts.

In this course students will study the history of Russian culture through readings of various texts related to Russian history, religion, custom, systems, and art.

This interdisciplinary course deals with historical, literary, artistic, social, political and cultural aspects about Latin America. Its main purpose is to explore the major trends of Latin American popular culture by focusing primarily on its regional and national diversity.

This course is designed to do an in-depth study on Spanish Cinematographic Arts, in which many internationally acclaimed directors such as Luis Buñuel, Carlos Saura and Pedro Almodóvar have manifested their artistic genius. It seeks to understand the unique aesthetics of Spanish cinema and national identity.
tional identity of Spain. In addition, it helps students gaining a better understanding of Spanish major by providing them with a broad knowledge of Spanish society, culture and history.

100.127 World of Spanish Language

This course will provide students a basic understanding of Spanish, giving them lectures such as the importance of Spanish language in the world, its structural characteristics and the origins and history of the language itself. So the class is both for the beginners and for who already has learned some Spanish grammars. This course is not only for the linguistic research but also for the sociolinguistic studies. Instead of being guided by one side teaching method from the professor, this class aims to be an example where students will be expected to actively participate in class discussion with the questions raised by the professors each week.

100.128 Spanish Society and Culture

The historical uniqueness of Spain such as the confrontation with Islamic world during 8 centuries, the discovery of America and missionary passion for Catholicism provides a crucial factor in determining their cultural identity. Exploration of this history will enhance awareness of the originality and national identity of Spain. In addition, it helps students gaining a better understanding of Spanish major by providing them with a broad knowledge of Spanish society, culture and history.

acquisition, disorder, and change will be examined in this course focusing on the studies of human linguistic capacity from the scientific perspective. Additional investigated areas are human linguistic ability, form and meaning of natural, as well as social language and computation.

100.130 Language and Computer

This course deals with the relationship between human language and computer processing. Included in this survey are linguistic communication and information, compiling and processing by computer, human language and artificial language, application of linguistic studies to computational information processing, speech recognition and generation, sentence parsing, semantic processing and inference, and machine translation.

100.131 Phonetics

This introductory course deals with phonetics. We will learn how speech sounds are produced as well as how to pronounce foreign sounds correctly. Sounds, rhythm, intonation, and tone of Korean, English and some other languages will be surveyed. Acoustic aspects of speech sounds and the use of laboratory equipment will also be introduced.

100.132 Languages of the World

This course investigates the differences and similarities of the languages of the world while classifying them by genealogical and typological affinities. Students will gain a deeper understanding of the originality and creativity of Spanish culture, leading to a deeper understanding on Spanish literature.

100.129 Language and Linguistics

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100.133 Korean Historiography and Sources

This course will provide students a basic understanding of Spanish, giving them lectures such as the importance of Spanish language in the world, its structural characteristics and the origins and history of the language itself. So the class is both for the beginners and for who already has learned some Spanish grammars. This course is not only for the linguistic research but also for the sociolinguistic studies. Instead of being guided by one side teaching method from the professor, this class aims to be an example where students will be expected to actively participate in class discussion with the questions raised by the professors each week.

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바람직한 시각을 전달한다. 둘째, 한국사를 이해하는데 필요한 기본적인 역사자료를 소개하는데, 특히 서울대학교 규장각 소장 자료에 대한 소개와 함께 강의한다. 강의방법은 교수의 구술과 시각자료의 제공을 병행한다.

This class is for both Korean history and other majors. It focuses on how Koreans view their history and how their historical view of themselves has changed. Students are encouraged to consider the most desirable way of viewing history. The class will use extant historical materials that have been the basis for studies in Korean history for many years. Students will visit Seoul National University's Gyu-janggak Archive where they will have access to numerous visual resources.

**100.134 20세기 한국사 3-3-0**  
Korean the 20th Century

주로 20세기를 작품의 세계라고 하지만, 한국은 이 기간 동안 실로 커다란 변화를 경험하였다. 사주의 근대화 노력의 좌절, 식민지 경험, 해방, 남북분단, 경제성장, 민주화운동, 도시화, 생활양식의 시구 등 관찰할만한 것들이 이 기간 동안 우리가 겪은 변화의 크기를 짐작할 수 있을 것이다. 이 과목에서는 그동안 촬영된 바와 같이 이 기간 동안 한국 사회가 겪은 변화를 설명해 줄 수 있는 주요 주제들을 선택하여 그 역사적 의미를 살핀다.

Korean society experienced previously inconceivable changes in the 20th century: its failed independent efforts to achieve modernization, its suffering through a barbarous colonial occupation, and the devastation of interwar war. After unprecedented growth, a financial crisis struck. The Korean economy has been partially resurrected by notable economic developments since then, but persistent political problems have caused many citizens to sacrifice their personal interests to a point where the changes’ resilience is adequate to control the public mood. This class will select representative subjects from the varied history of Korea.

**100.135 한국사와 이론 사상가들 3-3-0**  
Leading Thinkers in Korean History

한국사 속에서 문화건설을 담당한 주도층의 사상을 이해하는 것은 각 시대 사람들의 가치관과 흐름을 이해하는 데 중요한 점이다. 또한 각 시대의 중요한 변화를 일으킨 요소가 개개인에게 어떻게 잠재하고, 그들 모두가 어떻게 살았는지를 파악함으로서 역사 속에서 개인의 역할을 조망할 수 있게 한다.

Comprehending the philosophies of the leading intellects in Korean history is crucial for identifying Korean ancestors’ sense of values and attitudes. Comprehending is also important for isolating the issues of their time period. This class will help students obtain this understanding as well as answer questions about what might be the desirable individual role a person can assume in the grand flow of history, and how and why a person would assume it.

**100.136 한국사와 생활문화 3-3-0**  
History of life Style in Korea

의식주를 비롯한 생활사와 관련된 자료를 중심으로 한국사의 흐름을 짚어보는 과목이다. 전통시대의 생활양식과 탄절한 학생들이 겪은 과거의 생활모습을 복원시켜 강의함으로써, 한국사를 느끼고 체득할 수 있도록 하는 데 목표로 한다.

This class will offer students a chance to experience various age-old Korean traditions. Students will be shown the costumes, food, and the structure and design of homes from past time periods. Such encounters will provide students with a better grasp of the lifestyles and patterns of Korean ancestors.

**M2169.004700 아시아사입문 3-3-0**  
Introduction to Asian History

아시아를 구성하는 동아시아, 동남아시아, 중앙아시아, 서남아시아의 역사에 대해 단순한 사실만이 아니라 아시아사 전체를 바라보는 시각을 접할 수 있다. 각 지역별 역사의 전체적인 흐름과 지역 간의 교류 등을 통해 아시아사의 전체상을 구성해본다. 또한 아시아사 연구에 부합하는 인구조사 및 방법론도 다루어하여 아시아사 연구에 필요한 기술을 제공하고자 한다.

Asia consists of East Asia, South East Asia, Central Asia, and South West Asia. This class explores not only basic knowledge and factual information, but also seeks to learn which perspectives to take in order to study Asian History. By understanding the characteristics of regional society, and the exchange between different regions, students can understand Asian history in holistic perspectives. Also, this class examines what kinds of conceptual methods are needed in order to engage in Asian research.

**100.138 개관일본사 3-3-0**  
Survey of Japanese History

일본의 원시시대로부터 현대에 이르기까지 일본 역사 전체를 대상으로 그 개발 과정으로 이해하는 것이 목적으로 한다. 따라서 일본의 역사 전체의 전체적인 특질과 함께 그 시대 각각의 특성을 우선적으로 정리하고, 일본사 전제의 역사적인 특징이 어디에 있고 이것이 동아시아의 다른 국가들과는 어떤 보편성과 차별성을 갖는가 하는 점을 이해하게 한다.

This class will provide students with basic knowledge of Japanese history, enabling them to understand the characteristics of Japanese culture on its own as well as in comparison to other East Asian cultures.

**100.139A 몽골세계제국사 3-3-0**  
History of Mongol World Empire

13세기 초 청기스 칸과 그의 후계자들은 전체 인구 100만 명 남짓 되는 몽골유목민들을 이끌고 유라시아 대륙의 거의 전부를 정복하였고, 최소한 150년 넘는 기간 동안 명실상부한 세계제 국을 경영했다. 몽골의 지배 하에서 유라시아의 여러 민족들은 긴밀한 접촉과 교류를 통해서 미지의 세계에 대한 지식을 향상시키고, 마침내 하나의 ‘세계사’가 탄생하게 되었다. 통일된 세계를 만들기 위해서는 몽골의 통치와 교육을 통해서의 통일이 세계에 대한 지식을 향상시키고 마침내 하나의 ‘세계사’가 탄생하게 되었다. 통일된 세계를 만들기 위해서는 몽골의 통치와 교육을 통해서의 통일이 세계에 대한 지식을 향상시키고 마침내 하나의 ‘세계사’가 탄생하게 되었다. 통일된 세계를 만들기 위해서는 몽골의 통치와 교육을 통해서의 통일이 세계에 대한 지식을 향상시키고 마침내 하나의 ‘세계사’가 탄생하게 되었다.

In the beginning of the 13th century Chinggis Khan and his successors, leading about one million nomadic Mongols, conquered most of the Eurasian continent and maintained the world empire at least more than a century and a half. During this age of the Mongols various nations of the continent could widen their world-view through intensive contacts and intercourse, which was finally led to the birth of

:: 인문대학(College of Humanities)
This course will explain, first of all, the source of this drive, i.e., the secrets of the Mongol hegemony, and then the principles of management of the world empire. Furthermore, it will deal with the historical legacy of the Mongol rule among several successor states, such as the Moscovy, the Qing, the Mughals and the Ottomans, which inevitably raises the question of the rise of the West and the modern age.

This class will provide students with basic knowledge of the pre-modern history and the maritime trade of South-East Asia.

This course aims to answer the question “What is western history and how do we study it?” More specifically, the course helps students understand western history by involving in “history wars,” and participate in the process of history and medias, including museums, monuments, cultural heritages, digital medias, TV programs and public debates in “history wars.”

This class is an introductory course designed for students who chose a history major and others who are interested in history to learn the basics of historical studies and experience various practices of history outside the academy. First, students learn how to “think like a historian” by understanding the basic methodology of historical research and important developments in recent historiography by consulting a variety of historical case studies. Second, they can critically analyze the ways in which the past is represented in public history and media, including museums, monuments, cultural heritages, digital medias, TV programs and public debates involved in “history wars,” and participate in the process of “doing history” not merely as consumers of historical contents but also as creators of historical meanings. Finally, this course aims to help the new students to do a soft landing in their history major and others from non-history departments to develop a new interest in history.

100.140 통남아시아의 역사과 해상무역 3-3-0

Southeast Asia History and Maritime Trade

100.141 서양사론 보는 시각 3-3-0

Perspectives on Western History

100.142 사료로 보는 서양사 3-3-0

Western History in Primary Sources

100.143 서양사의 지적전통 3-3-0

Intellectual Traditions of the West

M1250.000500 역사 공부의 기초 3-3-0

Foundations of Historical Studies

M1250.000100 역사학 세미나 3-3-0

Seminar on Historical Studies
100.146A 인도불교철학 3-3-0
Indian and Buddhist Philosophy

이 과목은 인도철학과 불교철학을 다룬다. 인도에서 나타난 여러 철학 학파들의 형성과 발달을 역사적으로 고찰하고, 인도의 문화적 역사적 배경 속에서 탄생하여 아시아의 여러 문화권에서 다양한 사상적 전통을 형성한 불교에 대해 고찰한다.

This course deals with Indian philosophy and Buddhist Philosophy. Students are invited to contemplate on the formation and development of various Indian philosophies. Students will also have an opportunity to delve into how Buddhist philosophy was founded in the background of Indian culture and history, and the way it formed various philosophical traditions in many Asian countries.

100.149 세계종교 3-3-0
World Religions

세계종교 과정에서 여러 종교의 역사를 역사적 배경 속에서 고찰하며, 종교의 사상적 전통과 개별 종교의 특성적 전통을 이해하는 데 초점을 맞춘다.

This course surveys the evolution of the world’s religious traditions.

100.150 불교개론 3-3-0
Introduction to Buddhism

불교의 역사와 사상의 전개에 대한 기본지식 및 이해의 획득을 목표로 하여, 불교의 역사, 기본 교리와 사상, 각 지역 불교의 특성적 전개 양상 등을 개관한다.

The course introduces Buddhism, its major doctrines, and the phases of its development.

100.151 기독교개론 3-3-0
Introduction to Christianity

인류의 기독교 경험이 표출된 신학적, 실천적, 공동체적 특성들과 전통적 전통 등을 개관한다.

This course will focus on the characteristics of Christianity, more specifically on faith, practice, community, and the tradition of scripture.

100.152 종교와 종교학 3-3-0
Religion and Religious Studies

종교의 본질을 학문적으로 탐구할 수 있는 시각을 다양한 방법들을 통해 세계적으로 개관한다.

What is religion? Through a systematic and academic survey of various points of view, students in this course will explore the essence of religion.

100.153 미학원론 3-3-0
Principles of Aesthetics

본 과목은 미와 예술의 근본 개념과 미학의 문제와 방법을 성공적이고 깊이 있게 침투함으로써 일반 미학의 형식적 구조와 한계를 고찰하고자 한다.

How can one explain beauty? In this course we will survey the important problems and methods of historical and contemporary aesthetics.

100.158 고고학연구의 기초 3-3-0
Foundations of Archaeology

이 과목은 고고학의 세계에 이른, 전공으로서 고고학을 고려한다.
한국의 미술문화 3-3-0

Korean Art and Culture

선사시대부터 조선시대까지의 유라시아 미술을 다루며 미술의 기원, 특성, 변천을 고찰하고 분명할 수 없는 것으로 만드는가에 대한 고찰을 돕는다.

Art History and Visual Culture

전통적인 미술과 미술가의 개념을 살펴보고 현대사회에 대응한 미술과 관련한 다양한 형태와 영역들을 포괄적으로 고찰한다.

러시아어 문화 3-3-0

Introduction to Russian Studies

러시아 시인 튜체프는 "러시아를 이성으로 이해하는 것은 불가사의"며, 그의 역사와 고고학에서 전통적으로 사용된 오늘의 문제로 이어진 질문에 대해 said: "Russia cannot be understood by reason alone." So believe a 19th-century Russian poet Fedor Tiutchev. We can also remember Winston Churchill’s the famous line regarding Russia, "a riddle wrapped in a mystery inside an enigma." What makes Russia and Russian mentality hard to understand?

인도의 이해 3-3-0

Understanding Indian Civilization

인도는 서아시아, 유럽, 중앙아시아, 동아시아의 다양한 문화권과 활발히 교류하면서 각자의 문화를 발전시켜 왔다. 이 강의는 고대부터 현대까지 인도 문화의 다양한 양상을 살펴보는 것을 내용으로 한다. 종교, 사상, 문화, 예술 등 문화의 여러 영역을 살펴봄으로써 인도 문화에 대한 이해를 높이려고 함으로 인도학을 전공하고자 하는 학생들에게 기초 지식과 전망을 제공한다.

India has developed a characteristic culture from the dawn of history, in interaction with western Asia, Europe, the Middle and Far East. This course intends to give an overview of the various aspects of Indian civilization from the classic age to the present. The course will deal with India’s religions, philosophy, culture and art, providing a deeper un-
Understanding Indian Society for students planning to pursue Indian Studies.

100,169* Understanding West Asian Civilization

This course contains introduction to many fields and topics that can be dealt within the specialization of West Asian studies through assigning reading materials out of major monographs and approaches that represent each field. The fields that can be covered may include archaeology of the Ancient Orient, Religious studies, Islamic theology and philosophy, jurisprudence, history, literature, and political economy of the modern Middle East. Its purpose is to whet students interests in diverse fields of study on West Asia of the modern Middle East. Its purpose is to whet students interests in diverse fields of study on West Asia, to promote the understanding of the regional culture with a long-range perspective. Experts in relevant fields may get invited to class.

100,177 Understanding Southeast Asian Civilization

Understanding Southeast Asian Civilization

This course explores visual arts in particular including films of the contemporary Russian art genres in the light of Russian literature. The course helps students to take different approaches toward literary works and visual art works, thus to be able to have deeper and comprehensive understanding of the Russian culture and lives.

The goal of this class is to understand the major aspects of Japanese civilization, such as Samurai, Shogun, Tenno, Kamikuni (神國思想), which influenced its formation and development. Students will examine how Japanese civilization has developed and changed through contact with the external world from ancient to modern times.
101.212A  
**Korean Phonology**

This course will survey the general theory of phonology and how it can be applied to the Korean language. First, the course will cover the basic principles of phonology Methods of understanding and interpreting Korean phonemes and their organization. In addition, the course will cover synchronic and diachronic phonology as well as the historical development of phonemes.

101.215  
**Readings in Classical Korean Poetry**

This course teaches the students the fundamentals of analyzing and interpreting literary works. They will survey phraseology, meter, and methods of expression, while learning how to properly read, analyze and interpret works of classical poetry.

101.218  
**Modern Korean Drama**

This course provides a survey of the ways in which the Korean language has changed from ancient times to the present. First, we will inquire into the genealogy and formation of the Korean language and discuss methods of classifying the language by period. Later, we will examine the phonetic history, which covers the new novels and poetry of the Enlightenment Period, the new literature founded by Yi Gwang-su, Choi Nam-sun, Kim Dong-in, Yeom Sang-seop, and others, the proletarian literature of the 1920s, the realist and modernist literature of the 1930s, the literature of liberation, and post-war literature.

101.222*  
**History of Modern Korean Literature**

This course deals with the development of modern Korean literary history, focusing on the criticisms, novels, poems, and dramas of each period from the Enlightenment Period until the 1960s. Students will come to comprehend the particular significance of works in relation to modern Korean literary history, which covers the new novels and poetry of the Enlightenment Period, the new literature founded by Yi Gwang-su, Choi Nam-sun, Kim Dong-in, Yeom Sang-seop, and others, the proletarian literature of the 1920s, the realist and modernist literature of the 1930s, the literature of liberation, and post-war literature.
### 101.303A 한국어문법론 3-3-0

**Studies in Korean Grammar**

한국어 문법론은 한국어 음운론과 함께 우리말의 구조를 다루는 한 분야이다. 음운론이 사라, 모음, 음절, 액센트 등 언어의 소리 쪽을 다루다면 문법론은 형태소, 단어, 구, 문장 등 그 자체가 어떠한 의미를 동반하고 있는 단위, 즉 문법 단위들을 다룬다. 이 과목은 현대국어를 대상으로 우리말의 다양한 문법 현상과 그 바탕에 발라 있는 규칙들을 발견하고 이해해 나가는 데 그 목적이 있다.

This class will use grammar to look at the structure of the Korean language. Phonemes - consonants, vowels, syllables, accents, and other sounds of the language - will be studied in terms of how they relate to the language’s morphemes, vocabulary, phrases and sentences. The goal of the course is to enhance students' understanding of modern Korean grammar.

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<tr>
<th>101.308 한국고전소설론 3-3-0</th>
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<td><strong>Classical Korean Novel</strong></td>
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고전소설 작품에 대한 전반적인 이해를 바탕으로, 고전소설의 미학적 특성과 그에 표현된 한국인의 생활 감정과 사상을 이해하고 작품을 분석하고 해석하는 연구의 방법을 체득하도록 한다. 이를 위하여 첫째, 작품 및 감독 등에 대한 지급까지의 연구 성과를 정검하고, 둘째, 구체적인 작품이나 감독을 대상으로 그 작품을 분석하고 해석하거나 감독의 미학적 특성을 규명하는 방법을 실습한다.

Presupposing a foundation in classical novels, the goal of this course is to help students understand the aesthetics as well as the expressions of the emotions and thoughts found in Korean poetry. Included in this study are symbolism, figures of speech, imagery, meter, form, emphasis, irony, and other poetic elements.

### 101.309A 한국현대문론 3-3-0

**Korean Modern Poetry**

한국 현대시의 효과적인 이해를 위해서 시의 개별 요소에 대한 이론들을 일괄하고 이론과 실제 창작 사이의 거리를 설명한다. 여기에 주의하여 첫째, 작품 및 감독 등에 대한 지급까지의 연구 성과를 검토하고, 둘째, 구체적인 작품이나 감독을 대상으로 그 작품을 분석하고 해석하거나 감독의 미학적 특성을 규명하는 방법을 실습한다.

In order to effectively understand modern Korean poetry, this class will take a detailed look at the key elements of the subject in question and attempt to apply them to Korean poems. This will increase our understanding of the poem’s underlying meanings. We will also familiarize ourselves with basic theories as well as examine actual works and their important attributes for a functional understanding of modern Korean poetry. Included in this study are symbolism, figures of speech, imagery, meter, form, emphasis, irony, and other poetic elements.

### 101.310 한국현대시론 3-3-0

**Modern Korean Poets**

개최하기 이후 1950년대까지의 한국 근대 시에서 중요하게 판단되는 시인을 선정하여 그 시인들의 연구사를 검토하고, 그 시인들에 부합되는 방법론을 제작하여 새로운 연구 방법을 제시하는 데까지 강의를 한다.

This course will study several poets who represent the significant works or genres examining its specific, aesthetic characteristics. We will practice methods of analyzing and interpreting specific works or genres examining its specific, aesthetic characteristics.

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<tr>
<th>101.311A 한국현대소설론 3-3-0</th>
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<tr>
<td><strong>Korean Modern Novel</strong></td>
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</tbody>
</table>

소설의 구조를 분석할 수 있는 일반이론을 소개하고 이론 자체의 의미전특성을 습득한다. 그리고 한국현대소설에 대한 명령 한 평가를 가능하게 하는 이론적 기반을 마련하고, 내용과 형식의 연관을 통해 총체적으로 의미체를 파악하고 상중적으로 평가하는 태도를 기른다. 현대한국소설의 구조와 그 이론적 체계를 살펴보 고, 현대소설의 전개과정에서 찾아낼 수 있는 문제점을 연구, 강독하는 강의로서 현대한국소설이 지닌 특성과 시술기법, 구성의 조 작, 작가의 작품 분석 방법론을 중심대상으로 한다.

This course develops the ability to do a structural analysis of a novel. This ability will enable students to better understand and critique novels. In class we will read various novels to explore the structure and theory behind the modern Korean novel as a genre. While we will focus on the unique characteristics of the modern Korean novel, its descriptive techniques and construction, we will also review the history of the Korean novel’s development as a whole and evaluate problems discovered in the process.

### 101.312 한국현대작가론 3-3-0

**Modern Korean Authors**

작가론의 방법에 대한 이해를 토대로 하여 한국 현대 작가의 전반적인 특성을 파악한 후 특정 작가의 작품세계를 파악하는 것을 목표로 한다. 현대 한국 작가들 대상으로 작가에 대한 연구사 검토와 작품 분석을 중심내용으로 하는 연구과정을 세분 연구사와 작품의 관계를 사정적으로 조사하는 한국소설사에 대한 지식과 인식을 향상시킬 것이다.

With the study of writers as a background, this course will help students comprehend the characteristics of the modern Korean authors in general as well as specific authors. The main subject of the course will be an examination of the history of authorial research and the analysis of literary works while focusing on modern Korean authors. It will be a seminar-style course seeking to improve students’ knowledge and understanding of the history of Korean novels.

### 101.315 한국한문학론 3-3-0

**Studies in Sino-Korean Literature**

한국한문학에 대한 전반적인 이해를 바탕으로 한국문학의 미학적 특성과 그에 표현된 한국인의 생활 감정과 사상을 이해하고 작품을 분석하고 해석하는 연구의 방법을 제작하도록 한다. 이를 위하여 첫째, 작품 및 감독 등에 대한 지급까지의 연구 성과를 점검하
고, 등재, 구체적인 작품이나 갈래를 대상으로 그 작품을 분석하고 해석하거나 갈래의 미학적 특징을 규명하는 방법을 실습한다.

Presupposing a general understanding of Sino-Korean literature, the goal of this course is to help students understand its aesthetics. Furthermore, we will study the uniquely Korean thoughts and emotions depicted in this literature and master apt methods of analysis and interpretation. In order to accomplish this, we will first examine the research concerning these works. Secondly, we will practice methods of analyzing and interpreting specific works or genres while simultaneously examining the aesthetic characteristics of the respective, specified genre.

101.316 한국고전시가론 3-3-0

Classical Korean Poetry

고대가요에서부터 국가요, 고려요, 시조, 가사 등 고전시가 작품에 대한 전반적인 이해를 바탕으로 고전시가의 미학적 특징과 그에 포함된 한국인의 생활 감정과 사상을 이해하고 작품을 분석하고 해석하는 연구의 방법을 체득하도록 한다. 이를 위하여 첫째, 작품 및 재해 등에 대한 지급까지 연구 성과를 점검하고, 둘째, 구체적인 작품이나 갈래를 대상으로 그 작품을 분석하고 해석하거나 갈래의 미학적 특징을 규명하는 방법을 실습한다.

This course presupposes a foundation in classical poetry. Its goal is to help students understand the aesthetic characteristics of classical poetry and the emotions and thoughts of Koreans that are expressed in it. Various classical forms including gayo, heyangga, Goryeo gayo, sijo, and gasa will be studied. Also examined are the research as well as practice methods of analysis and interpretation. The class will also emphasize the studying of the aesthetic characteristics of specific works and genres.

101.317 한국어정보의 전산처리 3-3-0

Computational Treatment of Korean Language Information

본 과목의 목표는 학생들에게 하여금 컴퓨터를 이용하여 한국어 관련 정보(또는 자료)를 적절히 추출하고 처리할 수 있는 기초적인 능력을 기르게 하는 것이다. 정보 관련 기술과 산업이 발전함에 따라 많은 학문분야의 연구 내용과 방법론도 달라지고 있으며, 이러한 변화에 부응하기 위해 개설된 과목이 본 과목이다. 본 과목은 한국어를 대상으로 의미의 의미를 다루는 분야이다. 이 과목은 한국어로 대상으로 의미의 의미, 단어 간의 의미 관계, 단어장과 성분분석, 의미의 문맥 등을 살펴보고, 나아가 문장의 의미, 단어의 동음이의성 분석 및 외관성을 넘어서 한국어의 이해의 폭을 넓히는데 기여한 학자들을 택하여 그 연구 성과를 이해하고 이를 토론하는 형식으로 진행된다.

The aim of this course is to evaluate existing research and to assess the current trends in Korean language research. This course Korean linguistic history will be divided into different eras and notable linguists from each era will be selected and their research evaluated. Each student will present an analysis of one linguist and lead the class discussion.

101.401A 한국어방언학 3-3-0

Korean Dialectology

이 과목은 한국어 방언의 체계적인 연구를 위한 방법의 습득에 그 목적이 있다. 우선 방언학에 관심 있는 이론들을 소개한다. 주로 방언학을 추구로 살펴보며 구체적으로 방언학적 염두점들을 통해 각 방언간의 음성・문법・어휘적 특성을 알아본다. 그리고 방언 차이에 의해 방언구조 작업을 하고 나아가 방언지도를 작성해 본다. 물론 이는 한국어의 폭인데 아니라 어느 한 방언을 선택하여 공시 관리에 인용할 수 있다.

The goal of this course is to expose students to the methods necessary to carry out research on Korean dialectology. Students will be introduced to various theories on dialectology. In particular, the course will concentrate on geographical dialectology and evaluate the characteristics of each dialect's phonemes, grammar, and vocabulary. Students will learn to distinguish between different dialects and create dialectological diagrams to illustrate such differences.

101.402A 한국어학사 3-3-0

History of Korean Linguistics

이 과목은 한국어에 대한 연구가 어떤 것들이 있었으며 그 경향의 변화 방향은 어떤 것이었는지에 대해 연구한다. 먼저 한국어학의 시대구분에 대해 알아본다. 그리고 각 시대별로 중요하다고 생각되는 학자들을 택하여 그 연구 성과를 이해한 아이다. 강의는 학생들이 한 학자씩 맡아 발표를 하고 이를 토론하는 형식으로 진행된다.

The aim of this course is to evaluate existing research and to assess the current trends in Korean language research. This course Korean linguistic history will be divided into different eras and notable linguists from each era will be selected and their research evaluated. Each student will present an analysis of one linguist and lead the class discussion.

101.404A 한국어의미론 3-3-0

Studies in Korean Semantics

언어의 용성과 의미의 접합이라고 볼 수 있는 점에서 의미는 언어에서 별도로 독립을 수 없는 중요한 요소이다. 의미론은 이러한 말의 의미를 다루는 분야이다. 이 과목은 한국어를 대상으로 의미의 의미, 단어 간의 의미 관계, 단어장과 성분분석, 의미의 문맥 등을 살펴보고, 나아가 문장의 의미, 문장의 동음이의성 분석 및 외관성을 넘어서 한국어의 이해의 폭을 넓히는데 기여한 학자들을 택하여 그 연구 성과를 이해하고 이를 토론하는 형식으로 진행된다.

Language is generally viewed as the union of sound and meaning. Semantics is the branch of linguistics concerned with meaning This course will evaluate the definition of meaning, the relationship between the meanings of words, and how they change Furthermore, it will evaluate the meaning of sentences and conversations to facilitate a thorough and comprehensive understanding of the Korean language.

101.405 한국구비문학론 3-3-0

Korean Oral Literature

설화, 민요, 전통극 등 구비문학에 대한 전반적인 이해를 바탕으로 구비문학의 문학적 특성과 그에 표현된 한국인의 생활 감정과 사상을 이해하고 작품을 분석하고 해석하는 연구의 방법을 체득하도록 한다. 이를 위하여 첫째, 작품 및 감해 등에 대한 지급까지의 연구 성과를 점검하고, 둘째, 구체적인 작품이나 갈래를 대
상으로 그 작품을 분석하고 해석하거나 갈래의 미학적 특징을 규명하는 방법을 심도한다.

This course capacitates students to use research techniques in order to understand the characteristics of Korean oral literature. Additionally, students will learn to analyze and interpret the philosophies of Koreans depicted in various genres such as folklore, folk music and traditional plays while examining the existing researches and aesthetics of selected works.

101.410  
한국현대소설강독 3-3-0  
Readings in Modern Korean Novel

개화기에 이르기까지 발표된 소설 작품들 가운데 문제작을 선정하여 읽기로 입문, 분석하고, 평가하도록 한다.

In this course students will learn to properly read, analyze, and evaluate problematic novels published from the Enlightenment Period up until the 1970’s.

101.419  
한국현대문학비평 3-3-0  
Modern Korean Literary Criticism

문학비평의 유형들과 개별 방법론을 접목하고 한국현대문학 연구에 어떻게 적용할 수 있는가를 실제 연구논문을 작성하면서 확인한다. 이와 함께 개화기 이후 진행된 실제비평을 통해 이론의 정합성과 적용가능성 및 현재 등을 검증해 본다. 문학작품에 대한 가치 평가의 행위인 비평작업을 통해 문학작품의 의미와 존재의 특성을 확인하는 비평문학에 대한 이론적 탐색을 통해 한국문학연구의 이론적 토대를 마련하는 것을 궁극의 목적으로 한다.

This course presupposes the student to have a foundation in the study of Korean literature through different perspectives. One of the primary tasks of literary criticism is to establish standards by which we evaluate a piece of literature. This course closely examines the interrelation between world literary criticism and modern Korean literary criticism, especially on the critical research in 20th century Korean literature.

101.424  
한국현대사극강독 3-3-0  
Readings in Modern Korean Poetry

개화기의 여러 시가부터 최근의 시까지 1차 자료를 대상으로 하여 시 분석의 기초적인 능력을 배양한다. 발표 당시의 원문 표기를 실제 작품을 통해 이해할 수 있도록 학생들에게 기초 지식과 전망을 제시한다.

The goal of this course is to foster the basic ability to analyze poetry, using texts from the Enlightenment Period to the present.

101.426  
한국어어휘론 3-3-0  
Korean Lexicology

본 강좌는 한국어의 어휘항목들(단어, 어인, 관용표현 등)이 이루어진 어휘구조에 대한 이론적 이해를 목적으로 한다. 단어의 내부구조와 단어형성, 단어의 차용, 어휘의미와 그 변형, 단어간 관계, 어휘 체계, 어휘 분류, 어휘의 개념, 단어의 다양한 면모들, 사전 판편 등에 다룬다. 어휘에 대한 이론적 이해가 어휘학 연구, 문학 작품에 대한 이해, 한국의 문화와 한국인의 사고방식에 대한 충분적 이해를 도모할 수 있도록 유도한다.

This course discusses the lexical structure of Korean. Topics to be dealt with include the internal structure of words, word formation, borrowing of words, word meaning and its change, lexical relations, classification of lexical items, lexical statistics, and lexicography.

101.428  
한국영상문학론 3-3-0  
Korean Film and Television Drama

본 강좌는 한국 현대 영상예술의 환경을 조망하고 학생들이 영상예술 작품을 분석하는 능력을 갖출 수 있도록 하여 영상예술 연구의 기초를 닦는 것을 목표로 한다. 이 강좌에서 학생들은 한국 영화 및 텔레비전 드라마 작품을 새로운 각도에서 해석함으로써 영상예술에 대한 심도 있는 이해를 얻을 수 있다. 또한 구체적인 작품에 대한 평가와 그 작품의 상징과 관련된 사회시각적 맥락을 아울러 살펴보면서 개별 작품과 사회문화학적인 맥락에 대한 개별적인 이해를 도모한 것이다.

This course aims to help students understand the fundamentals of analyzing and interpreting Korean film and television drama. The Students will come to a deeper understanding of Korean film and television drama by analyzing individual texts from a new perspective. Emphasis will be given to a balanced understanding of both individual texts and socio-cultural contexts.

101.477  
한국어차자일기 3-3-0  
Readings in Korean Linguistics

한국어 자료를 표기, 문자, 음운, 문법, 어휘의 면에서 자체히 입문, 분석함으로써 한국어의 실상에 대한 이해의 폭을 넓힌다. 또한 한국어 자료에 대한 전시, 문헌학적 접근을 통해 역사적 자료를 다루는 방법과 절차를 익히도록 한다.

The course will broaden students’ understanding of Korean by reading and analyzing materials with respect to spelling, letters, phonology, grammar, and vocabulary. With philological and bibliographical approaches, students will learn the methods and procedures for dealing with historical texts in Korean.

M1232.000100  
한국비교문학론 3-3-0  
Korean Comparative Literature

한국근대문학은 서양문학을 비롯한 다양한 외국문학의 수용과 영향으로부터 형성되었다. 이 강좌는 한국근대문학을 대표하는 작가와 작품들이 외국문학으로부터 받은 영향의 여러면을 살펴본다는 목표로 하고 앞으로 한국문학을 비교문학적 관점에서 전공하고자 하는 학생들에게 기초 지식과 전망을 제시한다.

Early modern Korean literature was developed by accepting the influences of Western and other foreign literature. This lecture examines the most important writers of early modern periods and their works, focusing on the many influences of foreign literature on their literary output. The lecture proposes to broaden the student’s understanding of comparative literature, presenting basic knowledge and prospects of studying Korean literature with a comparative literary method for interested students.
In this age of globalization and the Korean wave, as elements of Korean culture such as K-pop, television dramas, and film spread throughout the world, Korean literature is also gaining in popularity abroad. Thus it is important to examine how Korean literature has been expressed, interpreted, and understood outside Korea. In this context, this class will study works of Korean literature translated into English and how they are understood and interpreted in English-speaking countries, covering everything from classic to contemporary literature. In this way, students will gain a deeper understanding of Korean literature from a new perspective and thus be better equipped to contribute to the globalization of Korean literature in the future.
Chinese Character 'Hanzi' is the official character of China, and it contains many factors straddling traditional and modern Chinese culture. Hanzi is also regarded as a cultural heritage of East Asia. For those reasons, it is essential to modern Chinese culture.且汉字也是中国文化重要的组成部分，因此，学习汉字对于现代中国文化来说是必要的。

This course is designed to provide students with an understanding of Chinese lexicology. Students are given the opportunity to explore various topics including structural, semantic and functional properties of Chinese words, the interaction between lexicicon and society, loanword adaptation, idiomatic expressions, and diachronic changes of content and function words.

This course is for students who have basic knowledge of the Chinese classical language. By being exposed to numerous well-written sentences in texts such as Mencius, students will be able to enhance their reading and interpreting skills.

In traditional Chinese, the structure of sentences is characterized by a subject-verb-object pattern. The subject is often expressed at the beginning of the sentence. The verb is generally placed in the middle of the sentence, followed by the object. The verb is often accompanied by particles that indicate the type of action or state being described. The verb may be followed by further elements such as adjectives, adverbs, or other verbs to provide more information about the action or state.

As for the verb, it is important to note that verbs in Chinese can be classified into different types based on their meaning and function. For example, there are action verbs, state verbs, and descriptive verbs. Action verbs express actions or movements, state verbs express conditions or states, while descriptive verbs express characteristics or qualities.

In addition, verbs in Chinese can also be classified according to their aspectual properties. There are transitive verbs, which require a direct object to express a completed action, and intransitive verbs, which do not require a direct object and express ongoing or incomplete actions.

However, it is important to note that the verb is not the only element in the sentence. Other elements such as adjectives, adverbs, and prepositions can also play a significant role in conveying meaning. Furthermore, the sentence structure in Chinese is often characterized by the use of particles, which serve to indicate the relationship between different elements of the sentence.

At the same time, students may understand the thoughts of Mencius and other thinkers. This course follows Readings in Classical Chinese I and handles previous issues in greater depth.
Contemporary Chinese Fiction

Contemporary Chinese Fiction

The course enhances students' ability to understand and appreciate Chinese Modern Literature through an overview of representative texts of the 20th century. Moreover students will gain an in-depth insight in the relationship between literature and society. This course will mostly cover 20th century's prose, novel and poetry. This course will be taught in parallel with Readings in Modern Chinese Literature.

Advanced Chinese

Advanced Chinese
This course is for students who have taken Elementary Chinese I and II, and Intermediate Chinese I and II. The course will further improve the students’ ability in writing, reading, and grammar by helping them understand patterns of Chinese thinking.

102.323 中國文論文 1 3-3-0

History of Chinese Literature 1

This course is intended to provide an in-depth introduction to general Chinese literature, given that students might have a basic understanding of Chinese literature. The history of Chinese literature contains a huge amount of information in terms of quality and quantity not found elsewhere in the world. Through this course students might be able to extend their insights of the history of Chinese literature and also to analyze literary works in depth.

102.324* 中國文論文 2 3-3-0

History of Chinese Literature 2

This course is an introduction to Chinese phonetics. This course provides and in-depth introduction to general Chinese literature, given that students might have a basic understanding of Chinese literature. The history of Chinese literature contains a huge amount of information in terms of quality and quantity not found elsewhere in the world. Through this course students might be able to extend their insights of the history of Chinese literature and also to analyze literary works in depth.

102.325 中國文例文論文 1 3-3-0

Readings in Traditional Chinese Prose 1

This course is an introduction to Chinese phonetics.

102.326 中國文例文論文 2 3-3-0

Readings in Traditional Chinese Prose 2

This course is an introduction to Chinese phonetics.

102.327 中國文例文論文의 의미와 현대 중국 3-3-0

Implication of Chinese Traditional Culture and The Contemporary China

This course aims to introduce the characteristic features of traditional culture of China, and to investigate their significance on the contemporary Chinese society. Specifically, special focus will be given on the relationship between the traditional cultural heritage and the contemporary China. Besides, we will cover general ideas of the main texts on Chinese literary, history, and philosophy. In addition, some archeological and anthropological research will be introduced for relevant issues.

102.328 中國文例文법 3-3-0

Chinese Grammar

This course is an introduction to Chinese phonetics.

102.329 中國文例文법健身房 3-3-0

Chinese Phonetics

This course is an introduction to Chinese phonetics.
Students will understand the sound inventory of Mandarin Chinese and learn the basic phonetic concepts and analytic skills required to investigate language sounds. The articulatory and acoustic characteristics of Mandarin consonants, vowels, tones, and stress will be examined and compared to the Korean sounds. Students will be able to expand the knowledge to a number of applied fields of linguistics, such as contrastive linguistics, language acquisition, speech recognition, and speech synthesis.

102.414 
Readings in Chinese Ci Poetry

102.415A 
Performing Arts of China

102.421 
Readings in Shijing and ChuCi
some of approaches to China in the field of Social Sciences. In this course, a series of selected topics in Society and Culture of China will be taught, accompanied by readings in books on China written in socio-cultural perspectives such as Cultural Anthropology, Social Economics, and Political Cultures. It is expected that a course of this nature will encourage students deepen their understandings on Literature and Language of China by acquiring knowledge beyond the scope of their major field, and consequently, students will be led to write papers by combining intellectual experiences in more than one discipline.

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<th>102.423</th>
<th>중국어글쓰기 3-3-0</th>
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<td><strong>Writing in Chinese</strong></td>
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대학에서의 중국어 교육은 중국어 구사능력 그 자체의 향상이 아니라 보다 넓은 중국이 사용권 속에서 중국어를 수단으로 한 지적 활동 및 의사소통 능력을 갖추도록 하는 것을 최종목표로 삼는다. 이 과목은 고급단계와 전공단계를 거쳐 대학에서 3년 이상 체계적인 중국어 교육을 받은 학생들이 중국어 글쓰기를 통해 지적인 의사소통 활동에 참여할 수 있도록 하기 위해 개설된 다. 기초적 문법사항 및 기초 구문 연습에 중점을 두고 중국어의 구사능력을 갖춘 원어민 교사가 담당하는 것을 원칙으로 한다.

Beyond linguistic proficiency in a narrow sense, Chinese language education at the college level ultimately aims at enhancing students' ability to engage in the full range of intellectual activities mediated through the Chinese language in the larger Sinophone world. This course targets Chinese majors who have studied three years of Chinese at the college level, and who desire to expand the range of their intellectual participation in the language by improving their ability to write eloquently. Unlike Elementary or Intermediate Composition, which focuses on basic grammar and rudimentary writing exercises, the course is open to Chinese majors who have fulfilled the requirement in Advanced Chinese or the equivalent. The course will be taught by a native Chinese instructor with a proven writing ability.

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<th>중국어발표와 토론 3-3-0</th>
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<td><strong>Presentations and Discussions in Chinese</strong></td>
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이 과목은 중국어글쓰기와 더불어 중국어를 실질적 의사소통 및 업무처리의 수단으로 활용하고자 하는 학생들을 위해 개설된 다. 따라서 대학에서 개설된 고급 및 전공과정의 단계별 중국어 과정을 마친 후 전공필수 과목인 고급중국어 과목을 수강했거나 그에 준하는 중국어구사능력을 갖춘 학생들을 수강대상으로 한다. 최근 중국 사회의 주요 이슈들을 다루기에 중국어 구사능력 이외에도 최근 중국 사회의 변화상을 반영하는 폭넓은 사회, 문화적 이슈들에 대한 관심과 일정한 이해를 필요로 하며, 이 과목의 수강을 통해 동 주제에 대한 심화된 이해와 향후 변화에 대한 예측능력의 향상 또한 기대할 수 있다. 중국어글쓰기 과목과 마찬가지로 높은 수준의 중국어 사고능력 및 논리 구사능력을 갖춘 원어민 교사가 담당하는 것을 원칙으로 한다.

This course is designed for advanced students seeking to enhance their ability in practical or administrative communications in Chinese. Advanced Chinese is a prerequisite. In addition to a high degree of linguistic proficiency, students will need to have an interest in a diverse set of social and cultural issues confronting China today in the context of rapid social transformations. Upon the successful completion of the course, students can expect to command a deeper understanding of the subject as well as a sharpened sense of what the future holds for China. As with Chinese Composition, the course will be taught by a native Chinese instructor who combines analytical acumen with a deep knowledge of Chinese society.
Advanced English Grammar

English language.

This course is designed to help students understand and master the principles and rules of the English language.

19th Century American Fiction

This is a course to study the structure of English grammar and its correct usage. The course is designed to help students understand and master the principles and rules of the English language.

English Writing

English phonetics

This course aims at exploring the physiological and articulatory characteristics of speech sounds made by English native speakers. The articulatorily-oriented exploration of speech sounds includes a comprehensive understanding of the physiological aspects of articulators which are employed in making speech sounds. Another goal of this course is to understand a variety of dynamic phenomena which English speakers can find important when producing a sequence of sounds in a natural way.

English Discourse Analysis

This course introduces discourse analysis and various methodologies used in discourse analysis, including conversation analysis, interactional sociolinguistics, and critical discourse analysis. Students will learn how to analyze English discourse in various genres, which will help them to understand language functions and actual uses of English in context.

History of English Language

This is an introduction to the historical development of English language, examining both its intrinsic, such as sounds, vocabulary, grammar, lexic and extrinsic history, including social, political and intellectual forces that have influenced the language.
103.325  세익스피어 3-3-0

Shakespeare

세이크스피어의 회극을 집중적으로 강독한다. 오늘의 영어로 상이한 이외에 유래의 의미를 정확하게 파악하고, 극적 아이디어와 심상 등 여러 가지 시적 요소와 플롯, 주제, 감각 등 여러 가지 극적 요소들의 분석을 통해서 세익스피어의 극예술을 올바르게 이해하고 반성하도록 유도한다.

This course studies selected plays of Shakespeare. Students will closely examine its language, plot and dramatic effects.

103.340  코퍼스 영어학 3-3-0

English Corpus Linguistics

이 과목에서는 전산 코퍼스에 기반한 영어 연구 이론, 연구 방법, 응용 기술 등을 습득한다. 코퍼스를 활용한 언어 분석의 기초를 익히고, 영어학 연구에 분야에서 필요로 하는 여러 자료 관광 및 분석 기술을 습득하고, 코퍼스 자료를 활용한 영어학 및 영어 교육 관련 논문을 읽는다. 컴퓨터로 영어 코퍼스를 언어학적으로 분석하고 연구하는 능력을 향상하고 궁극적으로 학부 졸업 논문 수준의 연구 논문을 완성하는 것을 목표로 한다.

This course is an introduction to the use of corpora in the description and analysis of English. It introduces students to the theoretical background, basic methodology, and analytic skills of English corpus linguistics. This course has three objectives: 1) to help students acquire language analysis skills, 2) to help students learn to read academic papers in English (corpus) linguistics based on corpus data, 3) to have students write a research paper meeting the standards of what is called a graduation paper.

103.341A  중세영문학 3-3-0

Medieval English Literature

영글로스턴 시대에서 15세기 말까지의 중세영문학과 유럽문학 고전들을 선발해 읽는다. 중세 배트르, 장르, 주제, 기법 등이 현대문학과 대중매체에서 변간되고 변용되는 양상 또한 살펴볼 수 있다.

This course offers a selective reading of medieval English and European literature from the Anglo-Saxon Period through the end of the fifteenth century. The scope of the course may be expanded to include modern literary and popular adaptations and transformations of medieval texts, genres, themes, and techniques.

103.343  로네상스 영시 3-3-0

English Renaissance Poetry

16세기 초에서 17세기 중반까지의 영국시 고전들을 선발해 읽는다. 중세 말기의 작품 또한 포함할 수 있다. 와이엇, 스펜서, 시드니, 세익스피어, 단, 존슨, 하버트, 마블, 밀턴 등의 시인들을 다룬다.

This course offers a selective reading of English poetry from the early sixteenth century to the mid-seventeenth century. The historical period may be extended to cover late medieval poetry. Authors may include Wyatt, Spenser, Sidney, Shakespeare, Donne, Jonson, Herbert, Marvell, and Milton.

103.404  미국시 3-3-0

American Poetry

17세기 식민지 시대로부터 현대에 이르기까지의 주요 시인들의 작품을 광범하게 읽고 미국시의 특성과 그 전통을 포괄적으로 이해한다. 미시대의 주요 영국시와의 비교연구, 그리고 미국시와 미국의 현실과 관련 연구 역시 이 과목의 중요한 한 부문을 이룰 것이다. 브라이언트, 포유, 에머슨, 휘트먼, 디킨슨, 로빈슨, 프로스, 샌드박, 크레인, 허리엄스, 스타빈스, 휴스 등을 주로 다룬다.

This course engages students in the readings of the major American poets.

103.420  영어학특강 3-3-0

Topics in English Linguistics

<영어학특강>은 영어학과 관련된 특정주제를 선택하여 이를 심도있게 다룬다. 강의 주제는 특정 분야에서 최근 관심을 모으고 있는 이슈 중에서 선정되며, 수강생들은 이 과목을 통해 선정주제에 대한 이론적인 분석과 실증적인 분석을 검토하고 다양한 영어 학관련 현상을 체계적으로 분석하는 방법을 배우게 된다.

This is an advanced course in English linguistics, designed to help students familiarize themselves with various theoretical and empirical issues on a specific area and develop analytical skills to understand them.

103.421  최근 영어권 소설 3-3-0

Contemporary Novels of the English-Speaking World

20세기 중반 이후 출판된 영어권 소설을 읽는다. 아체베, 엄우드, 코랄, 파울즈, 미레고로, 레이, 허니크로프, 루시드, 스미스 등 영어권 주요 작가들의 작품을 선발하여 읽으며 해당 작품의 역사적, 문화적 맥락을 살펴본다.

This course covers contemporary novels in English published since the mid-twentieth century. Writers to be discussed may include Achebe, Atwood, Coetzee, Fowles, Ishiguro, Lessing, Nabokov, Rushdie, and Smith.

103.422  소설의 이론과 서사 전통 3-3-0

Theories of the Novel and Narrative Tradition

소설을 중심으로 서사 전통과 서사형식에 대한 역학적, 비평적 이해를 도모하는 과목이다. 18세기 영국소설 발생기에의 서사전통 및 작품과 미국의 로맨스작가와 같은 특정한 전통에 대한 논의를 포함할 수도 있다. 아울러 소설과 인연진 산문 장르의 서사 전통도 함께 다룰 수 있다.

This course aims at developing students’ historical and critical awareness of narrative tradition and narrative form, with a particular focus on the novel. The course will also examine specific narrative traditions in British and American literature, such as the eighteenth-century novel of formal realism and the romance tradition in American literature. The course may also cover non-fictional narrative genres and their historical conventions.
Women Writers and Literary Tradition

The course aims to explore the tradition of English literature by examining women writers’ works and their literary achievements. Reading a variety of English writings by women in novels, poetry, drama, and criticism, this course studies the theme of women and literature.

M1236.000700
Survey of British Literature 1

This course provides an overview of British literature from the Anglo-Saxon period to the end of the eighteenth century. Students will read representative works of various genres and traditions selectively with special attention to the difference and/or continuity between major historical periods. Individual texts will be understood in relation to socio-cultural contexts and the sensibility of the time.

M1236.000800
Survey of British Literature 2

19th-century poets analyzed include Tennyson, Browning, and Arnold. Victorians are also read in the context of the French Revolution, the Industrial Revolution, and the Victorian-era culture and the sensibility of the time.

M1236.000900
Survey of American Literature

The course is the survey of American literature and literary history, examining how major American authors from the early colonial period to the present contributed the American literary tradition. Authors, including such canonical writers as Bradstreet, Franklin, Hawthorne, Emerson, Melville, Whitman, Frost, Williams, Faulkner, Lowell and Morrison, and their selected writings in various genres will be read in relevant historical, social and cultural contexts so as to offer a broad understanding of American literary history.

19th-Century British Poetry

The course covers select works from Romantic and Victorian poetry against the backdrop of the French Revolution, the Industrial Revolution, the Victorian-era culture, and the expansion of the British Empire. Readings can be selected from Romantic poets including Barbauld, Charlotte Smith, Blake, Wordsworth, Coleridge, Byron, Percy Shelley, Keats, and Victorian poets including Tennyson, Robert and Elizabeth Browning, Christian Rossetti, and Matthew Arnold.

20th- and 21st-Century American Fiction

This course aims to explore the tradition of American literary history. It provides an insightful understanding of the process by which literature and popular culture mutually influence each other. By reading selected texts from English literature and popular culture that has developed in a wide range of forms and media such as films, TV shows, performances, graphic novels, music, video games, and the Internet. It aims to gain an insightful understanding of the process by which literature and popular culture mutually influence each other.

English Literature and Mass Culture

This course considers the interactive relationship between English literature and popular culture that has developed in a wide range of forms and media such as films, TV shows, performances, graphic novels, music, video games, and the Internet. By reading selected texts from English literature and examining relevant popular culture examples, it aims to gain an insightful understanding of the process by which literature and popular culture mutually influence each other.
of the eighteenth century to the present. A comparative understanding of major Modernist and Postmodernist works will be among the main objectives, but the recent achievements of the Anglophonic authors outside the United Kingdom and the United States may also be examined.

This course offers a selective reading of Elizabethan and Jacobean dramatists excluding Shakespeare. The historical period may be extended to cover late medieval and/or Restoration drama. Emphasis will be given to a balanced understanding of both individual authors/texts and socio-cultural contexts.

This course focuses on specific topics, issues, or methodologies that are not usually covered within the category of genre and period studies. Instructors will offer various topics in literary studies, and the students will have an opportunity to intensively concentrate on a particular topic.

This course aims to study the historical, literary, and cultural context of the “rise of the novel” in eighteenth-century Britain. It may cover readings from seventeenth-century prose fictions and also works by major eighteenth-century British writers, including but not limited to Aphra Behn, Daniel Defoe, and Samuel Johnson.

This course will offer topics, themes, and methodologies that are not usually covered within the category of genre and period studies. Instructors will offer various topics in literary studies, and the students will have an opportunity to intensively concentrate on a particular topic.
to English literature. Topics will vary each semester, and the emphasis will be on critical/creative thinking and writing. This is an English-only course.

M1236.002500 영어영문학과 3-3-0
Modern and Contemporary Drama in English

Overview of English and American drama from the late nineteenth century to the present. The main focus will be on major dramatic movements and experiments after Henrik Ibsen. A sound understanding of individual works will be emphasized along with the acquisition of broad historical perspectives.

M1236.003400 영어의문학과 3-3-0
Understanding Meaning in English

This course introduces major concepts and theoretical approaches to English semantics and pragmatics, aiming to provide a deep understanding of the meaning of English words and sentences and the cognitive processes involved in our use of language. Topics include lexical meaning, meaning composition, reference, thematic roles, situation types, information structure, presupposition, conversational implicature, and speech acts.

M1236.003500 영어문장구조의 이해 3-3-0
Understanding English Sentence Structure

This course deals with principles of sentence organization and properties of diverse syntactic constructions in English. It promotes in-depth understanding of English sentences by discussing major rules of sentence formation and examining not only lexical and structural characteristics of individual constructions but also their semantic interpretations and pragmatic functions.

M1236.003600 영어습득의 이해 3-3-0
Understanding English Acquisition

This is an introductory course intended for English major students who wish to obtain a general understanding of principal theories and issues related to English language acquisition. By discussing and analyzing how English is acquired and processed both in L1 & L2, this course will help students to utilize more effective language learning methods/strategies and ultimately help them to achieve advanced abilities in English.
Laboratory Practice in French

<introduction_text>

On the basis of the fundamental French-speaking skills practiced in the courses <Elementary French 1, 2>, this course aims at a gradual understanding of French social, philosophical, economic terms necessary in university level research. The study materials are texts which discuss the current issues found in French society. This enables students to reach a higher level of conversation as well as get a wider appreciation of French culture and society.
</introduction_text>
and grammatical mechanisms, and the mutual tendencies of such diverse elements and the psychological structure of language.

104.315B 18세기 프랑스문학 3-3-0

18th French Literature

18세기 불문학, 특히 계몽주의에 대한 것이 있는 이해를 목표로 하는 본 과목은 이 시대의 전반적인 특징인 계몽주의 사상의 형성과정과 구체적인 면모를 토대와, 불어, 디트로, 투소를 통하여 살펴보고 그들의 영향과 후세에 미친 영향을 고찰한다.

The course examines the formation and character of the French Enlightenment Special attention will be paid to the works of Montesquieu, Voltaire, Diderot, Rousseau, and their role and influence in history.

104.316A 프랑스문학개론 1 3-3-2

Introduction to French Literature 1

프랑스문학개론은 중세에서 현대까지의 프랑스 문학을 대상으로 삼는다. 한편으로는 여러 문예사조를 중심으로 문학적 접근의 중요성과 의의를 보며, 다른 한편으로는 대표적인 텍스트들을 있고 해석하면서 텍스트 설명이라는 정치한 해석 방식의 기초를 배운다. 이를 통해 학생들은 문학사의 호흡, 문학과 사회의 관계, 개별 텍스트에 대한 이해를 심화할 수 있을 것이다. 특히 프랑스 문학개론 1에서는 프랑스어가 문학의 언어로 사용되기 시작한 중세 텍스트들에서 출발하여, 라블레 및 16세기의 작품들, 바로크 문학, 고전주의로 대표되는 17세기의 고전주의 문학, 그리고 18세기 계몽주의 문학 텍스트들을 다룰 것이다. 몬테뉴, 르론, 라스, 코르네유, 불데, 투소처럼 프랑스 문학의 낙관적, 비난적, 단순한 대개의 작품들을 통하여 우리는 전통 프랑스 문학의 핵심을 맛볼 수 있을 것이다.

A survey of French literature from the Middle Ages to the modern era. This course is designed to introduce students to French literary history through various literary trends. Students will learn some basic interpretation methods such as ‘exégèse de texte’ through a close reading of French literary masterpieces. In this course ‘Introduction to French Literature 1’, literary texts of the Middle ages in which the French language has begun to be used as literary language, masterpieces of the Renaissance era and the 16th century, the Baroque literature, classical literature of the 17th century including the classical French drama and literary works of the Enlightenment and the 18th century will be discussed. Students will be introduced to the essence of the cultural tradition of France by some major authors such as Montaigne, Rabelais, Racine, Corneille, Voltaire and Rousseau.

104.321 19세기 프랑스소설 3-3-0

19th Century French Novel

프랑스소설은 19세기와 20세기의 다양한 소설가들의 작품을 통해 현대 불문학의 여러 면모를 이해하는 과정을 목표로 한다. 폴상당의 일정, 아 mpfr의 바르투스, 르완 등의 작가들이 그들의 작품을 통해 고찰한다.

Built on the foundations of <Introduction to French Literature>, this course aims at a deeper study of 19th century Realism and Naturalism. We will inquire into the histor-
French poets. Students will read the works of major French poets such as Hugo, Baudelaire, Rimbaud, Breton, and Apollinaire in the original text.

104.406 현대프랑스문학분석 3-3-0

**Analysis of Contemporary French Culture**

This course is designed for students with a prior knowledge of French culture, and therefore, students should have preferably already taken French Life and Society and Reading in French Cultural Articles. The primary objective of this course is to gain an in-depth understanding of the main social issues of contemporary French society. Students will be introduced to contemporary French cultural theories, and will learn to analyze the given thetmas from various perspectives by utilizing diverse media such as newspapers, TV programs, and literary works. Students should gain an analytic and balanced view of French culture after taking this course.

104.414B 프랑스비평 3-3-0

**French Literary Criticism**

본 강의의 목표는 ‘비평의 세기’인 20세기의 다양한 비평 이론들을 습득함으로써 20세기 프랑스 저명성의 중요한 화려한 그 역사적인 배경과의 관계 속에서 이해하는 한편, 타당한 비평적 관점으로 관통한 문학 작품을 해석하는 방식을 배우는 데 있다. 아울러 수준 높은 비평 글들을 강독함으로써 프랑스어 독해 실력을 더욱 향상할 수 있게 한다. 따라서 본 강의는 20세기 프랑스 문학, 사상에 대한 이해, 문학 작품에 대한 심화된 문학적, 고급 프랑스어의 강독 능력 도모하는 것에서 가장 볼만한 것이 프랑스 문학 강의의 중 하나로서 정착할 것이다.

This course covers various literary criticism of 20th century, the ‘era of criticism’. Students will be able to understand important currents in the intellectual history of France while acquiring methods of analyzing literary works with their own critical view. Through selective readings of critical works, students will also enhance their reading skills of French. This course, likewise, have three objectives, to wit understanding French culture and thoughts, improving a skill of analyzing literary works, enhancing a reading skill of texts written in advanced French.

104.418A 고급프랑스어회화 3-3-0

**Advanced French Conversation**

본 과목은 대학의 정규 과정에서 제공할 수 있는 최고 수준의 회화 수업으로서 이미 상당한 회화 능력을 갖추고 있는 학생을 대상으로 한다. 본 과목은 학습자들이 외국인과의 일상적인 대화를 가능하게 하고, 정상적 지식을 갖춘 수준에 참여하여 자신의 견해를 충분히 피력할 수 있도록 한다.

The highest-level French conversation course offered in formal higher education, this course is for students who wish to add the finishing touch to their conversation skills. Through drills, students will learn to have everyday conversations with native French speakers. In addition, through extensive group discussions, they will exercise their skills in expressing their opinions and thoughts in a foreign language.

104.425B 프랑스문학과 예술 3-3-0

**French Culture and Art**

프랑스어는 물론 프랑스 문학과 프랑스 문학 일반에 대한 척고 과목을 수수께끼한 학생들로 대상으로 하는 이 강의는, 미술이나 영화 등의 예술을 프랑스 문학, 문화와 연계시켜 사회에서 다루는 것을 목표로 한다. 프랑스, 보들레르 등 대표적인 프랑스 작가들의 미술 평론을 강독하면서 미술 작품에 대한 이해를 도모하며, 문학 작품을 원작으로 하는 영화 작품들의 분석을 통해 문학과 영화의 관계에 대한 독립은 이해 및 반성적인 사고를 도모할 수 있을 것이다. 문학과 영화 분야를 동시에 다루는 이 과목을 통해 프랑스 문학에 대한 종합적이고 빼어난 이해가 가능해질 것으로 기대한다.

Aiming at the students who have prerequisite knowledge of French, French literature and culture, this course examines French culture including fine arts and cinema and its relationship to French literature itself. Selective readings of art criticisms will enhance students’ understanding of art works and critical analysis of French visual arts will provide a broader insight into the relation lies between literature and cinema.

104.429 현대프랑스언어학 3-3-0

**Contemporary French Linguistics**

이 과목은 언어학 일반에 관심이 있고 프랑스어학을 전공하고자 하는 학생들을 대상으로 개발언어학의 분야를 더욱 넓게 연구하기 위해, 일반 언어학에 대한 기본 이론과 음성학, 음운론, 형태론, 통사론, 의미론, 화용론 등 언어학의 주요 영역을 소개하고, 구체적으로 각 언어학 특징을 비교하고 이를 틀어어학에 적용시키는 것에 목표로 한다.

This course is designed for students interested in the French language and students interested in majoring in French linguistics. The course will introduce students to general linguistics and the diverse fields of linguistics: phonetics, phonology, morphology, syntax, semantics, and pragmatics. We will apply these linguistic models to French and study the structure of the French language.

104.430 프랑스언어학특강 3-3-0

**Topics in French Linguistics**

현대 프랑스언어학에서는 주로 언어 일반에 관한 이론의 소개를 중심으로 한다. 프랑스 언어학 특강에는 이러한 기본 지식을 바탕으로 구체적으로 불어의 역사와 각 언어의 영역별 특징들, 또한 상용 표현 및 최근 이론들을 소개하고 학습하는 것을 목표로 한다.

If ‘Contemporary French Linguistics’ was mainly focused on the general introduction to the French language, ‘Topics in French Linguistics’ will, on the basis of the basic knowledge thus achieved, specifically study the history of French, the characteristics of each field of study, and introduce the current theories, such as Generative Grammar.
French Medieval Literature

11세기부터 15세기 말까지의 중세문학 작품들을 설명하여 다룬다. 무중시와 트루바두르 시, 소설, 연극 등 다양한 장르의 작품들을 통해 중세문학의 문학적 의미와 특성, 변화양상을 포괄적으로 이해하는 것을 목표로 한다. 텍스트는 중세프랑스어와 현대프랑스어 믹스문용을 사용한다.

In this course, students will read selected works of medieval French literature from the 11th century to the end of the 15th century. It aims to understand comprehensively the historical significance, the characteristics, and the transitions of medieval French literature through works of various genres such as epic poems, troubadour songs, novels, and drama. We will use texts in both medieval and modern French versions.

Cultural Phenomenon and Theory of Contemporary France

본 강의는 현대 프랑스 사회의 주요 문화현상 및 문화이론에 대한 심도 있는 이해를 목표로 하는 강의로서 프랑스 사회의 문화현상 전반에 대해 이미 기독교적 지역이 갖추고 있는 학생들을 대상으로 한다. 인문학의 다양한 영역에 걸쳐 전개되고 있는 프랑스 문화현상들의 최근 동향을 점검하고 함께 프랑스를 위시한 유럽의 문화 현상, 그리고 한발 더 나아가 한국의 문화현상을 바라보는 학생들의 시각을 보다 예리하게 만드는 것이 본 강의의 기대하는 바이다.

In this course, students will read selected works of medieval French literature from the 11th century to the end of the 15th century. It aims to understand comprehensively the historical significance, the characteristics, and the transitions of medieval French literature through works of various genres such as epic poems, troubadour songs, novels, and drama. We will use texts in both medieval and modern French versions.

Readings in French Literature

이 교과목은 프랑스문학을 전공하는 2학년 학생들을 대상으로 다양한 프랑스문학 작품들에서 발췌한 중요한 대목들을 함께 읽으며, 학생들이 세기별로 진행된 프랑스문학 전반 수업을 읽기 앞서 프랑스어로 된 원문학적 텍스트를 보다 폭넓게 접할 수 있도록 하는 것을 목적으로 한다. 개별 텍스트가 담당하고 있는 사회문화적 맥락 및 문학적 감성과 형식, 주제를 파악하는 방법을 배우는 동시에, 여행 및 편지 텍스트를 중심으로 이주아설 전공과정과의 연계를 효과적으로 하는 데에 본 수업이 경치적 의미를 찾을 수 있다. 프랑스문학 전공자들이 되는 젊은 인문학자들에게 대단히 유용한 수업으로 진행하고자 한다.

This course is aimed at second-year students majoring in French literature, and designed to read important passages extracted from various French literature works. Further, it is to provide students with a broader experience of French literature texts prior to taking intensive major classes in French literature. Through this class, students will learn how to grasp the socio-cultural context of individual texts, literary sensibilities, forms, and subjects, while cultivating French reading ability and practical analysis skills of literary texts required by intensive major classes in upper grades. Since this is the first reading class for French literature majors, we want to select literary texts that are not very difficult.
This course is for students who have learned German at least for three or four semesters and wish to increase their listening and speaking ability in everyday situations. In order to improve speaking and listening ability, various teaching materials are used. Students participate in group discussions and conversations. (※ This course proceeds and complements the class <Intensive German Conversation 1, 2>.)
German modern and contemporary poetry will be read in the original German texts. To understand the poems on a deeper level the class will emphasize the context of the time period and the literary history in which each poem was written. We will also listen and analyze certain poems of Goethe and Heine etc. that have been composed into "Lieder". This method will enhance students' understanding of German poetry.

**105.323A 독일소설 3-3-0**

*German Fiction*

18th century to 20th century will be analyzed intensively in this class. The main analysis of the novels will involve looking at specific traits and techniques employed by the authors. The works that will mainly be dealt with are Goethe, Hoffmann, Kleist, Keller, Kafka, Thomas Mann and Borchert. Through this course the students will gain a general understanding of modern German novels.

**105.329A 독문학과 공연예술 3-3-0**

*German Literature and Performing Arts*

In this course students will study the modern and contemporary poetry of Germany. We will also listen and analyze certain poems of Goethe and Heine etc. that have been composed into "Lieder". This method will enhance students' understanding of German poetry and culture in general.

**105.331 독일어의 구조 3-3-0**

*Structure of German Language*

This course emphasizes the theoretical analysis of the syntactic, semantic, and phonological structures of modern German. The class will analyze the semantic structure from both a theoretical and a practical perspective, focusing on various aspects of German grammar, such as tense, aspect, active-passive, gapping, and extra-position. Students will deal with various language phenomena such as tense, aspect, active-passive, gapping, and extra-position. The course will prepare students for their future studies in German literature and culture.

**105.424 독일문화이론 3-3-0**

*Theories of German Culture*

This lecture examines the connection between German literature and culture theory. Students will study the important theoretical base for cultural criticism, new paradigms, and various topics raised in the traditional cultural sciences from the modern age to the 20th century. Also examined will be the critical theories of the present times. Students are expected to be able to understand and critique cultural phenomena.

**105.228* 독문법 및 작문 3-3-0**

*German Grammar and Composition*

This course provides beginning students of German with a practical opportunity to develop their listening and speaking skills in everyday situations. Practical techniques for written communication such as letter writing skills will also be learned.
This class will take a general overview of modern German society, culture and history through German films that deal with controversial issues. The following films will be viewed and discussed: <Olympia>, <Stalingrad>, <Nurnberg>, <Der Himmel uber Berlin>, <The Pianist>, <Europa Europa>, <Holocaust>, <Der Blechstrommel>, <Die verlorene Ehre der Katharina Blum>, <Holocaust>, <Angst fressen Seele auf>, <Lolla rennt>, and <Good bye, Lenin>! These films depict these subject matters in this order; Nazism, the Holocaust, World War II and its implications, yellow journalism, foreign workers, the young generation, reunification, and so on.

105.230 Intensive German Conversation 2

This course is for students who have learned German at least for two or three semesters and wish to increase their listening and speaking ability in everyday situations. In order to improve speaking and listening ability, various teaching materials are used. Students participate in group discussions and conversations. (※ This course proceeds and complements the class <Intensive German Conversation 1>.)

105.232 History of German Literature 2

This course is for students who have learned German at least for two or three semesters and wish to increase their listening and speaking ability, various teaching materials are used. Students participate in group discussions and conversations. (※ This course proceeds and complements the class <Intensive German Conversation 1>.)

105.339B Advanced German 2

This course is for students who have learned German at least for three or four semesters and wish to increase their listening and speaking ability in everyday situations. In order to improve speaking and listening ability, various teaching materials are used. Students participate in group discussions and conversations. (※ This course proceeds and complements the class <Advanced German 1>.)

105.400 German Culture in Film

This course aims to introduce neuropsycholinguistics which is a part of applied German linguistics leading to research information as well as cognitive processes in German. The course starts with the introduction of neuropsycholinguistics through general discussion of language cognition and processing. Furthermore, it investigates not only how to research languages and apply the results from the a view of neuro-
psycholinguistics but also how to give the students opportunities to conduct actual experiments. It is expected that students will be able to understand the area of applied German linguistics deeply and specifically through this course.

105.231 독일문학사 1 3-3-0

History of German Literature 1

이 강의는 계몽주의부터 질풍노도, 고전주의, 섬유주의, 세계화기, 문화 등 제 1차 세계대전 이전 독일 문학의 주요 호흡을 개관하는 것을 목적으로 한다. 이에 시기별 정치/문화적 호흡이 우선 소개되며, 해당 시대의 문학적 호흡이 정치/문화적 맥락 속에서 설명된다. 또한 각각의 사조를 대표하는 문학작품들을 심도 있게 살펴봄으로써, 근대에 이르기까지의 독일문학이 어떠한 모습으로 발전해왔는지를 구체적으로 이해할 수 있도록 한다.

This course is intended to overview of the main flow in German literature from the age of Enlightenment, Sturm und Draang, Classicism, Romanticism, Realism, Naturalism to the turn of the century before World War I. The mental and cultural histories will be introduced, and the literary works in those historical/cultural contexts will also be introduced and analyzed. With the close reading representative German literary works, the students can understand the development of modern German literature.

M1241.000200 독어독문학특강 3-3-0

Topics in German Literature and Language

이 과목은 근대 독일문학과 문예학, 문학사, 독일학의 주요한 텍스트들을 원서로 강독함으로써 그 전까지 학습한 독일문학사와 장르론, 문학사, 독일학 이론들에 대한 더욱 심화된 이해를 도모한 다. 독어독문학을 전문적으로 공부하는 사람으로서 갖추어야 할 문어독문학 텍스트의 분석력과 문학사적, 문화사적, 언어학적 맥락에 대한 인식, 이론적 독해력과 전제적으로 향상시키는 것을 교육의 목표로 삼는다.

In this course students will read texts of German literature and language closely. Through this close reading, students can understand German modern literature in cultural, historical and linguistic contexts.

105.422 독일매체이론의 이해 3-3-0

Understanding German Media Theory

텍스트에서 기술영상으로 매체의 변화를 겪으면서 현대인의 생활은 급격히 변화하고 있으며 이에 따라 매체에 대한 관심도 점점 증가하고 있다. 이러한 관심에 부응하여 이 강좌에서는 문자와 기술영상매체를 중심으로 독일의 주요 매체이론가들과 이들의 매체에 관한 이론을 소개하고자 한다. 주로 다음 텍스트는 벤야민의 ‘기술복제 시대의 예술작품’, 키טל러의 ‘1800년대와 1900년대의 기록시스템’, 플러스의 ‘기록시스템’ 등과 비해 매체이론 전반과 관련해 중요한 의미를 지닌 다른 나라 매체이론가들의 이론도 소개할 것이다. 주제적으로는 문자매체스트에서 기술영상으로의 매체변화가 가져온 사회문화적 의미를 살펴보며 미래의 발전에 대한 예측과 진단을 할 것이다.

Changes in technology, media images in texts increase interest in the media. In response to these concerns, this course focuses on the letters and visual media technology with analysing Germany’s leading media theorists and their theories about the media. Benjam’s text Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit: Drei Studien zur Kunstsoziologie, Kittler’s Aufschreibesysteme 1800/1900, Flusser’s Kommunikologie will be included as primary texts. Additionally, other media theories and overall media theorists in other countries will also be introduced. Through this research on media theories, students can predict and diagnose how changes in media influence in our contemporary society and culture.

105.423 현대독일작가론 3-3-0

Modern German Authors

독일현대문학은 크게 두 가지 호흡으로 나누어진다. 첫 번째 경향은 아니, 봄, 통일과 같은 독일 구조의 역사적인 문화들과 대결하는 문학이다. 이로부터 좁은 의미에서의 전후문학, 분단문학, 전환기 문학, 나치시대를 형상화한 문학 등이 생겨난다. 두 번째 경향은 역사보다는 개인과 자아정체성, 과거보다는 현재적 순간을 다루는 문학이다. 이에 전후에 개인과 정체성의 문제를 집중적으로 다룬 작가는 등장하며, 이후 이러한 흐름이 1970년대의 신주의문학으로 이어지며 현대에도 깊은 문학을 통해 계속 나타나고 있다. 이 강좌는 독일현대문학의 이러한 주요흐름을 대변하는 작가들의 작품을 집중적으로 다룹 것이다.

German contemporary literature is divided into two main flows. First tendency is about German history, such as post-war literature. Second trend deals with the history of personal and self-identity, and the contemporary moment. This course will research on German contemporary literature and major artists’ orks intensively.
본 강좌에서는 러시아 문학 작품들 중 명문으로 꼽히는 일부 작품들을 선별하여 강하게 한다. 학생들은 이 수업을 통해 러시아 문학 작품을 접으로 직접 해석해 볼 수 있는 기회를 제공할 수 있게 하고, 아울러 러시아어 독해 실력도 향상할 것이다.

Students are expected to read some of the master pieces in Russian literature. They will have an opportunity to read them in original Russian and therefore can polish the reading skill.

이 과목은 초보적인 러시아어 실력을 지닌 학생들이 러시아 시와 노래를 통해 러시아와 러시아 문학에 대해 흥미와 관심을 갖게 하기 위한 것이다. 특히 각 시대별로 주요 작가들과 그들의 작품에 대한 분석을 통해 러시아문학의 선過程에서 빚어진 것을 심화함과 아울러 이절의 과정에서 배우지 못한 다양한 러시아 문학을 다루게 된다.

This course aims for students to understand the history of Russian literature from early chronicles to the 20th century.

이 과목은 러시아 문학의 초기 연대기문학에서부터 20세기 초반부 제제에 이르는 시기까지의 문학을 중심으로 다루게 된다. 특히 각 시대별로 주요 작가들과 그들의 작품에 대한 분석을 통해 러시아문학의 선과정에서 빚어진 것을 심화함과 아울러 이절의 과정에서 배우지 못한 다양한 러시아 문학을 다루게 된다.

This course aims for students to understand the history of Russian literature from early chronicles to the 20th century.

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이 과목은 러시아 천년의 역사는 동과 서의 경계에 위치한다는 지리적 특성, 그리고 문학상의 특성, 그리고 문화상의 특성 등에 대한 이해를 갖게 해주고자 한다. 본 수업은 10세기에 이르기까지의 국가로서 기독교 국가로 펼쳐진 이래 18세기 표트르 대제의 개혁과 20세기 초의 사회주의 혁명, 그리고 오늘날의 러시아의 방대한 작가 가라진의 작품, 19세기 역사주의의 탄생과 함께 역사소설의 흐름을 보면 이 이단의 역사소설사(고전, 고골, 톨스토이, 슈로호프, 숲에서 나는), 그리고 20세기 혁명의 문학들(아들로스츠키, 고골리, 벨로, 블록, 포스트소비에트시기를 살아가는 러시아의 사과)를 고민을 보여주는 현대문학(소로킨, 엘리아바, 페트로프스카야) 등을 읽고 고민하면서 러시아어 및 러시아에 대한 이해도를 향상시키고자 한다.

The 1000-year of Russian history is dynamically formed by the geographical condition of its being located between East and West, the spiritual history of Russian Orthodox Church, and literature-centrism of russian cultural history. This class aims to have deep understanding of Russian history and to have aesthetic experience of internal and external Russian life by wide variety of literatures which covers the beginning of Christian country in 10th century, the reform of Peter the Great in 18th century, the socialist revolution in 20th century, and today's Russian federation. From the Old Russian's literature and history work “The Tales of Igor’s Campaign”, Odes which praise the reform of Peter the Great, works of Karamzin who is the first Russian historian in modern sense, Russian historic novels of Pushkin, Gogol, Tolstoy, Sholokhov, Solzhenitsyn, and revolutionary literatures of Mayakovsky, Gor’ky, Bely, Blok, contemporary literature of Sorokin, Venedikt Erofeev, Petrusheskaya.

이 강좌는 러시아 문학 탁트를 찾아서 분석하는 학생들을 위해 문학의 기본적인 개념을 소개하는 것을 목표로 한다. 러시아 천년의 역사, 사회주의 혁명, 포스트 소비에트시기의 러시아와 관련된 문학적 문제들에 대해 기본적인 시야를 제공한다. 그것은 '문학은 무엇인가', '문학은 어떻게 만들어지지', '문학을 어떻게 이해할 것인가', '문학은 무엇인가' 등의 문제들에 대한 기본적인 시각을 제공한다. 문학 이론 자체에 대한 연구가 아니라 문학 탁트 분석과 관련한 기본적인 범주를 소개하는 것이 이 강좌의 목표이다.

This course is designed for junior students who are taking analysis of Russian Literature for the first time. It introduces students to basic concepts of Literary Theory. It will provide perspectives on the major questions: what is literature, how is it produced, how can it be understood, and what is its purpose? Not to study on literary theory itself, but to introduce basic categories for the analysis of literary texts, that is the purpose of this course.
106.243

**Русский язык и литература**

The objective of this course is to improve linguistic skills in Russian by reading and acting Russian dramas. The objective of this course is to improve linguistic skills in Russian by reading and acting Russian dramas. This course serves as an introduction to Russian classicism, romanticism, realism, symbolism, etc. students will learn rhythms, intonations, and other techniques and methodological tools needed for analyzing Russian poetry.

106.322B

**Русский язык в контексте**

The course aims at not so much presenting or describing linguistic theories, as helping students to understand and have a feel for key Russian vocabulary and grammar. Some tentative topics to be covered in this course are as follows: stylistics levels in modern Russian, Russian language in proverbs and folktales, Russian language and Russian realia, national character, affect and cognition.

106.323B

**Русская фонетика и речевой практикум**

The course aims at not so much presenting or describing linguistic theories, as helping students to understand and have a feel for key Russian vocabulary and grammar. Some tentative topics to be covered in this course are as follows: stylistics levels in modern Russian, Russian language in proverbs and folktales, Russian language and Russian realia, national character, affect and cognition.

106.244

**Русская литература**

The course aims at not so much presenting or describing linguistic theories, as helping students to understand and have a feel for key Russian vocabulary and grammar. Some tentative topics to be covered in this course are as follows: stylistics levels in modern Russian, Russian language in proverbs and folktales, Russian language and Russian realia, national character, affect and cognition.

106.449

**Русская культура и история**

The course aims at not so much presenting or describing linguistic theories, as helping students to understand and have a feel for key Russian vocabulary and grammar. Some tentative topics to be covered in this course are as follows: stylistics levels in modern Russian, Russian language in proverbs and folktales, Russian language and Russian realia, national character, affect and cognition.

106.264* Новая и современная русская литература

The course aims at not so much presenting or describing linguistic theories, as helping students to understand and have a feel for key Russian vocabulary and grammar. Some tentative topics to be covered in this course are as follows: stylistics levels in modern Russian, Russian language in proverbs and folktales, Russian language and Russian realia, national character, affect and cognition.
History of Russian Literature 2

20th-century Russian literature is one of the fundamental issues in the history of literature. This course will examine the major literary movements and study the representative authors' works as well as their thoughts and aesthetics. Class readings will include works by world famous authors such as Gorky, Pasternak, and Solzhenitsyn.

Within early 20th-century literature, following Chekhov up to littery movements such as neo-realism, symbolism and modernism, and coupled with the establishment of the Soviet Union, there emerged Soviet literature of Social Realism: the so-called literature of proletariats. The students will examine this movement and study the representative authors' works to understand the relationship between reality and fantasy. This class reads, analyzes and draws conclusions on a variety of Russian postmodern literature, including Pushkin, Lermontov, Odoevsky, Gogol, Turgenev, Dostoevsky, Pasternak, and Solzhenitsyn.

Russian literature is likely to be regarded as being paid less attention to the fantastic or the supernatural because of the trend of socialist realism which is official literature in 20th-century Russia and the great achievement of critical realism novels in 19th century. However, the inclination to realism would be resulted in the theme of madness and delusion, the motive of undead and vampire has been often appeared in Russian literature, which paid special attention to the problems of the boundary between reality and fantasy. This class reads, analyzes and discusses Russian fantasty literature from 19th century to today, and aims to extend the understanding of Russian literature. A variety of literatures will be suggested in this class including Pushkin, Lermontov, Odoevsky, Gogol, Tur- genev, Zamyatin, Bulgakov, the Strugatsky brothers and Pelevin.

This course is designed for students who are taking linguistics for the first time. It introduces students to the various fields of linguistics and their practical application to Russian.

Introduction to Russian Linguistics

This course is designed for students who desire a high level of writing proficiency in Russian language (including native and near-native speakers), is focused on improving essay writing skills and increasing vocabulary. By practicing in essay writing on topics in the areas of culture, history, economics and current events, etc. students can develop their sensitivity to writing and be corrected individual grammatical and stylistic mistakes.

Russian Language and Cognition

This course introduces recent cognitive approaches to language and aims to show theoretical explanations for semantic and pragmatic phenomena from this comprehensive and interdisciplinary frame. The course presents attempts to explicate language structure through human cognition, culture, society, history and evolution, and introduces metaphor theory, mental space theory, blending theory, language evolution, construction grammar and illuminates language in general and Russian language in particular through interrelations between language and mind, thought, culture, and intersubjectivity.
This course aims at deepening students’ understanding of Russian drama through a survey of the history of the Russian theater from the seventeenth to the twentieth century. Students will learn to understand drama in both its written and performed contexts through close readings of dramatic literature; in addition, students will learn the characteristics of drama different from those of other genres by participating in putting plays on the stage. In doing so, students will also have a general view of the Russian theater in the context of the history of world theater.

This course concentrates on important Russian authors and their representative works. This course concentrates on important Russian authors and their representative works.

This course aims at understanding the history of Russian literary criticism and its individual critics.

The innovative Soviet films of the early 20th century, and the Montage theory established by Eisenstein, have had a profound impact on the development of world cinema. The unique characteristics of Russian films have been succeeded and developed by works of masters such as Kalatozov, Tarkovsky, Sokurov. In this lecture, we will explore the major works and theories of Russian art films and further deepen the understanding of Russian society and culture through films.
The main purpose of this course is to understand advanced Spanish grammar by focusing on learning various practical expressions and authentic grammar.

The focus of this course is the history of Spanish-Speaking culture. Through intensive reading practices students will have a basic knowledge of Spanish grammar to improve reading skills. Students will read a variety of Spanish articles on Hispanic culture. Through intensive reading practices students will have the intermediate level of Spanish reading comprehension. In this way, this course prepares students to attend classes that explore Hispanic culture and literature.
The main purpose of this course is to provide a comprehensive view, documented through the established texts and authors, of the specific problems, topics and methodologies that characterize Hispanic American cultural studies. The reader of this course presents Roberto Fernandez Retamar’s Calibanism, Angel Rama’s transculturation, Antonio Comejo Polar’s heterogeneity, Walter Mignolo’s postcolonialism and postocidentialism, Nestor Garcia Cancini’s cultural hybridity, Nelly Richard’s Laitnamericanism, John Beverely’s subaltern studies, and others.

107.306 Spanish Reading: The Work of Borges, Garcia Marquez, Vargas Llosa

Introduction to Spanish Linguistics

This course is an introduction to the general linguistics based on Spanish data. Discussions will be held on the following themes: Characteristics of human language as signs; definition of phonemes as a distinctive feature in meaning; distinction of word categories based on syntactic distribution; the sentence structure needed to clarify sentence ambiguity. Students are expected to participate actively in discussions with preparation based on the articles provided by the instructor.

107.329 Spanish Drama

This class is an introduction to the general linguistics based on Spanish data. Discussions will be held on the following themes: Characteristics of human language as signs; definition of phonemes as a distinctive feature in meaning; distinction of word categories based on syntactic distribution; the sentence structure needed to clarify sentence ambiguity. Students are expected to participate actively in discussions with preparation based on the articles provided by the instructor.

107.333A Advanced Spanish Composition

This course is suitable for upper-level Spanish speakers who want to obtain better fluency and delivery of complex ideas.

107.334 Spanish Reading: The Work of Borges, Garcia Marquez, Vargas Llosa

Readings in Spanish Poetry

This course examines Spanish poetry. Students will read representative Modern and Contemporary Spanish poets such as César Manrique, Antonio Machado, and Garcia Lorca, among others. The course will focus on the works of key poets such as Federico García Lorca and Antonio Machado, and will also include contemporary poets such as García Lorca and Severo Sarduy.
as Espronceda y Delgado, Adolfo Bequer, Antonio Machado, Juan Ramon Jimenez, Garcia Lorca and others. Through this course students will understand both the unique poetics of each poet and the general characteristics of each generation.

107.335 Seminar in Hispanic American Poetry

This course explores Hispanic American poetry that has played a leading role in revolutionizing Hispanic American literature throughout history. Students will read masterpieces by representative Hispanic American poets such as Ruben Dario, Octavio Paz, Pablo Neruda, Cesar Vallejo, Nicanor Parra and others. In this course students will learn both the unique poetics of each poet and the general characteristics of each generation.

107.413B Spanish Linguistics 2

This is a follow-up course to Spanish Linguistics 1. Similar topics will be covered, but in greater depth.

107.425A Seminar in Spanish Translation

This course attempts to understand the unique aesthetics of Latin American cinema and their national identities by exploring the national cinema of Latin American countries like Mexico, Cuba, Argentina, Peru, Columbia and Brazil. Latin American Cinema serves as an excellent medium that helps us reflect upon the multiple problems facing the contemporary society of Latin America, because its movies embody a deeper concern about the social role of the cinema than those of other regions. Thus, the students taking this course will be able to gain a more insightful and discerning perspective on the contemporary society of Latin America.
The first number means "credits"; the second number means "lecture hours per week; and the final number means "laboratory hours per week. 15 week make one semester.)
This course provides an introduction to syntax, developed by modern transformational grammar, through its origins in Chomsky’s Syntactic Structures (1957). The students will analyze the structure of sentences, and the function or the structure of elements occurring in the sentence. They will also study the main characteristics of theories that are derived from Chomsky's Generative Grammar, and research the interface between syntax and semantics.

This course provides language or linguistics majors in the college of humanities with an opportunity to acquire some special languages, which have a great deal of academic importance in the historical and synchronic point of view. Among them, Mongolian and Turkish are useful for investigations on Altaic Language, which is similar grammatically and morphologically with Korean. This course aims to discuss the constructional, morphological and phonological properties of those languages.

Altaic Linguistics

Altaic linguistics is very important to students of the genealogy of Korean language. This course provides a general introduction to Altaic linguistics. The class will involve studying and comparing the characteristics of each Altaic language (like Manchu-Tungus, Mongol, Turkish, etc) as well as evaluating the hypothesis of pre-Altaic language. During the course, students will apply the research methods of Indo-European linguistics to Altaic linguistics and study the relation between Altaic languages and Korean.

Indo-European Linguistics

Indo-European linguistics is a course which provides students with the opportunity to study a range of Indo-European languages. The course will involve comparing the characteristics of each Indo-European language (like Greek, Latin, Sanskrit, German, etc) as well as evaluating the hypothesis of pre-Indo-European language. During the course, students will apply the research methods of comparative linguistics to Indo-European languages and study the relation between Indo-European languages and Korean.
Focus is on modern quantitative techniques in speech processing and NLP: using large corpora, statistical models for acquisition, disambiguation, and parsing. Also, it examines and constructs representative systems.
M1246.001000 언어학을 위한 통계 3-3-0

Statistics for linguistics

The proposed course provides an overview of statistical concepts and methods while also introducing students to the statistical software R. The course uses R because it is a free, open-source software that is used widely by novice and experienced researchers alike. Registered students will gain an understanding of the role that statistics plays in modern linguistic research through the main lectures and receive hands-on experience with manipulating and analyzing real linguistic data during lab sessions. This course consists of main lectures, e.g., interference between two grammars and lexicons. It will also discuss some issues related to bilingual development. When studying language data which will be analyzed in terms of various linguistic levels - phonetics, phonology, lexicology, morphology, syntax, semantics, and pragmatics. The course aims at introducing students to the main lectures. This course consists of main lectures and hands-on skills and analytic tools to conduct experiments in various sub-fields of linguistics (e.g., phonetics, phonology, morphology, syntax, semantics, and pragmatics). The course will also discuss some issues related to bilingual development, e.g., interference between two grammars and lexicons. The students will be trained to figure out theoretical and empirical issues concerning child language acquisition. The students deal with acquisition data from babbling, one-word, two-word, telegraphic speech through adult stage, which will be analysed in terms of various levels of grammar - phonetics, phonology, lexicology, morphology, syntax, semantics, and pragmatics. The course will also discuss some issues related to bilingual development, e.g., interference between two grammars and lexicons. The students will be trained to figure out theoretical implications from empirical study of child language data.

M1246.001300 수어언어학 3-3-0

Linguistics of Sign Languages

This course covers the methodology and the technology of sign languages research. It is a course designed to have students understand theoretical and empirical issues concerning sign languages of the world. The students deal with sign language data which will be analyzed in terms of various levels of grammar - phonetics, phonology, lexicology, morphology, syntax, and semantics - and the comparison of spoken languages. The course will also discuss the most recent research about sign language typology, sign language corpus research, and artificial intelligence based sign language translation. The students will be practiced to figure out theoretical implications from empirical study of other major sign language data as well as American Sign Language and Korean Sign Language.

M1246.001200 언어습득 3-3-0

Language Acquisition

Language Acquisition

The course provides a comprehensive overview of experimental methods that are widely used in modern linguistics. Registered students will have an opportunity to implement various experimental projects through lab classes in addition to the main lectures. This course consists of main lectures and lab classes, which will teach students theoretical backgrounds, hands-on skills and analytic tools to conduct experimental research in various sub-fields of linguistics (e.g., phonetics, phonology, morphology, syntax, semantics, and language processing and production). This course aims at helping students enhance their knowledge of experimental linguistics and employ experimental methods in conducting original research on language.
data science for linguistics. With the goals of understanding the methodology of data science, we will discuss the whole steps of data science: collecting, cleaning, organizing, storing, managing, summarizing, analyzing language data and creating data product. For gaining skills of data science and language technology, students will learn software tools and techniques with practical examples in real-world applications. The students are supposed to have prior knowledge of fundamental linguistic theories and computer programming. This course aims to teach them advanced techniques and comprehensive applications. The methodology and skills learned in this class will be selected to be useful not only for the direct related fields such as computational linguistics and natural language processing, but also for data analysis of various linguistic studies.
한국고대사 3-3-0

Ancient History of Korea

한국고대사의 정치, 경제, 사회, 문화를 역사발전의 측면에서 소개하는 과목이다. 한국인의 건국과 발달을 고찰하는 한편 초기 고 대사의 형성방식, 그리고 삼국의 발전의 삼국통일 및 번해의 성립 등 한국 고대사의 여러 양상을 검토하는 데 목적이 있다.

This class will help students understand the politics, economics, social aspects and cultures of ancient Korean civilisation. The study will center on examining the conception of the Korean race, the formation of the initial states, the unification of the Shilla Dynasty and the establishment of the Balhae Dynasty.

한국근세사 3-3-0

Early-modern History of Korea

조선시대의 정치, 경제, 사회, 문화를 역사발전의 측면에서 소개하는 과목이다. 15-6세기에 조선의 건국과 문무제도의 정비, 신유학의 도입과 정책 등을 살펴고 17-8세기 사회경제적 변화와 산학품의 성장 등에 주목한다.

In this class, the students will come to understand the politics, economics, social aspects and cultures of Early-Modern Korean societies. We will investigate numerous aspects including the origins of the Chosun Dynasty, the organization of national administrative systems, cultural contents, and the establishment of Neo-Confucianism as the nation’s leading ideology. Socio-economic changes and the advents of new ideological thoughts during the 17th and 18th century will also be studied in-depth.

한국근대사 3-3-0

Modern History of Korea

현대에 살고 있는 우리의 삶은 근저에서 규정하고 있는 여러 조건들이 어떠한 역사적 과정을 거쳐 변화하고 마련되어 왔는지 구체적인 역사적 사건들을 통해 조명해 본다. 개항 이후 해방 이전까지 사회경제적인 주요한 변화시대와 사회의 형태에 대항하여 주목한 민속학자와 그 변화를 탐구하고자 하는 노력 등을 복합적으로 살펴보는 것이 목표이다.

In this class, we will look at how the current social conditions were conceived and developed to become the way they are today. The course will highlight the changes in the socio-economic structure of the society, the aggression of foreign forces, and the efforts to establish an independent nation. Also included will be evaluation of the series of events.

한국중세사 3-3-0

Mediaeval History of Korea: Koryo

고려사정계제도 경제제도 사회구조 사상 문화 등에 대한 복 복의 이해를 위해 개설되었다. 고려와 다른 주요의 시대적 특징을 이해하고 고려시대 사회의 공간을 형성하였던 산리, 토지, 가족제 등의 다양한 양식을 연구 검토한다.

This class will help the students understand the politics, economics, social aspects and cultures of Medieval Korean society. They will learn unique aspects of the Korean medieval society (compared to its ancient societies), in areas such as social stratification, land systems, and administrations as well as customs related to the family units.

한국사특강 1 3-3-0

Topics in Korean History 1

한국사 연구의 최근 연구 성과를 소개•검토하기 위하여 개설되었다. 한국사 연구의 여러 분야에서 최근 주목받는 연구주제와 동향을 소개하면서 그 주제에 대한 심화된 학습을 목적으로 한다.

This class will introduce students to the most recent academic results in the study of Korean history. Subjects and issues under current critical investigation will be emphasized and further studied.

한국사회경제사 3-3-0

Socio-economic History of Korea

한국 역사의 고대에서 근대에 이르는 사회•경제의 변화를 검토한다. 역사발전의 기본 단위인 사회와 경제단위들을 검토하고 각 시대마다의 특징과 그 변화의 원인을 검토함으로써 역사발전의 변화를 이해하도록 하는 데 목표이다.

This class will show the socio-economic changes during Korean history. By displaying the characteristics of each time period, the course will help the students to understand not only the specific socio-economics changes but the overall evolutionary process as well.
Topics in Contemporary History of Korea

1945년 해방 이후부터 오늘에 이르는 한국의 현대사를 보다 심층적으로 연구·검토하기 위한 개설되었다. 해방과 한국전쟁으로 인한 남북 분단, 70년대 이후의 경제성장과 열악한 정치체 제의 변화 급속한 산업화에 따른 사회변동 등을 주제별로 분석함으로써 현대에 대한 역사적 조망을 가로채 하는 목적이 있다. 본 강의에서는 정치사나 경제사 이외의 문화사, 사회사, 지식사 등으로 분야를 확장하거나 주제(정책)별 심화 학습을 시도할 것이고, 현대사 연구방법론과 사료분석, 사료비판 방법도 아울러 학습할 것이다.

This class will study the requirements for a proper historical material when it is to be fully approved. Basically but also widely being used text materials will be selected, and the bibliographical, philological, historical characteristics of those materials will be closely examined, so that the students will have the opportunity to train themselves for future studies, by acquiring proper skills to handle historical materials. The student will be encouraged to concentrate their efforts upon the task of collecting and analyzing historical documents and other materials that reflect various aspects of the Korean modern and contemporary history. In this class, not only the political and economical issues, but also the cultural, social and intellectual issues will be further explored.

Classical Chinese Readings in Korean History

한국사 연구는 전통적으로 문헌사료가 바탕이 되었지만, 이제 정보화 사회의 출현과 함께 다양한 전자미디어 자료의 이용이 요구되는 추세에 있다. 따라서 이 강의에서는 규장각에 소장된 역사 자료의 전산화, 프리젠테이션에 필요한 시각적 자료의 활용, 표 및 통계의 작성에 관한 also 프로그램 실습, 금석문의 탁본 및 판독, 기타 고문서의 제작 등도 다루고자 한다. 그렇게 하면 장학학생들의 연구 및 발표 능력을 향상시키고, 이를 통해 새롭게 학습할 수 있는 기회를 제공하고자 한다.

Multimedia Tools and Methods in Korean Historical Studies

This class will help students achieve the primary skills required to translate basic text materials written in Chinese characters for future studies of Korean history.

Korean Pre-modern Intellectual History

조선시대 선유학의 도입과 정착과정을 소개하여 성리학적 정치, 경제, 사회 등에서 지배적인 이념으로 기능하는 제도를 간략한 다. 유학신초, 사회 변동기 시대에 성리학이 주체적인 수용과정에서 조선시대에 성리학적 정책을 제재받는 과정, 성리학이 지배 사상으 로 한국을 두려워며 새로운 사상을 도출하는 시기 등을 역사학적 관점에서 이어지며 목적이 있다. This class will introduce students Neo-Confucianism’s introduction to the Korean peninsula, and its establishment as the leading political, economic, and social ideology. It will also help students understand how Neo-Confucianism was introduced in the ending days of the Koryo Dynasty, how the ideology was transformed into a ruling philosophy for a nation, and how it was changed and later replaced by other new ideologies.

Thesis Writing on Subjects of Korean History

한국사 논문의 작성에 필요한 실질적인 방법을 검토한다. 사료의 수집, 이용과 해석, 역사 서술의 방법 및 그 철학적 기반 등 연구방법론, 한국사 논문작성에 관한 기본적 소양과 실제적인 기술을 얻는 데 목적을 두고 있다.

This class will introduce students to research methods useful in writing dissertations with a historical subject. The course aims at improving student’s ability to use and interpret textual material Students will also be exposed to philo-
The commercial and industrial developments, which reflected the hope for strengthening the country and achieving modern developments independently (a hope that was shared by many people at the time in the wake of the public’s asking for the advent of modernization), will be particularly studied, and so will be other similar developments that occurred during the Japanese occupation period. The students will be provided with an opportunity to understand the nature of the historical experiences that were accumulated during those time periods, and will also come to see how such experiences were inherited to the later periods and continued in the form of industrial developments that happened in the post-liberation period.

Subject Code: 109.327 Korean History Seminar I

This class will provide the students with the opportunity to have a more in-depth understanding of the historical nature of ancient and medieval periods in Korean history. From the formation of ancient states, to the Unified Silla dynasty period, and to the entire Goryeo dynasty period, specific time periods and relevant issues will be carefully selected and intensely examined. The students of this class will be encouraged to enrich their knowledge regarding the Korean ancient and medieval history, by having documentary records, epigraphic materials and a variety of treatises at their disposal, and medieval history, by having documentary records, especially studied, and so will be other similar developments that occurred during the Japanese occupation period.

Subject Code: 109.328 Science and Technology in Korean History

This class will introduce students to the most recent academic results in the studies of Korean history. Subjects and issues under current critical investigation will be emphasized in chronological order, or from areas to areas. The themes that will be examined throughout the class, will not only include technological details, astronomical readings and calculations, or even medical science, but also general knowledge of the nature based upon metaphysical and natural philosophies.

Subject Code: 109.409 History of National Independence Movements
and philosophies of the personnel and resistance bodies involved in the fight against the Japanese forces at the time. It will also examine the resistance activities carried out inside the Chinese and Northeast Asian territories.

109.412 한국사학사 3-3-0

Korean Historiography

한국역사학의 발전과정을 소개하기 위하여 개설하였다. 고대에 서 귀화에 이르기까지 각 시대의 역사와 역사학의 전개와 특징 을 검토하여 자녀 시대의 역사상을 풍부하게 인식한다.

This class will show the history of Koreans' research of their own history. Students will have the opportunity to learn what kind of historical texts were written during each time period and the basic characteristics of those respective periods' historical research.

109.413 한국정치사회사 3-3-0

Korean Politico-Social History

한국사의 발전과정에서 변화의 구조적인 단위가 되는 사회제도 의 여러 부분을 소개하기 위하여 개설하였다. 역사상 존재하는 다양한 수준의 사회제도를 검토하고, 연구함으로써 역사의 구조적인 이 해를 가능토록 하는데 그 목표가 되어온다.

This class will show the changes Korean social systems have gone through during the course of its history. Through examinations of various kinds of social systems which have existed throughout Korean history, students will also be able to hone their abilities to systematically view general history.

109.416 한국현대사 3-3-0

Contemporary Korean History

해방 이후 한국현대사의 전개과정에 대한 개설적 이해를 바탕 으로 한국 현대 사회에 대한 구조이고 체계적인 이해를 시도한 것이다. 특히 남과 북의 역사들과 전래적으로 볼 수 있는 시를 갖 고, 한국현대사 연구의 시각과 관점, 현대사회의 성격, 현대사의 구조를 해명하고자 한다. 본 강의에서는 한국현대사연구의 성과와 과제, 시기별 연구동향을 살펴보며 이를 해석 시기의 저작자와 연 관시켜 살펴볼 것이다. <한국현대사의 이해> 또는 <20세기 한국사> 과목을 이수한 학생들의 수강을 권한다.

In this class, the students will be encouraged to attempt to obtain structural and systemic understanding of the Korean society today, based upon general knowledge regarding the contemporary history of Korea (which began with the liberation in 1945). Students will be introduced to new perspectives which would be effective and appropriate in viewing the history of both South and North Korea. They will also be offered some explanations and evaluations regarding already established views and perspectives featured by early Korean contemporary historical studies, the nature of the Korean society today, and the internal structures of the current concept of Korean contemporary history. In this class, the students will be asked to view the achievements of previous historical studies in the area of Korean contemporary history very carefully, and also link them to the intellectual trends and atmosphere of the times which bred such achievements. This class is recommended to students who already joined classes such as Understanding Korean Contemporary History or Korea in the 20th Century.

109.417 한국사세미나 2 3-3-0

Seminar in Korean History 2

조선시대~해방전까지의 중요한 역사적 주제와 관점을 학습한다. 조선시대의 정치, 경제, 문화, 사상 등 조선시대를 이해하는데 필요한 모든 영역을 핵심특성으로 하여 해당시대를 이해하고, 개항시에 인해 강요당한 한 글자시기에서 이야기 내리온 '전통'과 외부로부터 흘러온 '근대가' 간격관계를 유지하며 간접적이 가끔 또는 직접적으로 나타나는 한국사의 여러 모습들을 다양한 범주에 걸쳐 고찰한다. 각 주제의 최근까지의 연구동향을 살피고 주제와 관련한 자료를 직접 다루면서 발표와 토론을 통해 한국 근 세기 및 근대사에 대한 이해도를 높이는데 목적이 있다.

This class will provide the students with the opportunity to study several historical themes and perspectives that were derived from the Korean history, especially the Joseon dynasty period and the modern period that continued up until the liberation in 1945. Politics, economy, culture, and philosophies, all the areas of which the understanding would prove vital in perceiving the Joseon dynasty period appropriately, will be thoroughly examined. Also, regarding the days that started when the Korean peninsula was opened to the outer world, and the days of suffering of the Japanese occupation, will all be examined and inspected under the issue of conflicts that continued between the concept of 'traditions' that the people inherited from their ancestors, and the concept of 'modernity' that was intrusively planted from the outside. Previous studies that have dealt with these issues will also be consulted. The students will be encouraged to enhance their understanding of these time periods by participating in extensive discussions and having opportunities to represent their views as well.

M1248.000100 동아시아 문헌과 규장각 3-3-0

East Asian Classical Literature and Kyujanggak

한국, 중국, 일본 등 동아시아의 다양한 문헌을 소장하고 있는 규장각 자료를 중심으로 하여, 동아시아 문헌학의 기본적인 성격 을 이해함을 목적으로 한다. 이를 위해 동아시아에서 필사, 인쇄 등 다양한 형태로 문헌이 생산되는 양상을 이해하고, 그리고 각국에 국가적으로 혹은 상업적으로 문헌이 유통되는 양상을 살펴며, 각국의 문헌이 자국 내부뿐만 아니라 국제적으로 유통되는 양 상을 함께 이해할 수 있게 한다. 각의 실험에서는 규장각에서 소 장되어 있는 문헌 자료에 대한 이해에서부터 상기한 과목의 목 적을 실현하는 방식을 탐색한다.

This course is designed to provide a basic understanding of the east asian philology, by reading Korean, Chinese, and Japanese traditional classics preserved in Kyujanggak Institute. Students will learn how the ancient documents have been produced and circulated in each country. In the lecture, students explore philological information based on Kyujanggak Institute’s documents.

M0.02200 역사적 담사의 기초 1-1-0

Foundations of Exploring Historic Sites

이 수업은 역사학을 전공하고자 하는 학생들에게 역사학자 담 사를 기획하고 준비하는 경험을 제공하기 위한 입문 과목이다. 한 국의 역사학의 위치한 지역적 역사적 특성, 역사 문헌 관련 인 물과 사물은 중심으로 하여 동서양 역사의 전개 및 한국사와의 관계, 역사학적 현대적 의미 등을 종합적으로 이해할 수
This class is an introductory course designed to provide students who want to major in history to experience planning and preparing for historic sites exploration. It focuses on the historical characteristics of the region where Korean historic relics are located, and people and events related to historic relics. At the same time, students will learn how to access and utilize relevant research and materials so that they can comprehensively understand the development of contemporary Eastern and Western history, their relationship with Korean history, and the current meaning of historic sites.
This course aims at providing students with basic training in reading historical documents written in Chinese. For that purpose, this lecture will emphasize the basic way of reading, for instance understanding the application of words in texts. So that simple historical texts suitable for beginners will be selected at first. After this training of reading, which is a requirement for more advanced studies in Asian history, the students of this course will be able to understand the recorded historical events in the texts.

This course explores the formation and development of the Japanese nation and culture. It investigates the essential elements contributing to the nation’s development and considers these elements in relation to culture, thereby providing a comprehensive understanding of Japanese history. The course particularly concerns with the Japanese emperor (tenno) vis-à-vis the Chinese emperor (huangdi) in examining the characteristics of the Japanese conception of the state in the East Asian context. It also analyzes how such characteristics affected Japanese culture.
성되거나 이를 살펴볼 수밖에 없었다. 전체적으로 경제와 문화의 이해를 얻는다.

이 기간에는 학생들의 이해를 높이고, 본 내용은 외국어에서 의 미 하여서 외국어에서 이해를 얻기 위해서는 영어, 중국어, 일본어 등으로 된 중요한 연구를 읽고 토론함으로써 이 부분에 대한 심층적인 이해를 도모하고자 한다.

The study on Central Asian history in Korea are not sufficiently accumulated because of the shortness of its tradition. So it is very difficult to find suitable works for the students to read, and in this sense, the works of foreign scholars, especially written in English, Chinese or Japanese are indispensable. This course will select and discuss important studies written in these languages, which would enhance the understanding of the students in the history of Central Asia.

This course provides students with knowledge of the formation and development of the Sui-Tang World Empire by considering the viewpoint of volkwerking and surveying the interrelationship between nomads and the Han race.

This course provides students with knowledge of the formation and development of the Chinese civilization and its military institutions, economic structures, social organization, and issues are highlighted, commented and studied.

This course considers the formation and development of the modern state in Japan through analyses on how it was transformed into Militarism.

This course introduces students to the most recent academic results in the field of East Asian history. Current subjects and issues are highlighted, commented and studied.

This course examines the social condition, function, influence and issues in the field of East Asian history. Current subjects and issues are highlighted, commented and studied.

This course will proceed by specifically investigating the formation and development of the Chinese civilization and its military institutions, economic structures, social organization, and issues are highlighted, commented and studied.

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ence and modern development of the Gentry in Ming-Qing China.

111.332 동양사학사례 3-3-0

Seminar in Asian History

기존의 강의로는 다루기 힘든 흥미 있는 주제를 선정하여, 심도 있는 동양사 학습의 기초를 마련하고자 만든 과목이다. 따라서 수업은 주로 해당 주제와 관련된 논장을 발표하고 토론하며, 그 성과를 보고서로 구체화하는 방식이 된다.

Political, economical, intellectual and cultural events which occurred in the history of Asia are dealt with in this course. This course will further students' understanding of the history and historiography of traditional China. By investigating the relationship between the socio-political backgrounds and thoughts of chronological historiography, students will be able to establish their own view of history.

111.333 전통중국의 역사인식과 역사서술 3-3-0

The Idea of History and Historiography in Traditional China

다음 자료를 포함하여 방대한 역사 자료를 남긴 전통 중국의 역사가학을 중심으로 그에 담긴 역사인식과 역사서술의 특성을 주된 강의내용으로 한다. 전통사중국의 역사 사과는 단순히 기록이라는 측면이 아닌 것이라는 인식이 아니라 사상적 이념을 표현하는 수단이었다. 역대 역사서술의 정치 사회적 배경과 사상과의 연관성을 강조하며 전통사학의 현대적 의미를 탐색한다. 수강자의 역사관을 정립할 수 있는 기회를 제공하고자 한다.

This course helps students understand the characteristics of history and historiography of traditional China. By investigating the relationship between the socio-political backgrounds and thoughts of chronological historiography, students will be able to establish their own view of history.

111.402 동양사회경제사 3-3-0

Socio-economic History of Asia

동양사회의 경제적인 환경에 대한 이해의 폭을 심화시키는 것을 강의의 목표로 삼고 있다. 따라서 중국 사회경제학적인 변모를 도져, 화폐, 농업생산, 인구 등의 다양한 요소를 통해서 살펴보고, 아울러 자세한 경제 사상과 그 당시의 경제적인 상황의 연관관계 등을 살펴본다.

Socio-economic history of Asia is investigated in this course. Aspects such as lands, currency, agriculture, and population will be considered, in addition to the economic thoughts and circumstances of the time.

111.404* 동양사학연구지도 3-3-0

Supervised Research in Asian History

역사학도로서 논문 작성에 필요한 방법론을 주요한 강의 목표로 한다. 학부 졸업논문의 작성에 필요한 주제의 선정, 주제의 심화, 그리고 논문의 구체적인 작성방법 등을 실제 논문의 작성과정에서 지도함으로써 이론 논문 작성 시에 필요한 능력과 방법 등을 배양하도록 한다.

In this course, students will learn how to conduct research and write theses on historical studies.

111.413 근대중국의 개혁과 혁명 3-3-0

Reform and Revolution in Modern China

근대 중국의 최대 과제였던 근대적 국민국가의 건설에 있어서 제기되었던 가장 유행한 방식인 개혁과 혁명이라는 주제를 중심으로 하여 중국 근대사의 전개와 발전과정을 개관한다.

This course introduces students to the process of reform and revolution of modern China as a nationstate.

111.414 근대중국의 사회와 문화 3-3-0

Society and Culture in Modern and Contemporary China

기존의 중국현대사-중국역사학라는 도식적인 틀에서 벗어나 현대 중국의 다양한 측면을 다룬다. 특히, 명청대 이래로 지속되어온 사회 구조와 빅문화적 지속성에도 관심을 할애하여 보다 폭넓은 중국 현대사 이해를 제공한다.

This course aims at students’ understanding of the culture of contemporary China on a broad range. One of foci will be its social structure and cultural continuity handed down from the Ming.

111.415 20세기 일본의 역사 3-3-0

Japan in the 20th Century

20세기의 일본사는 제국주의, 장강정치, 군국주의, 아시아주의, 식민지배, 고도재정성장등의 문제에 관한 많은 시사를 우리에게 제공한다. 이 강의에서는 러일전쟁전후로부터 현재에 이르는 일본 사회의 패턴을 다양한 각도에서 접근, 분석할 것이다.

The Japanese history in 20th centuries provides us with a plentiful implication about such issues as imperialism, party politics, militarism, Asianism, colonization and rapid economic growth. We will approach and analysis with a variety of views on the development of Japanese society from around the Russo-Japanese War to the present.

M1249.00500 개관 베트남사 3-3-0

Survey of Vietnamese History

베트남 역사의 출발부터 베트남의 개혁개방 정책이 시작되는 1980년대까지를 개관한다. 베트남의 역사에는 베트남-중국 관계, 레(Le), Ly 왕조, 19세기의 베트남, 20세기에의 베트남, 베트남 공산주의의 발전, 8월 혁명과 베트남 독립, 제1차 인도차이나 전쟁, 제2차 인도차이나 전쟁 등이 다룬다. 본 강의는 각 시대를 다루고 주요 인구역사와 함께 영문으로 번역된 사료도 활용하여 진행할 것이다.

This course provides an introduction to Vietnamese history from the origins of the Vietnamese people to the beginning of the reform period in the 1980s. It will address Vietnamese-Chinese relations, developments during the Ly, Tran and Le dynasty, the division of the country in the 17th and 18th century, the role of women in traditional Vietnam, the Tay Son rebellion, the Nguyen dynasty and the arrival of French colonialism in the 19th century, the Vietnamese response to colonialism and the rise of nationalism, the colonial state and economy, the development of Vietnamese com-
munism, the August Revolution and Vietnamese independence, the First Indochina War and the subsequent consolidation of two separate Vietnamese states, the Second Indochina War, the post-war period and the beginning of the reform era in Vietnam. It relies on several core texts and primary sources in English translation from the different eras.

This seminar addresses the question in which way specific historical events are commemorated in Southeast Asia. In particular, students should understand how historical memory is shaped by textbooks, museums and debated in film, television and other forms of cultural production.
American History

History of England

Modern Western History 1: From the Renaissance to the French Revolution

Modern Western History 2: The Long 19th Century

English Readings in Historical Literature

European Historiography
This course deals with “the history of history” by following the trail of historical study from ancient to present times. It covers the period from Greek and Roman times to the present, providing students with knowledge of changes and concentrated explorations of several aspects of German history. Students will then perform more specific procedures of historiography.

112.310 독일사 3-3-0

History of Germany

이 과목은 독일사에 대한 전반적인 개관과 더불어 역사전문가들의 참가를 독일사의 이포도트를 계체적으로 검토하는 것을 목표로 하고 있다. 독일사의 보통 시각은 중세 혁명의 주역인 영국, 프랑스 역사의 비교사적 차원에서 주로 연구되어 왔을 뿐만 아니라 독일사의 고유한 측면에 주목하고 있다. 또한 이를 통해 독일가가 만든 널 민족국가, 근대성, 부르주아 혁명, 과사립, 민주주의, 사회주의와 같은 개념의 검토도 시도한다.

This course first surveys the general development of German history. Students will then perform more specific and concentrated explorations of several aspects of German history, comparing it to that of Britain and France. It will cover the period from Greek and Roman times to the present, providing students with knowledge of changes and procedures of historiography.

112.321 서양의 고대문명 3-3-0

Ancient Greece and Rome

This course surveys the status and culture of women in history. Knowledge of women’s history is obligatory for understanding the basic tenet that the status of women (and men) is not nature-given or biologically determined. It was artificially settled down through history and therefore is changeable in society. Study of women’s culture helps to the mutual understanding of men and women, and to the approvement of gender relations in general. In addition to the subjects of women’s history - the cause of women’s oppression, the structure of women’s subjugation and the history of women’s movement - this course therefore will also focus on women’s culture. The latter was created and developed by women as subject (i.e. master; the one who determines) of their life. Further the participants of the class will have the chance of considering on the feminist alternative to the modern society.

112.322 서양중세사 3-3-0

Medieval Europe

Women in History

이 강좌는 역사 속 여성의 삶과 문화를 살펴보고자 하는 목적을 가졌다. 여성의 역사를 살펴볼다는 것은 여성(및 남성)의 자위가 현재부터 고정된 것이 아니라 역사 속에서 변화해 온 것이고, 앞으로도 변화할 수 있는 것이기 때문에 이해하는 데 필수적이다. 또한 여성의 문화를 살펴볼다는 것은 여성과 남성 혹은 제3의 성 사이의 상호이해 그리고 일상의 상반 민주화를 위해서 반드시 필요하다.

 중요한 문제의식의 엄두에 두고 이 강의에서는 여성학의 원인, 여성의 종속이 지속되어 온 구조, 이에 대한 여성의 대응으로서 여성 운동 등, 전통적으로 여성 연구의 주제가 되어 왔던 내용들을 살펴볼 것은 물론, 더 나아가 여성이 주체로서 이루어 온 문화를 이해하도록 노력할 것이다. 이와 같은 여성주의의 시각에서 근대사회에 대한 여성적 대안, 양성 상호 이해의 깊은 문제까지 생각해 보기로 한다.

This course covers the period from Cretan civilization (the beginning of ancient Greek civilization) to the fall of western Rome. Geographically the course mainly deals with the regions of contemporary Greece and Italy and the ancient civilizations of Europe including the western regions of Europe (Iberian Peninsula, the Gallican region and the Britain islands as well as the regions of Asian Minor, North Africa, and eastern Europe situated at the northeast of Greece).

It is hoped that the student’s improved understanding of ancient Greece and Rome from this course will enable them to gain a stronger grip on European history.
Of the Middle Ages. This course will concentrate on furthering understanding of the dynamic internal change towards a new Europe. This lecture will emphasize that Medieval Europe was not a dark, stagnant society but one of shaping of modern society. Thus by focusing on the fact that cultural features of the High Middle Ages influenced the development of European civilization, one has to go back to the Medieval Era (5th~10th century) to trace its origins and consecutive formation of nation-states, the Carolingian Dynasty, Feudalism, the rivalry between the migration of the Germanic people, and examine how the political, economic, social and cultural phenomena that caused events and that are still being acknowledged in the main spheres of politics and journalism. Students will gain a deeper understanding of the political, economic, and cultural phenomena that caused events and that are still being acknowledged in the main spheres of politics and journalism. This course moves from the dissolution of the Cold War system, this course continues on to deal with the current world. Some of the issues that will be covered: the Cold War system that determined international politics after WWII; the dissolution of empires and the emergence of new independent states; the problems of the third world and problems between the north and the south; the formation of post-industrial societies and supranational capital; the deteriorating conditions of the environment and ecosystem; poverty; and the various religious and national struggles resulting from the dissolution of the Cold War system.

Contemporary Western History 1

20세기 전반의 역사: 장기 19세기와 그 끝나는 시점인 제1차 세계대전의 발발로부터 전기기를 거쳐 제2차 세계대전이 끝나는 시점까지의 유럽사를 다룬다. 제1차 세계대전, 러시아의 사회주의 혁명, 유럽 민주주의의 쇠퇴와 파시즘의 대두, 제국주의 활동의 가열과 국제적 갈등관계의 고조, 대응하리 그리고 제2차 세계대전의 발발과 파시즘의 폐해로 이어지는 일련의 중요한 사건들이 이 시기 유럽사를 배구하고 있다. 유럽인들에게도 그들의 저해를 받고 있었던 많은 비 유럽인들에게도 20세기 전반의 역사는 그 흔적이 오늘날까지도 남아 있는 저울 수 없는 외상임을 시사한 것이다. 따라서 이 과목은 여전히 정치와 재난화의 주 영역으로 남아 있는 여러 가지 중요한 정치적, 경제적, 문화적 현상을 역사적인 맥락 속에서 깊이 있게 이해하는데 도움을 줄 수 있다.

This course covers the epochal period from the outbreak of World War I to the close of World War II. Students will gain a deeper understanding of the political, economic, and cultural phenomena that caused events and that are still being acknowledged in the main spheres of politics and journalism.

Contemporary Western History 2

20세기 후반의 역사: 제2차 세계대전의 종전 그리고 동서 전쟁체제로부터 시작된 오늘날의 역사를 다룬다. 오늘날 우리가 살아가는 시대를 대상으로 한다는 점에서 이 시기의 역사는 자칫 정치-이데올로기적 관점에서의 핵심적 역할을 하며 해석될 위험이 항상 부여되어 있지만, 다른 한편으로는 바로 그 이유 때문에 반드시 다루어야 할 필요가 있는 역사이다. 전후 근본 반세기 동안 세계 정치를 규정한 방대한 전군, 제국의 해체와 신생 독립국가의 등장, 그리고 그로 인해 생겨난 제3세계 문제와 남북문제, 후기 산업사회 및 초국적 자본의 형성과 갈등 심화되는 환경, 생태, 민족의 문제들 그리고 냉전체제의 해소가 가져온 다양한 수준의 종교적-민족적 갈등들이 이 과목을 통해 다루어지게 될 주된 문제들이다.

Beginning with the end of World War II and the resultant Cold War, this course continues on to deal with the current world. Some of the issues that will be covered: the Cold War system that determined international politics after WWII; the dissolution of empires and the emergence of new independent states; the problems of the third world and problems between the north and the south; the formation of post-industrial societies and supranational capital; the deteriorating conditions of the environment and ecosystem; poverty; and the various religious and national struggles resulting from the dissolution of the Cold War system.

112.326 독문사적강독 2-3-0

Readings of Historical Literature in German

독문사적 강독은 독일어로 쓰인 다양한 문헌들을 직접 읽고 토론하는 과목이다. 이 과목의 일차적인 목표는 서양사를 전공하는 2, 3학년 수준의 학생들이 기본적인 독일어 독해 실력을 갖추게 하는데 있다. 독일의 역사연구는 근대 역사학의 기본적인 방법론을 확립하고 그것의 초기 흐름을 주도적으로 이끌었던 것은 오펜란도를 갖추고 있다. 따라서 이 과목의 보다 확장된 목적과 그것이 가수하는 효과는 독일어권에서 쓰인 역사관련 저작들과 사료들을 직접 접하게 함으로써 서양사를 보는 이해를 넓히고 서양사에 대한 한층 향상된 관심을 유발하는 것이다.

In this course we read and discuss German historical literature using the German language. Sophomores and juniors majoring in western history will improve their knowledge, reading ability, and broaden their understanding of western history by using German historical works and primary sources.

112.328 불문사적강독 2-3-0

Readings of Historical Literature in French

불문사적 강독은 불어로 쓰인 다양한 문헌들을 직접 읽고 토론하는 과목이다. 이 과목의 일차적인 목적은 서양사를 전공하는 2, 3학년 수준의 학생들이 기본적인 독해 실력을 갖추게 하는데 있다. 이 과목의 보다 확장된 목적과 그것이 가수하는 효과는 프랑스어권에서 쓰인 역사관련 저작들과 사료들을 직접 접하게 함으로써 서양사를 보는 이해를 넓히고 서양사에 대한 한층 향상된 관심을 유발하는 것이다.

In this course we read and discuss French literature using the French language. It aims mainly to provide sophomores and juniors majoring in western history with the ability to read French historical literature. This course, therefore, seeks to broaden students’ understanding of, and stimulate further interest in, western history by using historical works and primary sources in French.
History of Russia

This course provides students with a deeper understanding of Russian history. It deals with issues in chronological order: the geopolitical situation of Russia, the period of Kievan Rus', the Mongol yoke, Moscow states, the imperial period, the Russian Revolution, the formation and disintegration of the USSR, and the establishment of the Russian Republic. It pays special attention to the period from the westernization by Peter the Great to the formation of the USSR, and the establishment of the Russian Republic. This class will provide new perspectives on world history. This class will prepare students for the study of history at a graduate level.

Topics in Western Regional Studies

This course challenges the historical perspective which considers western Europe and America the sole representatives of the West. By doing so, it attempts to promote broader perspectives on world history. This class will provide new historical perspectives on the so-called peripheral regions (eastern and southern Europe, Africa, and South America) which have been neglected in past historical descriptions centered on Europe. Important issues relating to these regions are chosen each semester; students will have a chance to study a specific region with the help of primary and secondary sources.
society in Chosun and the early modern Anglo-American world, with an emphasis on ordinary people’s daily experiences and culture. Rather than trace the development of abstract legal doctrines and official institutions, the course delves into specific historical examples that illuminate the relationship between law and society from the perspectives of diverse historical actors. Despite the development of complex social structures and institutions, in both early modern Chosun and Anglo-America the law was yet to be dominated by a professionalized legal culture. By reconstructing and closely comparing eastern and western legal culture in the early modern period with a focus on specific issues such as landed property, marriage and divorce, bonded labor, orphanage and adoption, and disputes over commons and burial grounds, students will explore how ordinary men and women in the past understood and utilized the law, and how they both contributed to and challenged legal authority and order. Students will further question how and why the law ultimately “modernized,” how this shift transformed people’s lives, and how people in the East and West reacted to these transformations.
113.226* 한국철학사 3-3-0

History of Korean Philosophy

한국의 역사적 문화와 태도로서의 철학을 현대 틀로써의 방법론의 모색을 출발점으로 해서 우선 한국철학의 출발점의 문제 및 원시 사상의 근본가정을 살펴본 다음, 불교, 유교, 기독교 등 종교 사상 을 근간으로 하는 형태소가 한국적으로 소화, 수용되어 변형 및 창조적으로 재구성되는 과정을 역사적인 조감독으로 개괄한다.

This course gives students an opportunity to learn Korean philosophy by examining Korean history, culture, and indigenous thought and its premises. The students will then examine the process by which Koreans have assimilated foreign thoughts into unique philosophical traditions.

113.227* 기호논리학 3-3-0

Symbolic Logic

이 과목에서는 기호논리학의 개념에 대해서는 설명하며, 서양논리의 사고와 발전을 다루며, 일상 언어와 인공언어인 기호논리의 관계를 고찰한다. 그리고 기호논리체계가 적합한 인공언어체계인지 등의 여부를 따는 바탕논리학을 소개함으로써 학문의 토대를 이루는 이론구성의 한 모형을 제시한다.

In this course, students will be introduced to propositional logic, quantification logic, relational logic, and set theory and examine the relationship between ordinary language and artificial language—i.e., symbolic logic. In addition, they will discuss meta-logic, which deals with the question of whether systems of symbolic logic are appropriate as artificial languages.

113.300 철학 교육을 위한 논리학 3-3-0

Logic for Teaching Philosophy

고등학교 철학 교육의 주된 목표는 학생들의 논리적이고 비판적 사고 능력을 증진시키는 것이다. 본 과목에서는 이를 위해 고등학교 철학 교육에서 형식 논리학과 비형식 논리학을 효과적으로 활용하는 방법을 배운다. 먼저 과목 전반부에서는 형식 논리학과 비형식 논리학의 기본적 내용을 개괄한다. 과목 후반부에는 고등학교 철학 교과서 및 관련 문헌들의 내용을 실제에 분석하고 평가하는데 있어 논리학적 지식을 어떻게 활용할 수 있는지 연구한다.

The chief aim of teaching philosophy in high school is to enhance students’ ability to think logically and critically. This course investigates various ways to achieve this aim through the use of formal and informal logic in teaching philosophy. The first part of the course is devoted to a survey of formal and informal logic. The second part focuses on the discussion of how to apply logical knowledge to the actual analysis and evaluation of the materials in high school philosophy textbooks and related literature.

113.318 철학교육론 3-3-0

Theories of Teaching Philosophy

고등학교에서의 철학교육의 목표는 각 피교육자에 하여금 자율적인 사고, 비판적인 사고, 반성적인 사고 등을 함양토록 함으로써 건설한 사상의 도덕감을 갖춘 민주주의의 한 창조적 영역이 되도록 하는 데에 있다. 이 목표를 위해 철학교육의 내용은 이해해야 하며, 그 내용을 어떻게 가르치는 것이 효과적일지를 검증적으로 검토, 논의한다.

The purpose of philosophy classes in high school is to cultivate students’ autonomous, critical, and reflective thinking. This class researches and discusses how a high school philosophy education can encourage students to become creative members of a democratic society, with sound common sense and morality.
인문대학(College of Humanities)

: 철학과(Dep. of Philosophy)

What distinguishes knowing from merely believing? The course examines representative theories that answer those questions.

113.357 한국불교철학 3-3-0

Korean Buddhist Philosophy

이 과목은 불교 천년에 대한 기본적 소양을 갖춘 수강생을 대상으로 한국 불교의 역사와 철학을 다룬다. 구체적으로 원효(元曉), 지능(知能), 의학(義學), 류조(柳操), 보수(補蘇) 등 대표적 고승들의 사상을 학습하고, 한국 불교의 대중적인 신발교의 철학적 성질을 시도한다.

This is an above-average level course that requires general knowledge of Buddhism. The course deals with history and philosophy of Korean Buddhism. Wonhyo, Jinul, Euicheon, Hyujeong and Bowoo are among the major philosophers the philosophy of Korean Buddhism. The course deals with history and knowledge of Buddhism. The course deals with history and knowledge of Buddhism.

113.360 서양근대철학 3-3-0

Modern Western Philosophy

서양 근세의 주요 철학활동의 의의를 바탕으로 철학사상의 큰 흐름을 따라 조류를 묘사하다. 서양근대철학 문화가 현대문화에 미친 영향을 분석한다. 또한 서양근대철학이 제기했던 문제를 학생들이 스스로 탐구해 볼 수 있도록 해주어야 한다. 이는 수학자, 스파르노, 라이프니츠, 경}->

This course deals with the main philosophical works of the modern western era, and their impacts on our contemporary culture. Students will understand the philosophical problems of modern times and assess their significance. The course will focus on existentialism by examining the work of the philosophers representative of this tradition, such as Kierkegaard, Nietzsche, Sartre, and Camus.

113.362 서양중세철학 3-3-0

Medieval Western Philosophy

서양 기독철학의 형성과 발전과정을 교부철학, 스피노자철학의 주요문헌들을 통해 개관하여 서양철학의 중세적 전통을 이해하는 것으로 약간의 목표이이다. 서양철학의 문제를 철학에서 유래된 기독교가 어떤 새로운 문화에 부딪히며 이 문화들과 어떤 개념들을 통해 어떻게 가르침을 검토함으로써 서양철학의 중세적 토대를 이해하게 하고 이를 서양 근세철학의 형성에 미친 영향을 이해하도록 한다.

In this course, students will study the medieval tradition in Western philosophy by surveying the birth and development of Christian philosophy through the key original texts of patristic philosophy and Scholasticism. The course will examine the problems that the Christian religion faced and the way in which it managed to solve them through a systematization of its own conceptual framework. In this course, students will arrive at an understanding of the impact of medieval thought on the formation of modern Western philosophy as well as the medieval foundation of Western philosophy in general.

113.365 언어철학 3-3-0

Phenomenology

본 과목은 현대철학의 핵심적인 사조 중 하나인 현상학의 근본 문제들을 검토하고 유도로 한다. 이러한 목표를 위해 우선 현상학의 창시자인 현상학을 중심으로 현대의 위기, 실증주의의 비판, 인문학의 현상학의 이념, 영적 존재론, 형식적 존재론, 현상학적 심리학, 초월론적 현상학, 지식론, 초월론적 주관, 생활세계, 논리학, 사상학, 현상학적 확인, 현장적연구 등의 문제들을 선행한 후, 해 jakieś, 인간학, 사르트르, 가다마, 해프너, 푸코, 라캉 등이 발전시킨 다양한 유형의 현상학의 근본 문제들을 살펴본다.

Phenomenology is one of the most important areas of contemporary philosophy. This course will examine the basic issues of phenomenology. It will first deal with the basic issues of phenomenology as presented by E. Husserl, such as the crisis of modern society, the criticism of positivism, the
idea of phenomenology as a rigorous science, regional ontology, formal ontology, phenomenological psychology, transcendental phenomenology, intentionality, the noesis-noema correlation, transcendental subjectivity, intersubjectivity, the life-world, the phenomenological reduction, transcendental idealism, qualitative research, etc. Thereafter it will deal with the basic issues of the various kinds of phenomenology subsequently developed by M. Scheler, M. Heidegger, R. Ingarden, J.-P. Sartre, H.-G. Gadamer, M. Merleau-Ponty, E. Levinas, P. Ricoeur, M. Dufrenne, A. Schutz, A. Gurwitsch, etc.

113.369 불교철학특강 3-3-0

**Topics in Buddhist Philosophy**

Indo Buddhism and Eastern Buddhism are dialectically connected, but the different philosophical positions of Buddhism will take diachronic and synchronous points of view. Various topics will be introduced depending on the semester, such as Buddhist epistemology and Buddhist ethics.

113.370 제자백가철학특강 3-3-0

**Topics in the Hundred Schools**

The numerous schools of the Hundred Schools of Thought raised diverse, different philosophical issues, but they developed their thoughts against a shared philosophical background. This course offers an extensive introduction to philosophical topics in Indian and East Asian Buddhism, examining the various manifestations of Buddhism in India and East Asia as a whole. In approaching the philosophical traditions of thought in Buddhism we will take diachronic and synchronous points of view. Various topics will be introduced depending on the semester, such as Buddhist epistemology and Buddhist ethics.

113.371 신유학특강 3-3-0

**Topics in Neo-Confucian Philosophy**

The students will read and discuss major texts written by Chinese and Korean Neo-Confucians.

113.454 중국근현대철학 3-3-0

**Modern and Contemporary Chinese Philosophy**

This course investigates the ways Chinese thinkers - from the bibliographical school of Qing dynasty up to modern new Confucianism - justified the key principles of Chinese philosophy against the onslaught of Western thoughts. The strengths of modern Chinese philosophy will be duly appreciated by focusing on the cultural conservatives who defended the traditional philosophical thoughts after the May Fourth movement.
113,463 과학철학 3-3-0

Philosophy of Science

과학과 관련된 주제를 도입하여, 현대의 대표적 관계를 이해하고 비판적으로 접근하는 방식으로 다루어진다. 선택 가능한 주제들로는, 과학의 목표와 방법, 과학 이론의 구원자역할, 과학적 설명, 실험적과학은 논증, 이론군 현황, 과학의 합리성 및 과학성, 과학과 사비과학, 자이언 법칙 등이 있다.

Certain philosophical topics related with science will be selected and the related, representative views will be examined critically. Some of the possible themes include the purpose and methods of science, the construction and role of scientific theory, scientific explanation, realism/antirealism debate, inter-theoretic reduction, the distinction between science and pseudo-science, and the law of nature.

113,464 심리철학 3-3-0

Philosophy of Mind

'마음의 본성은 무엇인가'라는 것은 철학적으로 이어지는 중요한 과학적 문제 중 하나이다. 이 과학에서는 '마음과 신체의 관계는 무엇인가'라는 존재론적 문제와, '심리영역의 의미는 어떤 근거에서 가능할까'라는 의미론적 문제, '자신의 마음과 몸의 마음은 어떻게 인식될 수 있는가'라는 인식론적 문제 등을 다루어진다. 이 과학은 위의 주제에 관한 기초적인 내용을 강화하고 있는 뒤 이 강의내용과 강의시간에 제시된 문헌의 내용을 중심으로 토론을 결합하는 방식으로 진행된다.

"What is the nature of mind?" is one of the most important questions asked since the ancient times. This course deals with the ontological question concerning the relation between mind and body, the semantic question of the meanings of mental terms, and the epistemological question of how to know one's own mind as well as others'.

113,465 사회철학특강 3-3-0

Topics in Social Philosophy

이 과목은 인간이 독립된 개체가 아니라 사회적 존재라는 주제를 바탕으로 인간의 자기 인식, 인간과 인간 간의 바람직한 관계 그리고 인간 사회 변화과정의 상관관계를 탐구하는 과학으로 한다. 이러한 탐구를 위해 올바른 방법론을 모색하고 더 나아가서 인간 존재의 근본 양식에 대해 철학적으로 규명해 본다.

This course intends to investigate the self-conception of human beings, the interrelations among human beings, and the process of social change. It tries to locate a proper methodology for that investigation and illuminates philosophically the fundamental manner of existence of human beings in social contexts.

113,466 영어철학 3-3-0

Metaphysics

이 과목은 세계 전체의 구조와 구조원리, 세계 내에서의 인간의 자위와 인간의 의미, 세계의 존재근거와 신의 존재여부, 세계와 신 그리고 인간의 상호관계와 같은 근본적인 문제들을 고찰한다. 수업은 각 주제들에 대한 강의 및 토론 그리고 각 주제와 관련된 고전들에 대한 강독으로 진행된다.

This course concerns itself with various metaphysical topics such as the fundamental world-constitutive principle, the existence and properties of God, metaphysical theories of the self, and the interrelation between the world, one's self and God. Students are expected to gain a deeper understanding of metaphysics through this course. The class will consist of lectures on the major topics as well as readings on the related classical texts.

113,467A 윤리학특강 3-3-0

Topics in Ethics

이 과목에서는 규범윤리, 융용윤리, 메타윤리, 윤리학자들은 윤리학의 여러 틀구 영역에서 제기되는 이론적이나 실천적인 문제들을 다루고 있다. 이 과목은 수집성으로서 현대 사회적으로 현안이 되는 사회적 문제들을 윤리학적 관점에서 규정하고, 현재 학계에서 논의로 초점을 맞추는 윤리학적 주제들을 심층적으로 고찰하는 기회를 제공하게 할 것이다.

This course intends to deal with major theoretical and practical themes or specific problems arising in various realms of ethical inquiry such as normative ethics, applied ethics, metaethics and the history of ethics. Accordingly this course will provide the students an opportunity to investigate the actual practical problems under the ethical perspective or discuss sophisticated academic themes in ethics in an in-depth manner.

113,470 서양근대철학특강 3-3-0

Studies in Western Modern Philosophy

테카르트로부터 발달하여 스피노자, 라이프니츠를 통해 전개된 서양 근대 초 유럽철학의 이성주의와 페인트, 호스, 로크, 바클리, 헤겔로부터 아리아우의 영향력을 강화하고, 현재 사회의 새로운 문제를 실험이나 핵심적 주제를 함께 강요한다. 인간의 역사는 다양한 인간의 동물성과 이성의 감독으로 화해의 과학이고, 저러한 근대사회의 가치들은 근원적으로는 이성적 동물인 인간의 이성주의의 발로임을 상정하므로, 그러한 문제 상황에서 서양근대철학의 제학파가 인간 문화의 최고의 가치인 진실로, 선(善), 이(意), 상(상), 의(義), 완(完)의 원리를 어떻게 해명하려 했는가를 고찰한다.

In this course, we examine central philosophical topics that emerge within the philosophical tradition that arose on the Continent with Descartes, Spinoza, and Leibniz, and the British tradition of Bacon, Hobbes, Locke, Berkeley, and Hume, together with Kant's critical philosophy, and the subsequent development of German Idealism as exemplified by Fichte, Schelling, and Hegel. In particular, we will focus on how the views of these philosophers of this turbulent time period are distinctive and relate to each other with regard to such issues as truth, value, beauty, religion, and peace.

M1252.000100 문화철학 3-3-0

Philosophy of Culture

이 강의에서는 문화에 대한 주요한 철학적 질문과 입장을 소개하고, 이를 통해 문화철학의 철학적 핵심과 문화변동의 논리적 구조를 포괄한다. 비교적 세계에서 이르는 근대 문화철학의 입장을 개괄하고, 구조주의의 현재 프랑스철학과 프랑크푸르트철학과의 문화비평, 정신서적 등의 현대 문화이론을 참고자료로 제시할 것이다. 세계화, 정보사회의 도래, 영상의 확산, 페미니즘과 생태문제 등이 현대의 문화철학적 철제상에 걸쳐있는 주요 현상을 토론하며, 궁극적으로는 동서문화를 포괄할 수 있는 철학적 입지를 모색한다.
This course aims to present key questions and theories of cultural philosophy and examine the philosophical implication of cultural phenomena and the logical structure of cultural change. It introduces students to principal positions found in modern tradition, from Vico to Hegel, and a range of contemporary ideas, such as the modern French philosophy after structuralism, cultural criticism of the Frankfurt School and psychoanalytic cultural theory. Students will discuss some critical contemporary issues like globalization, the advent of information society, proliferation of moving images, feminism, and ecological problems. The course, ultimately, tries to find a philosophical position that can embrace the Eastern and the Western cultures.

M1252.000200 도가철학 3-3-0

Taoist Philosophy

노자의 <도덕경>과 장자의 <장자>를 선독하면서 도가의 주요 개념을 살펴보고 도가의 주요 이론들과 삶에 대한 태도를 배우게 될 것이다. 아울러 유가, 묵가, 명가 등 당대 다른 사상가들과의 비교 검토 역시 함께 진행할 것이다.

Students will review of the major concepts of Taosim, and study major theories and the views on human life of Taoism through the readings of “Daodejing” and “Zhuangzi”, the two major classics of Taoist Philosophy. Students will be also expected to compare Taoism with Confucianism, Mohism, and the school of Name.

M1252.000300 역사철학 3-3-0

Philosophy of History

While history had long been an object of philosophical interests, since the beginning of modern times, it has been the object of philosophy in a genuine sense and philosophy itself became historicised. Based on this understanding this course aims to illuminate the fundamental historicity of human beings and the world as well through systematizing the philosophical approaches to history and investigating the methodology of different historical understandings.

Eastern cultures.
Religions in China

Religions in India

Introduction to Taoism

Introduction to Confucianism

Phenomenology of Religion

Philosophy of Religion
114.306 Anthropology of Religion

Anthropology of Religion

 종교에 대한 인류학적 연구의 흐름을 개관하고 대표적인 연구 성과를 선택하여 정리한다. 이를 통해 종교에 대한 인류학적 연구의 성과를 비판적으로 검토하고 종교 연구에 대한 나름의 관점을 가질 수 있도록 한다.

A survey of the history and main issues in the anthropology of religion are conducted in this course.

114.307 Sociology of Religion

Sociology of Religion

 종교에 대한 인류학적 연구의 흐름을 개관하고 대표적인 연구 성과를 선택하여 정리한다. 이를 통해 종교에 대한 인류학적 연구의 성과를 비판적으로 검토하고 종교 연구에 대한 나름의 관점을 가질 수 있도록 한다.

A survey of the history and main issues in the sociology of religion are conducted in this course.

114.308 Korean Folk-Religion

Korean Folk-Religion

 민간에 전승되어 온 한국 민속종교의 다양한 양상 및 특징을 기존의 연구 성과를 통해 살펴보고, 현장조사를 통해 살아있는 모습을 관찰함으로써 한국 민속 종교의 종교적 성격 및 한국문화 속에서의 위치를 은바로게 이해하고자 한다. 한국 민속 종교의 중심적인 위치를 차지하고 있으며, 한국의 무속을 중심으로 강의를 진행한다.

The purpose of this class is to understand the religious characteristics and diverse forms of Korean folk religions which have been practiced as a way of life in Korea.

114.310 Psychology of Religion

Psychology of Religion

 본 강의는 종교심리학의 일반적인 개괄을 이론적인 측면에서 살펴보고, 특히 종교심리 또는 종교경험을 주로 연구한 사람들들의 이론을 주제별로 접근한다. 그리고 종교심리학 이론들이 종교의 발전과 관련하여 어떤 역할을 했는지에 대해 고찰한다. 구체적인 학습내용은 다음과 같다.

This course investigates how religious expressions are treated by major psychological theorists such as Freud, Jung, and James.
114.322 한국종교 3-3-0

Religions in Korea

한국종교사의 전체 형식을 동일한 박물관으로 파악하고, 그 개별 전통의 문제들과 각 세계의 특정 종교현상을 한국종교사의 전체적 형식의 맥락에 근거하여 보다 긴밀히 이해할 수 있도록 하기 위해 본론을 하는데 이 강의의 목적이 있다. 이는 한국인이전의 전통적 형식에 대한 긴밀히 이해하기도 하다. 구체적인 학습내용은 다음과 같다. 한국종교사의 개반, 선교의 종교사상, 삼국 시대의 종교, 고려시대의 종교, 조선시대의 종교, 근대교육의 진과와 확장, 인세종 종교문화의 과학, 현대 한국의 종교상황.

This course provides a comprehensive overview on religious history of Korea, focusing on the overall flow of Korean religions as well as specific religious phenomena and traditions of each period. Topics to be discussed: overview on Korean religious history; religions of ancient times, the Three Kingdom period, the Goryeo and Joseon Dynasties; introduction and development of Christianity; destruction of religious culture during the colonial period; and religions in contemporary Korean society.

114.323 한국불교 3-3-0

Buddhism in Korea

불교가 한반도에 전래된 후 삼국, 고려, 조선을 거쳐 어떻게 변용되고 수용되었는지를 살핀다.

그 과정에 한국불교의 대표적인 인물(원효, 지눌, 혜いろんな)의 역할도 검토하고, 주로 민간불교, 사회적 위치, 제도 등 양상을 통하여 한국불교의 특성을 모색한다.

This course will trace the historical development of Buddhism on the Korean peninsula, and explore how it changed over time. To achieve this, rather than looking at the great figures of the tradition (such as Wonhyo, Jinul, or Hyujeong), we will be investigating such factors as popular beliefs and figures of the tradition (such as Wonhyo, Jinul, or Hyujeong).

114.324 종교교재 3-3-0

Religious Rituals

이 과목은 인간의 몸을 통해 표현되는 종교경험을 다룬다. 인간의 종교적 삶과 문화를 이해하는 데 있어, 토단적인 측면이나 사회조직 및 제도적 측면에 틀지 못하게 행위적인 측면이 중요하다. 의례는 현실을 반영하는 모델인 동시에 이상을 지향하는 모델이기 때문에, 이를 통해 지식형의 의례를 이해하게 되며, 동시에 의례를 통해 지향하고 있는 인간과 사회의 가치와 이상을 확인하게 된다. 종교의례는 복합적인 실천체계로서, 종합적인 접근이 요구된다. 따라서 본 과목은 각종 의례문화를 해석할 수 있는 이론과 연구방법론을 종합적으로 이해하고, 나아가 개별 종교의례의 상징, 구조, 기능, 의미 등 대해서도 정하고자 한다. 아울러 종교의례의 변동과 흔들림, 그리고 새로운 창출에 주목함으로써 의례문화의 역동성을 이해한다.

This course deals with the ritual dimension or, in other words, practical aspect of religion. “Ritual” includes all the various expressions of religious experiences via human body. It is an important topic of religious studies together with theoretical or sociological/institutional aspects of religion. Ritual reflects reality as the status quo and also implies human ideals. Ritual studies aim at finding out how socio-cultural structures and ethos are reflected in rituals and what the implied ideals are like. Religious rituals are complex systems of practices and thus need to be approach systematically. In this course, students will learn various methods and theories of ritual studies. They will also practice analyzing symbols, structures, functions and meanings of various religious ritual. This course will also deal with transformations, interactions and creation of rituals so as to understand the dynamics of ritual culture.

114.325 일본종교 3-3-0

Religions in Japan

이 과목은 고대에서 현대에 이르는 일본종교의 다양한 형식들을 탐구한다. 그 과정에서 일본적인 신앙(예를 들어 천황숭배)의 발전을 알아보고, 어떻게 이런 믿음이 구체적인 역사적 맥락 속에서 파악이 나았으며 수세기 동안 제었던 걸까?를 살핀다.

인간과 불교는 일본의 주요 종교이므로, 이들이 수세기 동안 공존하였던 상호보완적인 관계에 대해서도 연구한다. 특히 강의 후반에는 근대사의 맥락 안에서 구체적인 주제를 통해 한국종교와의 관련성을 탐구한다.

This course will explore the many strands of religion in Japan, from earliest times to the present. We will examine the evolution of certain basic Japanese beliefs (such as the belief in the divinity of the emperor), learning how such beliefs sprang from specific historical realities and were reaffirmed through the centuries for specific cultural and political reasons. In the same way, we will study the arrival and domestication of Buddhism, and alien tradition that was imported to Japan from continental Asia during the 6th century. Shinto and Buddhism are Japan's two major religions. We will see that they have been co-existing for several centuries and have even complemented each other to a certain degree.

114.326 종교교육론 3-3-0

Theories of Religious Education

중고등학교에서의 종교교육의 목표는 다양한 전통 종교 및 종교 현상에 대해 종교의 지식을 전달하고 종교적 정서를 함양하는 것으로서 다양한 종교 현상과 사회의 소통이 가능한 인재를 양성함에 있다. 이 목표를 위해서 종교교육의 내용을 어떻게 가르치는 것이 효과적일지를 강조할 필요가 있다.

The purpose of religious education in middle and high schools is to convey knowledge about various religious traditions and phenomena in order to cultivate able students with religious sentiments who are capable of tactful social communication in pluriracial and multireligious societies. This course explores proper contents and efficient ways of teaching for such educational programs.

114.327 종교 교수 및 지도법 3-3-0

Materials and Methods in Religious Education

중고등학교 종교교육의 현장에서 다룰 수 있는 종교교육 교재를 분석, 분석하여 이의 활용방안 및 지도방안을 중심적으로 다룬다. 세부적으로 교수의 선정법, 종교교육 활용법, 교수법, 학생 평가방법을 구체적으로 다루며, 상황에 따라 각 방법의 적용법을 비교분석함으로써 다양한 상황에서 효율적 종교 교육 연구 및 지도에 대해 다룬다.

This course focuses on figuring out efficient ways of
teaching and utilizing teaching materials for religious education in middle and high schools by classifying and analyzing contents of current education. Methods of selecting teaching materials, utilizing referential materials, conveying information, and of student evaluation will be dealt with in detail. Examples of application of these various methods will also be comparatively analyzed in order to secure their efficiency in diverse situations.

114.328A 종교교육 논리 및 논술 3-3-0

Logic and Essay Writing in Religious Education

Based on the prerequisite courses of Theories of Religious Education, and Materials and Methods in Religious Education, students are expected to approach and present their logical essay of recent religious studies research. Students are encouraged to raise their educational skills to guide logical essay writing in religious education.

114.402 신비주의 3-3-0

Mysticism

Non-dualism to pursue the student's religious experience and his incipient religious understanding. The course features religious studies and comparative study of religious traditions. Students are encouraged to raise their educational skills to guide logical essay writing in religious education.
114.413  원시종교  3-3-0

**Primitive Religions**

본 강좌는 아시아, 아프리카, 오세아니아, 아메리카, 남태평양지역에서 확인되는 종교문화의 원초적 형태뿐만 아니라 토착의 종교문화와 외래 현대문화의 만남을 통해 새롭게 분출된 다양한 종교문화운동의 실상과 특성을 이해하고자 한다. 따라서 본 강좌에서는 애니미즘, 마나이즘, 주술, 사마니즘, 위치크라프트, 조상숭배, 토테미즘, 희생의례 등의 원시종교론의 주제뿐만 아니라 현대적으로 변용된 천년왕국운동, 고스트 댄스, 카고 컬트, 네티(alias) 등의 종교문화를 동시에 이해할 것이다.

This course intends not only to check primitive forms of religious culture in Asia, Africa, Oceania, America, and the South Pacific, but also to understand realities and properties of various religious and cultural movements that occurred when the native religious culture met the imported modern ones. So this course deals with theories of primitive religion like animism, manaisn, magic, shamanism, witchcraft, ancestor worship, totemism, sacrifice rite, etc. At the same time, it examines transformed religious cultures in the modern age like Millenarian Movements, Ghost Dance, Cargo Cult, Neo-shamanism, etc.
115.206 
Aesthetics of Music

本課程考察藝術史中對歌曲的美學問題。它探討音樂作為一個學科和藝術領域中演變的歷史，重視音樂理論的闡述和實踐。學生將探索音樂史的發展，以及音樂理論和實踐在不同時期的變革。"lecture hours" per week; and the final number means "laboratory hours" per week. 15 weeks make one semester.

This course will increase the understanding of music through intensive study of musical aesthetics, broadening the student's knowledge of music theory through a comparative approach.

115.215A 
Aesthetics of Plastic Arts

이 과목은 조형예술의 미학적 문제를 고찰함으로써 조형예술이 사회에 미치는 영향 또는 사회가 조형예술에 미치는 영향을 무엇인지 살펴볼으려 한다.

This course considers the historical background of the formation of plastic arts as a field of art and investigates its aesthetical problems.

115.301 
Aesthetics of Dance

무용은 인체의 움직임에 의해서 미적 형상을 창조하는 예술로서 다른 장르의 예술과는 구별되는 무용의 독자적 본질과 예술적 특성에 관심이 된다. 따라서 본 과목은 이와 같은 특성을 중심으로 무용의 음악적, 문학적, 조형적, 인격적 성질을 발전시키며, 역사적, 사회적 관점에서 살펴보고, 영상예술에서 제기되는 미학적 관심에 대한 원천적인 이해를 모색하고자 한다.

This course examines the theoretical background of dance, this lecture examines the musical, literary, plastic, philosophical and dramatic elements from a generic historical, social point of view. In addition, it will conduct an inquiry into the psychological and physical structure as well as the philosophical background of the emergence of psychology in a comparative view.

115.303 
Psychology of Art

본 과목은 예술현상을 이해하는 방법으로 심리학적 접근법이 도입된 Fechner 이후, 작품의 통제하에 된 역사적 철학적 배경을 설명하고, 아울러 조형예술의, 형태심리학 그리고 최근의 심리학적 체계론의 예술심리학적 성과를 고찰함으로써, 예술의 문제에 대한 심리학적 접근방법이 지난 학문의 한계를 고찰하고자 한다.

In this lecture, students will study the historical and philosophical background of the emergence of psychology in the art form of "Fechner". They will also investigate the significance and limitation of the psychological approach to art offered by Psychoanalysis, Gestalt Psychology, and current achievements in Art-Psychology.

115.309 
Sociology of Art

본 과목은 예술현상을 이해하는 방법으로 사회학적 접근방법이 도입된 이래, 예술사회학이 등장하게 된 역사적, 철학적 배경을 설명한 것이다. 아울러 본 과목은 예술현상이 문화의 한 영역으로 인간의 사회적 삶 속에서 차지하는 위상과 역할이 무엇이며, 랜다 아니라 예술이 사회에 미치는 영향 또는 사회가 예술현상에 미치는 영향이 무엇인지 살펴봄으로써 예술현상을 사회학 및 사회철학적 관점에서 이해할 수 있는 기회를 제공하고자 한다.

This course helps students examine the historical and philosophical background related to the emergence of Sociology of Art. It will also assist the students to further understand the art-phenomena from both Sociological and Social-Philosophical viewpoints.

115.313 
Aesthetics of Film

한국의 문화현상의 일반에 있어서 영상예술은 광범위한 영향력을 갖게 되었다. 영상예술은 예술의 한 형태로 간주되다가, 두 가지의 영상현상에 있어서 영상예술은 둘로 나뉘게 되었다. 영상예술은 각각의 영화 현상에 대해 이해하기 위함으로써, 이 과목은 한국의 문화현상의 영상예술과 발전과정에 대해 고찰해 보는 작업이다. 본 과목은 한국의 문화현상의 영상예술과 발전과정에 대해 고찰해 보는 작업이다.

In this course, students will gain a deeper understanding of Art History by examining various theories of Art History and their changes from various philosophical viewpoints.

115.402 
Aesthetics of Theatre

고대 희곡시대부터 연극은 인간의 중요한 예술 행위 중 하나였으며, 이에 본 과목은 현대 예술의 중요한 이론과 현대의 문화현상 일반에 있어서 영상예술은 광범위한 영향력을 갖게 되었다. 영상예술은 예술의 한 형태로 간주되다가, 두 가지의 영상현상에 있어서 영상예술은 둘로 나뉘게 되었다. 영상예술은 각각의 영화 현상에 대해 이해하기 위함으로써, 이에 본 과목은 한편 

In this course, the concepts of theatre aesthetics as well as its aesthetic thoughts and its relation to human nature will be surveyed. This will enable the students to gain a deeper understanding of the important, founding problems and methods in the aesthetics of theatre.

115.412 
Theory of Art Criticism

본 과목은 미술에 있어서 고대 이론과 이후의 여러 가지 비평적 논의들로서 특히 데마스 이후 화가의 미술의 성격에 대한 이해를 도모하고, 미술의 역할과 미술의 기술을 기술하는 학문이다. 그러나, 이 과목은 현대 예술의 영상예술을 통해 미학적 이해를 모색하고자 한다. 

In this course, students will further investigate into the principal aesthetic problem within film. They will also study the appearance and development of the film within the contemporary art.
This course offers a survey on the history of the art genre and various critical arguments beginning from the Ancients. Students will examine various definitions of aesthetics, the essence of art criticism, and its developments.

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**French Aesthetics**

The emergence of new media in art has changed not only the means of expression but also the nature of art itself. This lecture examines the close correlation between media and aesthetics, media and art. Specifically, we examine the way in which the new medium changes the way of production, characteristics, and acceptance of art works. This course aims to enhance understanding of media aesthetics and present basic knowledge and prospects to students who want to major in media aesthetics in the future.

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**Aesthetics of Photography**

Photography is a major means of expression in contemporary art and is a source of modern man's sense of aesthetics, desire, and even the perception of the world. This lecture aims to identify the relationship between photography and art by reviewing major discussions related to photography aesthetics. We approach photography from aesthetic point of view as well as philosophical and historical point of view to raise understanding of photography aesthetics and present basic knowledge and perspective to students who want to major in photography aesthetics in the future.
M1262.000700 고전미학특강 3-3-0

Topics in Classical Aesthetics

This course aims at establishing a foundational understanding of the classics in ancient Western aesthetics through textual analysis and interpretation. The main focus of the course will be on the aesthetics of Plato and Aristotle.

M1262.000800 사회미학특강 3-3-0

Topics in Social Aesthetics

This course aims to explore the main issues arising from the relationship between art and society with reference to different theoretical perspectives and various case studies. The class will consist of lectures and discussions on special topics including feminist criticism of traditional aesthetics, art and politics, the role of art in society, and the future of art.

M1262.000900 근대미학특강 3-3-0

Topics in Modern Aesthetics

This course deals with major works of modern Western aesthetics. In particular, we will examine the theory of taste in the changing media environment.

M1262.001000 음악론특강 3-3-0

Topics in the Theory of Music

This course is devoted to advanced studies on our understanding and practice of music. It deals with various issues such as the contemporary musical environment, popular music, current trends in music theory and music criticism, and the use of philosophical analysis and method in cultural study.

M1262.001100 분석미학 3-3-0

Analytic Aesthetics

This is an introductory course on Analytic Aesthetics, which was developed in the Anglo-American philosophical tradition in the 20th century. This course surveys histories of the analyses of some primary issues in aesthetics, including aesthetic experience, aesthetic properties, the definition of art and the ontology of art. Throughout the course, various positions of major analytic philosophers of art are introduced and the close connection between aesthetics and other disciplines in analytic philosophy such as analytic metaphysics, philosophy of language, philosophy of mind, epistemology and ethics will be emphasized.

M1262.001200 독일미학 3-3-0

German Aesthetics

This course aims to provide a historical overview of 20th Century German aesthetics. The survey will provide an opportunity to understand the fundamental concepts and methods that have developed since Nietzsche, covering Cassirer, Benjamin, Adorno, Marcuse, Heidegger and Gadamer. The student will gain a general understanding of the development of German aesthetics and be able to discuss it in relation to German philosophy.

M1262.001300 독일미학특강 3-3-0

Topics in German Aesthetics

This course aims to deepen the understanding of German aesthetics by focusing the special topics in 20th century's German aesthetics. Potential Topics include ugly and sublime, mimesis and simulation, the meaning and interpretation of art, the artistic truth, technology and medium, the aesthetics of everyday life in the contemporary German aesthetics. The class will consist of lectures on the major topics as well as readings on the related classical texts.
한문대학 (College of Humanities) ∴ 미학과 (Dept. of Aesthetics)

M1262.001400 동양미학특강 3-3-0

Topics in East Asian Aesthetics

본 과목에서는 근대 중국을 중심으로 한 동아시아의 미학을 중국사상사의 대표적인 저작들을 기반으로 고찰하는 것을 그 목적으로 한다. 그 구체적인 접근법은 유교 불교 도교 신유학을 중심으로 한 사상사적 면에서 각기 어떻게 전개되며, 도덕과 예술의 관계를 바라보았으며, 어떻게 시와 화회를 중심으로 하는 예술활동을 정장화 혹은 부정하였으며, 어떻게 이 시각들이 그 대표적인 사상 이라고 할 수 있는 유가 내에서의 이론적 분과와 연관되는지, 그리고 그들이 어떤 향상이나 불완전한 흔적, 불교, 도교와의 차별점은 어떻게 있었는지를 고찰한다. 그 과정에서 학생들은 《논어》(論語), 《맹자》(孟子), 《순자》(荀子), 《묵자》(墨子), 《장자》(莊子) 등의 동아시아의 고전을 기본 교재로 읽게 될 것이다.

The main objective of this course is to investigate pre-modern East Asian aesthetics through a reading of some classics in East Asian thought. Its basic approach is to focus on the following questions: how each of Confucianism, Buddhism, Daoism, and Neo-Confucianism viewed the relationships between truth, morality, and the arts; on what grounds each of these philosophical positions approved or disapproved of artistic activities; how such views were related to the divisions within Confucianism; and how they differentiated themselves from the so-called heterodoxies of Mohism, Buddhism, and Daoism. Throughout the course, students will be encouraged to read central East Asian classics such as the Analects, Mencius, Xunzi, Mozi, and Zhuangzi.

M1262.001500 영미미학특강 3-3-0

Topics in Anglo-American Aesthetics

이 과목에서는 영미미학의 주요한 저작들을 선별하여 집중적으로 다항적으로 하여 영미미학에 대한 이해를 심화시키는 것을 목적으로 한다. 강의와 더불어 관련 저작에 대한 강독이 진행될 것이다.

This is an advanced course which focuses on specific problems and/or important figures in modern and contemporary French Aesthetics. Potential topics include the development of one or more specifically “French” Aesthetics, the hierarchy of the arts and its philosophical underpinnings, existentialism, phenomenology, structuralism/poststructuralism, theories of affect, and the relation of art to politics. Major figures can include Diderot, Baudelaire, Sartre, Beauvoir, Merleau-Ponty, Lacan, Kristeva, Derrida, Lyotard, and Rancière.

M1262.001600 프랑스미학특강 3-3-0

Topics in French Aesthetics

이 과목은 근대/현대 프랑스 미학에서의 특정 문제들과 중요한 인물들을 다루는데 중점을 둔다. 해당 주제로는, 프랑스 미학 사상들 간의 관계, 예술의 조형 체계와 그 철학적 토대, 예술과 대중, 전세작가들이 생각하고 예술과 정치의 관계 등이 포함된다. 주요 인물들로는 디드리, 보들레르, 다르테, 사르트르, 보우아르, 파줄, 메르로-퐁티, 식수, 크리스테바, 데리에, 리오타르, 루시에르 등을 다루게 될 것이다.

This is an advanced course which focuses on specific problems and/or important figures in modern and contemporary French Aesthetics. Potential topics include the development of one or more specifically “French” Aesthetics, the hierarchy of the arts and its philosophical underpinnings, existentialism, phenomenology, structuralism/poststructuralism, theories of affect, and the relation of art to politics. Major figures can include Diderot, Baudelaire, Sartre, Beauvoir, Merleau-Ponty, Lacan, Kristeva, Derrida, Lyotard, and Rancière.

115.444 미학졸업논문지도 3-3-0

Guidance on Senior Thesis Writing

이 과목은 학부 졸업논문의 작성에 반이에게서 및 학과의 졸업예정자들이 논문과 관련한 중요한 주제를 확정하고 이에 관한 독창적인 사유를 전개하는 데 도움을 주기 위한 것이다. 이 과목에서는 강의와 달리, 학과의 모든 교수들이 자신의 전공분야에 관심을 갖고 있는 학생들을 직접히 지도한다.

This course is designed to help graduates to decide the topic of their graduation papers and to develop creative thoughts on the topics. Every faculty member of department will participate in tutoring the students.
This course introduces the archaeology of the Paleolithic, Neolithic, and Bronze Age periods of Korea. Students learn about the arrival of humans in Korea, adaptation to Pleistocene environments, the development of Neolithic hunter-gatherer lifeways and their spatio-temporal diversity, and the transition from hunter-gatherer to agricultural economies.

This course explores the archaeology of the Three Kingdoms Period. Beginning with a discussion of archaeological approaches to the historical period and methods for combining historical documents and material data, this course explores the formation and expansion of Goguryeo, Baekje and Silla states, growth and collapse of Gaya and Mahan, and political and economic aspects of the period. Interactions among the three states and with China and Japan are also discussed.

This course examines the history of archaeology as a modern discipline. Topics such as the cultural-historical approach, paradigmatic challenges by processual or "new" archaeologists as well as post-processualists will be discussed. By learning both the factual information and diverse perspectives in interpreting the history of the discipline, students will be encouraged to develop a critical perspective.

This course aims at examining various approaches of interpreting human remains as a major source of archaeological information. Lectures and laboratory works will cover physical anthropological methodology as well as modern methods and techniques, such as stable isotope and ancient DNA analysis which are important tools to understand subsistence economy, mortuary practice, and/or social structure of the past.

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This course is designed to make aspiring archaeology majors familiar with basic field methods and techniques, and divided into two parts: archaeological methodology and field practice. Students are expected to master basic field methods and techniques by participating in a field project from the beginning to the end. In particular, archaeological site formation process, stratigraphy, recording, and sampling of data, from modeling to examination and interpretation, will be familiar with. In addition to lectures about basic principles and characteristics of cultural heritage and case examples as well as technical issues regarding these concepts and how the development of archaeological approaches advanced by processual and post-processual archaeologists. Class will meet to discuss social resource. The class will meet to discuss stratigraphic issue. The class will meet to discuss stratigraphic issue.

116.222A Environmental Archaeology

Environmental Archaeology

This course is prepared for students to develop a skill for writing academic paper. Students are expected to choose a specific topic for his/her own thesis, make presentations in the class, and submit the final write-up.

116.414B Seminar in Archaeology

This course aims at introducing methodological and/or theoretical topics of current archaeological research with special emphasis on approaches advanced by processual and post-processual archaeologists. Class will meet to discuss characteristics and problems of the selected topics by examining their conceptual basis and case examples.

M1264.000700 Data Analysis in Archaeology

This course provides students with an opportunity to understand various concepts and techniques of archaeological analyses. Emphasis will be on typology, formal variability, style, and chronology. First, this course reviews theoretical issues regarding these concepts and how the development of analytic techniques has been associated with change in archaeologists’ understandings of the concepts. Second, students will practice application of techniques to archaeological data.

116.422A Prehistory of East Asia

Prehistory of East Asia

This course is designed to discuss topics relevant to understanding the relationship between human culture and its surrounding environment. Discussions will be made with theoretical and methodological issues and case examples drawn out from various sub-fields of archaeology, including geo-archaeology, faunal analysis and palaeoethnobotany.

116.316 Contemporary Archaeology

Contemporary Archaeology

This course is designed to discuss topics relevant to understanding the relationship between human culture and its surrounding environment. Discussions will be made with theoretical and methodological issues and case examples drawn out from various sub-fields of archaeology, including geo-archaeology, faunal analysis and palaeoethnobotany.

116.316A Modern Archaeology

Modern Archaeology

This course is designed to discuss topics relevant to understanding the relationship between human culture and its surrounding environment. Discussions will be made with theoretical and methodological issues and case examples drawn out from various sub-fields of archaeology, including geo-archaeology, faunal analysis and palaeoethnobotany.
As an introduction to archaeology of areas neighboring Korea, the class will discuss research conclusions from Siberia, Mongolia, China, Russian Maritime Region and Japan. Overall process of culture change and its characteristics in each of the areas will be reviewed with special reference to Korean evidence.

116.430A 고고학방법론 3-3-0
Archaeological Methodology

This course discusses a broad range of topics in archaeological methodology ranging from basic methods such as chronology, typology and stylistic analysis to advanced, applied methods of contemporary archaeology. Emphasis will be on not only introduction to principles of various methods but also critical reviews of their archaeological and historical implications. The students will also practice applications of selected methods to archaeological data.

M1264.000100 생계경제고고학 3-3-0
Subsistence Economy in Archaeology

This course attempts to review various archaeological theories and methodologies related to subsistence economy with a full consideration of archaeological examples in pre-historic and ancient societies of the world. In particular, participants will read articles about the transition process from hunting and gathering economy to food production economy, which is one of the important areas in the development of human society. This will provide an opportunity for a systematic understanding of change and development of the past society.

M1264.000200 고고학과 사회복합화 3-3-0
Archaeology and Social Complexity

This course introduces the key concepts that are indispensable for a systematic understanding of the formation and development of various polities, and examines the related archaeological research in detail. In particular, it is aimed to discuss various archaeological and anthropological concepts related to the emergence and development of power, social hierarchy and the formation of early states, and to critically look into the material culture of Korea and other regions concerned. Based upon this, it seeks a possibility to find a new and better alternative.

M1264.001000 세계의 선사문화 3-3-0
Introduction to World Prehistory

This course examines the most recent archaeological achievements drawn from various regions around the world. The main topics addressed in this course range from the Palaeolithic to the period of state formation, covering Africa, Europe, the USA and Central and South America. Specific periods and regions covered in the course are carefully considered and properly chosen. This course provides more specific and deepened intrinsic knowledge sets on pre- and ancient civilizations and also an opportunity for students to extend their areas of interest.
M1265.000100 일본의 미술 3-3-0

Japanese Art

This course surveys the history of Japanese Art from the prehistoric period to the present day. It addresses major works of painting, sculpture, architecture, ceramics, and prints with an emphasis on art historical and socio-political contexts of each period. The primary focus will be on the relationship between artistic production and cultural development in pre-modern Japan.

M1265.000600 르네상스 미술 3-3-0

Renaissance Art

This course offers an overview of the visual culture of the Renaissance in Europe by analyzing major works of painting, sculpture, and architecture.

M116.215A 중국의 미술 3-3-0

Chinese Art

This course is an introduction to the arts of China from the prehistoric period to the present day. It addresses major works of painting, sculpture, architecture, ceramics, and prints with an emphasis on art historical and socio-political contexts of each period. The primary focus will be on the relationship between artistic production and cultural development in pre-modern Japan.

M116.317 박물관학입문 3-3-0

Introduction to Museology

This course is designed for students to enhance their practical knowledge of museology as a field of study.

M116.323 한국의 도자 3-3-0

Ceramic Art of Korea

This course will examine the development of visual arts in the Indian subcontinent. It will treat diverse subjects such as: the Indus civilization and the origin of Indian art, the worship of stupas, the creation of Buddha images, the flourishing of Buddhist imagery, the rise of Hindu temple architecture, the miniature painting and architecture of Islamic period, and the reception of the European style. It will explore various cultural aspects of visual arts as well as their stylistic changes and iconographic meanings.

M116.324 미술 사찰소 3-3-0

Training in Art Handling and Management

This course is designed for students to enhance their practical knowledge and work experience in handling of works of art.

M116.217B 인도의 미술 3-3-0

Indian Art

This course will examine the development of visual arts in the Indian subcontinent. It will treat diverse subjects such as: the Indus civilization and the origin of Indian art, the worship of stupas, the creation of Buddha images, the flourishing of Buddhist imagery, the rise of Hindu temple architecture, the miniature painting and architecture of Islamic period, and the reception of the European style. It will explore various cultural aspects of visual arts as well as their stylistic changes and iconographic meanings.

M116.218 서양고대 및 중세미술 3-3-0

Western Art : Ancient and Medieval

This course is designed for students to enhance their practical knowledge and work experience in handling of works of art.

This course is designed for students to enhance their practical knowledge and work experience in handling of works of art.
116.405A  한국의 회화 3-3-0

Korean Painting

This course provides a survey of the painting from the ancient times to the end of the Joseon dynasty with critical attention to the major periods, schools, and individual masters as well as the problems of style, theme, iconography, and socio-cultural context and meaning. Emphasis will be given not only on the historical significance of key monuments but also on the ways in which Korean painting laid the foundation for the cultural richness of East Asian painting.

116.406A  중국의 회화 3-3-0

Chinese Painting

This course is designed to instruct students how to conduct individual research and how to write a senior thesis. This seminar explores the foundation of art history as a humanistic discipline from its origins in the late nineteenth century. Drawing upon a wide range of methodological issues such as formalism, stylistic analysis, iconography, socio-cultural approach, and post-structuralism in the formation of art history, this seminar deals with the historiography of the discipline.

116.420A  미술사연습 3-3-0

Undergraduate Seminar in Art History

This seminar aims to enhance students’ research abilities and presentation skills. Through this course, students will get a sense of academic writing on work of art.

116.424A  한국의 불교미술 3-3-0

Buddhist Art in Korea

This course explores Buddhist art tradition of Korea from the Three Kingdoms to the Joseon dynasty. Various images in sculpture and painting used or displayed in Buddhist monasteries will be examined in style, theme, function, and socio-political significance.

116.425A  불교미술: 개념과 지역적 전개 3-3-0

Buddhist Art: Concept and Regional Development

This course explores the foundations of Buddhist art and its regional developments. Lectures are divided into three parts: (1) major themes of Buddhist art, (2) Buddhist art of India and Southeast Asia, and (3) Central Asia, China, and Japan. Special emphasis will be placed on examining visual and thematic patterns, relationship to textual traditions, religious functions and ecclesiastic significance, and socio-political meanings.

116.427A  미술사연구이론 3-3-0

Theories and Methods of Art History

This seminar aims to introduce Chinese painting from the prehistoric period to the present. It will examine the historical development of Chinese painting as well as explore its thematic richness, political implications, social functions, cultural politics, and symbolic dimensions. Each lecture will explore how Chinese painting has formulated its own characteristics over the course of time.
M1265.000200 서양의 19세기 미술 3-3-0

Nineteenth Century European Art

이 수업은 현대 미술 상황과 바로 연결되어 있는 서양의 19세기 미술을 살펴본다. 이 시대는 진정한 의미에서 근대의 태동기라 할 수 있으며, 미술에서도 이와 관련된 다양한 변화가 일어났다. 미술사에 있어 근대성과 그 형성 문제에 초점이 맞추어질 것이다. (1) 프랑스혁명의 정치적, 문화적 의미와 신고전주의의 대두, (2) 산업혁명과 근대 사회의 탄생, 인상파 및 후기인상파의 등장 등이 세부적으로 다루어질 중요한 과제이다.

This course looks critically into the ways in which nineteenth century European art played a significant role in the formation of such issues as modernity and modernism. The first lectures will explore the political and cultural significance of the French Revolution and the cultural politics of the Neo-Classicism. The following lectures will examine how the Industrial Revolution and the birth of modern society laid the foundation for the vision of the Impressionism and Post-Impressionism.

116.435 현대미술과 시각문화 3-3-0

Contemporary Art and Visual Culture

20세기 유럽과 미국에 일어난 시각예술의 다양한 전개를 살펴본다. 시각적, 역사적, 사회적 변화와 현대 미술의 연혁은 사회 변화와 밀접한 관련이 있으며, 근대미술의 성과를 바탕으로 것은 현대미술의 중요한 실체와 예술하위를 이해하는 데 초점이 맞추어질 것이다. 미술사의 이러한 변화를 이해하고 현대미술의 성과를 바탕으로 하는 미술사와 시각예술의 역할을 이해하는 데 목적이 있다.

This course is a survey of visual art in Europe and America in the twentieth century. It will explore the relationship between visual modernity and art within the context of the intellectual and cultural transformation and social change in the formation of modern society and culture both in Europe and America. Such issues as avant-gardism, modernism, and modernity will be explored in lectures.

M1265.000400 유럽의 17-18세기 미술 3-3-0

European Art: Seventeenth and Eighteenth Century

이 강의는 17, 18세기 유럽 미술의 초점을 다룬다. 르네상스 미술 전통을 바탕에 드는 시기의 시각예술은 사회 변화와 밀접한 관계 속에서 전개되었다. 전통적 개혁, 절대왕정, 도시화, 부르주아 계급의 성장, 제도주의의 등으로 특징을 수 있는 이 시기의 미술과 사회의 정체적 특징이 나타나는 양상을 개별 작품 분석을 통해 살펴보면서 근대, 서양의 시각 미술에 대해 종합적 이해를 높이는 것이 이 강의의 목표이다.

This course offers an overview of European art in the seventeenth and eighteenth centuries. Based on the Renaissance tradition, visual arts of this period developed in close relation to the changes in society. This lecture aims to enhance the understanding of early modern European visual culture by analyzing individual artworks and interactions between art and society in the periods marked by the Catholic Reform, absolute monarchy, urbanization, the rise of the bourgeoisie, and the Enlightenment.

M1263.000100 일본의 회화 3-3-0

Japanese Painting

이 과목은 선사시대부터 현대까지 일본 회화의 역사적 전개를 다룬다. 시대별, 사회, 문화적 변화와 미술의 역학적, 문화적 의미를 이해하려고 한다. 일본 회화의 역학적 의미와 그가 전통을 통해 동아시아 회화화에서 일본 회화화의 위치를 이해하는 데 이 수업의 목적이 있다.

This course provides a survey of Japanese painting from the prehistoric times to the present with critical attention to the major periods, schools, and individual painters, as well as the problems of style, theme, iconography, and socio-cultural contexts. Emphasis will be given not only to the historical significance of individual works but also to the way in which Japanese painting has enriched the tradition of East Asian art.

100.159 한국의 미술문화 3-3-0

Korean Art and Culture

선사시대부터 조선시대까지의 우리나라 미술을 다룬다. 미술의 역학, 특성, 변천을 고분미술과 불교미술로 다양하게 살펴본다. 또한 미술의 제양상을 근본, 조각, 화가, 건축 등의 대표적인 작품들 을 통하여 객관적으로 우리나라 미술에 대한 강한 이해를 도모한다.

While studying Korean Art from the prehistoric period to the Choson dynasty, we will focus primarily on the origins, characteristics, and changes of Ancient and Buddhist art. Combined with an overall investigation of major works in painting, sculpture, architecture, and craft, this course will enhance students’ understanding of Korean art.
Indian Myth and Art

Indian mythology not only visualizes deep religious concepts but also has a lasting impact on the Indian people, as strong and persistent as its art and architecture. This course discusses how Hindu religious concepts were demonstrated not only as visual and textual expressions of faith but also in language and culture. It explores how Hindu religious concepts have permeated art and architecture in various forms and how they have influenced the development of different art styles.

M2751.000300 Understanding South Asian Literature

This provides an introduction to the history of literatures and literary cultures in Southeast Asia. It examines the transition from oral and manuscript-based traditions to print and other new technologies of literary production. It also explores the interactions between different literary cultures within the region, and with other parts of the world.

1003.211 인도의 신화와 예술 3-3-0

Understanding Indian Literature

Indian literature is rich and diverse, and the course will explore the various literary traditions of India, including Sanskrit, Hindi, and other regional languages. It will introduce students to some of the major literary works of India, such as those of the great Sanskrit poets, the epics like the Mahabharata and Ramayana, and modern Hindi literature. The course will also discuss the influence of Indian literature on other cultures.

1003.212 인도사1 3-3-0

History of India 1

This course examines how the civilization of the Indian subcontinent transformed itself and its distinctive features through its encounters with the Islamic world and the West from the 12th century onwards. It focuses on the specific period in ancient Indian civilization, beginning from the Aryan influx to the extinction of Buddhism caused by the Islamic invasion of India in the 10th century. Especially, as the Gupta Dynasty was the golden age of ancient Indian civilization, this course explores both of the origin and formation of Indian civilization and identity by taking a closer look at Indian philosophy, literature, poetry, architecture, and sculpture.

1003.213 인도사2 3-3-0

History of India 2

This course examines how the civilization of the Indian subcontinent transformed itself and its distinctive features through its encounters with the Islamic world and the West from the 12th century onwards. It focuses on the specific period in ancient Indian civilization, beginning from the Aryan influx to the extinction of Buddhism caused by the Islamic invasion of India in the 10th century. Especially, as the Gupta Dynasty was the golden age of ancient Indian civilization, this course explores both of the origin and formation of Indian civilization and identity by taking a closer look at Indian philosophy, literature, poetry, architecture, and sculpture.
This course will provide students with a diachronic overview of the history of Asian civilizations. Students will have the chance to regard Asian history in a broad perspective, with the central focus on China, India and western Asia but also dealing with Southeast Asia, Japan and Central Asia.

This course deals with modern Indian literature from the 19th century to contemporary India in the 20th century. Even though Indian literature of the 19th century is characterized by the decline of Sanskrit poetry and the immaturity of Hindi literature, novels in the 20th century developed dramatically, highly influenced by the English style. At the same time, literature in Bengal after the modern period advanced so rapidly that a number of excellent epics and novels were produced. In this course, students read and translate the poems and novels of Tagore, a major writer from Bengal.

This class will provide students with a diachronic overview of the history of Asian civilizations. Students will have the chance to regard Asian history in a broad perspective, with the central focus on China, India and western Asia but also dealing with Southeast Asia, Japan and Central Asia.

This course is designed for those students who have not learned Persian before, in order for them to understand the genealogy and history of the Persian language properly and learn the basics of Persian grammar so that they will be able to understand and produce simple sentences. Besides grammar it also deals with speaking, listening, reading, and writing as well.

This course reviews in depth the history of Islamic civilization from the 7th century to the 13th and focuses the early development of religious thoughts, political movements, and state institutions. Given that today’s Islamdom still places great importance on religion and has salient nostalgia for Islamic political principles, it is useful to understand the unfolding of historical development of Islamic civilization and different early religious communities’ mentality and thoughts that originated from that process. Unique concepts to Islamic civilization such as the “caliph,” “ulama,” “sultan,” and “sharia” and the historical background against which they formed will be carefully studied.
This course impinges on the grammar knowledge acquired in Intensive Persian 1 and starts from there to teach more advanced level of grammar which will enable the student to read, understand, and correctly produce complex sentences in Persian.

1003.255  집중 타이어 1 3-3-0

This course focuses on selected topics in the study of Southeast Asian literatures. A topic based on language, country, genre or theme. It provides a more in-depth study of Southeast Asian literature, with the possibility of a comparative approach.

This course is designed for those students who have not learned Thai before, in order for them to understand the genealogy and history of the Thai language properly and learn the basics of Thai grammar so that they will be able to understand and produce simple sentences. It is designed for fast and systematic acquisition of the language in a short amount of time.

1003.271  집중일본어 1 3-3-1

This course is designed for those students who have not learned Japanese before, in order for them to understand the genealogy and history of the Japanese language properly and learn the basics of Japanese grammar so that they will be able to understand and produce simple sentences. It is designed for fast and systematic acquisition of the language in a short amount of time.

1003.272  집중일본어 2 3-3-1

This course is designed for those students who have not learned Japanese before, in order for them to understand the genealogy and history of the Japanese language properly and learn the basics of Japanese grammar so that they will be able to understand and produce simple sentences. It is designed for fast and systematic acquisition of the language in a short amount of time.
In this class, the students will read and accurately interpret modern Japanese texts. Through readings in poetry, prose, historical documents and literature, the students will be able to improve their reading skills. Also, interpreting primary sources will help them understand the characteristics of the Japanese culture.

1003.276 일본문헌강독 2 3-3-0
Reading Japanese of Japanese Texts 2

In this class, the students will read and accurately interpret modern newspaper articles, journals, and literature in Japanese. With special attention to the change of writing style in modern age, the students will learn to interpret different writing styles in Japanese.

1003.301 일본고전문학 3-3-0
Classical Japanese Literature

In classical Japanese literature, the students will read works from the pre-modern period. Students will be able to practice Japanese at a more advanced level.

1003.311 인도고전문학 3-3-0
Classical Indian Literature

This course explores Indian literature in the classical period. The classical period covers up to the 10th century, and genres such as the epic, lyric, and drama were developed in this period. Representative works are the two epics, Mahābhārata and Rāmāyana, Purana, Buddhacarita by Ashvaghosa, and Kālidāsa's dramas. The course aims to read and interpret pre-modern literature in Japanese, in order to gain a broad understanding of traditional Japanese society.
Indian thought and religious perception from the Vedic to the modern period. It also discusses the religious rituals of Veda, philosophy of the Upanishad, Buddhism, Jainism, and the six schools of Hinduism. Moreover, the impact of the Vishnu and Shiva beliefs to later religious concepts and Tantra will be discussed. Finally, in the light of “tolerationism”, the relationship between the challenge of Islam’s monotheism and the Hindu religious response will be discussed in detail.

1003.313

南亞語言 3-3-0

South Asian Languages

Indo-European languages, each one comes from different roots and have been used in India. Even though over one hundred million Indians use Prakrit languages in India that have come into being after the 12th century such as Hindi and Marathi. Other scripts of Hindi, Marathi, Bengali, and Tamil.

Besides Sanskrit, the language of the literati, there are a number of Prakrit languages in India that have come into being after the 12th century such as Hindi and Marathi. It can pick up his/her studies in other academic centers with the knowledge of these languages is required. This course deals with the linguistic characteristics, pronunciation, and the uses of Hindi, Marathi, Bengali, and Tamil.

1003.314

印中近現代文化與藝術 3-3-0

Art and Culture in Modern and Contemporary India

이 강의는 근대 이후 남아시아(인도, 파키스탄, 방글라데시 및 주변국을 포함하는 지역의 건축과 조각, 회화, 사진, 영화, 대중문 화 등)를 살펴본다. 19세기 말부터 시작하여, 20세기 초에 이르러 다양한 언어적 특성, 발음, 문자로서 등에 배출되며 인도학 도어에 필요한 인도어에 대한 기본적인 지식을 습득하도록 한다.

This course examines the architecture and sculpture, painting, photography, film and popular culture in South Asia (including India, Pakistan, Bangladesh and surrounding countries). From the Buddhist sculptures of Gandhara and Mathura, South Asia possesses various traditions of art; we aim to understand the ways in which such traditions have been transformed under British colonial rule to the present. We will focus on the rise of new concepts, stylistic development and patronage in South Asian modern and contemporary art, as well as the rise of Indian film (including art films and Bollywood films). This course not only explores diversity in Indian art but also theoretically analyzes the relationships between them.

1003.315

印地文讀書 3-3-0

Readings in Hindi

This course introduces students who have successfully passed the first elementary Hindi courses to a higher level of Hindi grammar and vocabulary, and has the aim of applying elementary knowledge of Hindi to more difficult and complex sentences of verses and prose. Also, the course provides students with the opportunities to experience the high form of Hindi literature. The course level is designed to match that of foreign universities, so that students who attain it can pick up his/her studies in other academic centers without much difficulty in the Hindi language. This course is strongly encouraged for those who are planning to major in Modern Indian studies.

1003.321

亞洲文獻研究 3-3-0

History of the Interaction of Civilizations in Asia

This course provides a basic knowledge of the dynamic interaction between various cultural units in Asia. Students are expected to develop a historical and comparative viewpoint for Asian Studies through a variety of approaches and perspectives.

M2752.001200

伊斯蘭世界藝術的演進 3-3-0

Understanding Arts of the Islamic World

이 과목은 이슬람이 일어난 때부터 현재에 이르기까지 이슬람 예술 histórica는 과거의 것을 주로 할당했던 이슬람 예술이 주도적인 역할을 하였던 사회에서 무슬림과 비-무슬림들이 제각각 모든 시각문화를 이루고 있는 용어로 사용된다. 한 학기 동안 스페인에서 시리아, 인 도, 동남아시아에서 중립적이다 이슬람의 전통에 따라 전통적이고 영향력 있는 작품들을 집중적으로 살펴보며 각 사회의 정치·경제·문화·종교적 배경에서 이슬람의 역할을 갖게 하고자 한다. 이 과목은 이슬람 세계의 실질적 미학적 역할을 하는 면에서 이슬람학 분야를 지배하고, 동남아시아 및 동남아시아의 다양한 문화를 이해하고자 한다.

This course examines Islamic arts and architecture from the rise of Islam to the present. “Islamic Arts”, however, not only includes arts produced for the religion of Islam, but also arts produced by Muslims as well as non-Muslims of so-
The course is designed for those who have intermediate level of knowledge in Arabic. They can practice reading diverse texts provided by this course and develop their ability to properly read Arabic materials. Materials are selected with a concentration on journalism, academics, and literary works in modern Arabic that are useful for understanding humanities and Arab society, with some classical texts that introduce the essence of early and medieval Arab culture.

This course examines the Southeast Asia in the context of world history and the changing world-systems of global interactions. It explores the roles of exchange and cross-cultural encounters in the shaping of regional civilization complexes, and vice versa, from the early history of the region to the present. It approaches these exchanges from different dimensions, and seeks to provide more holistic ways of understanding Southeast Asian history from a global perspective, as well as Southeast Asia’s contribution to world history. It explores the long-term history of the region’s responses to the challenges and opportunities provided by modernity and globalization.

This course examines the Southeast Asia in the context of world history and the changing world-systems of global interactions. It explores the roles of exchange and cross-cultural encounters in the shaping of regional civilization complexes, and vice versa, from the early history of the region to the present. It approaches these exchanges from different dimensions, and seeks to provide more holistic ways of understanding Southeast Asian history from a global perspective, as well as Southeast Asia’s contribution to world history. It explores the long-term history of the region’s responses to the challenges and opportunities provided by modernity and globalization.
Readings in Malay-Indonesian 1

This course is designed for those who have finished Elementary level Malay-Indonesian. Students are expected to develop their grammar and vocabulary skills so as to understand and produce short passages and conversation in which simple and complex sentences are used. At the end of this course they are expected to maintain basic conversation with a native speaker and to read and comprehend simple literary works, official documents, and scholarly writings.

Readings in Malay-Indonesian 2

This course is a continuation of Readings in Malay-Indonesian1. Those who have become able to conduct conversation, reading and writing on an everyday level through the previous course may maximize their already acquired knowledge through repeated drills to master intermediate command of the language. This course provides adequate vocabulary, grammar, and diverse patterns of sentences in various texts so that the students will be able to use them for the understanding of cultures of the region.

Thoughts and Civilization in Southeast Asia

The goal of this course is to understand political ideas that constituted major politics and major debates in traditional and nationalist Southeast Asia. At the crossroads of civilizations, the ideas on the state and politics in Southeast Asia had developed with influences from India, China, and the Islamic world. In the modern era, political thoughts from the Western world arrived to give impetus to the progress of diverse ideas. In this course, students will read texts such as speeches and writings of early nationalist thinkers and politicians who contributed to the formation and development of modern states, as well as programs of political parties and charters of intergovernmental bodies, in order to comprehend relevant debates within the course of Southeast Asian politics.

Society and Culture of Mainland Southeast Asia

Mainland Southeast Asia consists of Cambodia, Laos, Myanmar, Thailand, and Vietnam. In this course, the states of development in these countries will be examined on state and local levels. In light of them, students will understand major cleavages, issues, and social problems to be tackled in contemporary Mainland Southeast Asian societies, as well as active responses to them by mainland Southeast Asian people. This course includes case studies on gender, labor, consumption culture, cultural heritage, and racial-ethnic conflicts.

Society and Culture of Maritime Southeast Asia

Maritime (or Insular) Southeast Asia consists of Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Timor Leste. In this course, the states of development in these countries will be examined on state and local levels. In light of them, students will understand major cleavages, issues, and social problems to be tackled in contemporary Maritime Southeast Asian societies, as well as active responses to them by maritime Southeast Asian people. This course also includes cases studies on gender, labor, consumption culture, cultural heritage, and racial-ethnic conflicts.
This course will survey Japanese novel, poetry, review etc. which was published between Meiji period and 1945. Students will deepen their knowledge of modern literature of Japan, and their cognizance about the period and society of that time, based on understanding of each literature. The class will be conducted by seminar. Students are expected to develop their reasoning skill and expressiveness by participating in presentation and discussion. At the same time, to train their reasoning skill and expressiveness by participating in discussion. At the same time, to train

Japanese civilization has been formed by continuous interaction among Asian religions, i.e. Confucianism, Buddhism, and Taoism, and indigenous religion, i.e. Shinto. Japanese philosophy has developed thus as well, with unique characteristics differentiating it from China and Korea. After modern times, Japan developed other unique characteristics while also maintaining its own unique characteristics.

In this course we will read the original Japanese novel which was published between Meiji period and 1945. By reading these novels which reflect modern Japanese life and thought, students will cultivate their understanding and awareness of modern Japan society. Students are expected to gain improved text analysis skill, as well as reading comprehension of today's Japan literature.

Readings in Sanskrit 1

본 강좌는 1년 과정의 초급 산스크리트어 문법을 성공적으로 이수한 학생들이 중급 산스크리트 2를 통해 얻은 인도의 고전문헌의 이해를 보다 심화시키기 위한 강좌로, 과정이 재도를 바탕으로 한다. 산스크리트어강독 1에서 다룬 산스크리트어의 나이 도구를 약간 높여 높은 문학적 표현이나 학문적 산스크리트 문헌의 이해에 필요한 표현 등을 익히는 것을 목표로 한다. 이 과정에서는 인도문화의 핵심을 이루는 이들 문헌의 장르를 통해 인도 고전문헌의 장르를 이해하고, 다양한 문헌장르의 장르를 통해 인도 고전문헌의 다양성을 체득하고자 하는 기획이다. 중급과정의 수준은 유럽과 미국의 대학에서 진행되는 수준에 맞추고 있으며, 또 이 과정을 이수한 학생이 유럽이나 미국의 대학으로 유학할 경우 그곳의 대학원 학생들과 비슷한 수준을 가진 채 과정을 출발할 수 있도록 설계되었다. 고전인도학을 전공하는 학생들에게 권장과목이다.

In addition to the Readings in Sanskrit 1, this course teaches some highly literary styles of Sanskrit and basic academic Sanskrit forms which are indispensable for reading Sanskrit texts. The course level is designed to match that of foreign universities, so that students who attain it can pick up his/her studies in other academic centers without much difficulty in the Sanskrit language. This course is strongly encouraged for those who are planning to major in Classical Sanskrit literature.

Reading in Sanskrit 1

본 강좌는 1년 과정의 초급 산스크리트어 문법을 성공적으로 이수한 학생들이 중급 산스크리트 2를 통해 얻은 인도의 고전문헌의 이해를 보다 심화시키기 위한 강좌로, 과정이 재도를 바탕으로 한다. 산스크리트어강독 1에서 다룬 산스크리트어의 나이 도구를 약간 높여 높은 문학적 표현이나 학문적 산스크리트 문헌의 이해에 필요한 표현 등을 익히는 것을 목표로 한다. 이 과정에서는 인도문화의 핵심을 이루는 이들 문헌의 장르를 통해 인도 고전문헌의 장르를 이해하고, 다양한 문헌장르의 장르를 통해 인도 고전문헌의 다양성을 체득하고자 하는 기획이다. 중급과정의 수준은 유럽과 미국의 대학에서 진행되는 수준에 맞추고 있으며, 또 이 과정을 이수한 학생이 유럽이나 미국의 대학으로 유학할 경우 그곳의 대학원 학생들과 비슷한 수준을 가진 채 과정을 출발할 수 있도록 설계되었다. 고전인도학을 전공하는 학생들에게 권장과목이다.

Contemporary Japanese Novel

1945년 이후에 발표된 일본의 소설을 원문으로 읽는다. 일본인의 삶과 생각이 흐름처럼 소설을 통해 현대일본문학에 대한 이해와 식견을 얻고자 한다. 아름다운 소설의 잎기를 통해 텍스트 분석능력을 체득한다. 부수적인 효과로서 현대일본어 문장에 대한 독해력 향상도 기대한다.

This course will read the original Japanese novel published after 1945. By reading these novels which reflect contemporary philosophy, students will deepen their knowledge of modern literature of Japan, and their cognizance about the period and society of that time. Based on understanding of each literature, the class will be conducted by seminar. Students are expected to develop their reasoning skill and expressiveness by participating in presentation and discussion. At the same time, to train their reasoning skill and expressiveness by participating in discussion. At the same time, to train

Topics in Indian Civilization

본 강좌에서는 인도학을 전공하는 학생들에게 인도문화 전반에 걸쳐 사회적 문화적 기초구조와 그 변화에 대해 심도있게 소개하고 논의하고자 한다. 논의하는 점은 관련성이 있고 이론적 요소들과 그것들의 사회적 문화적 구조와의 관계이다. 인도문화의 근본구조로서의 카스트 제도와 자티제도 및 마누법전에 의거한 전통문화의 관습의 적용기를 이해하는 것은 물론 이들 사회제도의 이념적 근거로서의 인지적 구조를 명확히 인식하고자 하는 것이
In this class, students who major in Indian studies will carry out an in-depth discussion of India’s socio-cultural structure. The main topic is conceptual and ideological factors and their relationship with their social, cultural realizations. This course aims at an understanding of Caste and Jati as fundamental structures of Indian culture, and also the traditional customs based on Code of Manu. The course will help to build a comprehensive relationship between cognitive structures and the ideological base of the Indian social system.

This course bases itself on the grammar knowledge the students would have learned from the elementary level and teaches its application using various texts and listening materials. Learning through texts that include diverse issues relevant to Iranian society and culture not only helps language skills but elevates the understanding of the Iranian state as well. In addition major literary works produced in the Golden Age of Persian literature will be used to teach classical Persian.
This course is designed for students who have taken Turkish 1, 2 or have the language skill equivalent to that. The instructor and students will read official writings in school textbooks, newspaper articles, and advertisements, and other texts from short stories, journal articles, academic articles and classical literature will be added. Its aim is to learn relevant vocabulary, grammar and expressions to build ability to analyze Turkish sentences and comprehend texts.

This course shall examine one or more select themes pertaining to Southeast Asian civilizations and language, and provide an in-depth introduction and discussion of issues pertaining to these selected themes.

This course examines the formation and development of Japanese society. The course studies historical sources and academic literatures, which have been published after the Meiji period, into Korean. The purpose of these trains is developing the professional accomplishments which is required to whom majoring in Japan. Students will understand the exact meaning of the original Japanese, and discuss the way how to express it in fluent Korean. Learning advanced linguistic skills and flexible thinking are expected.

This class explores contemporary Japanese art and culture by examining fine arts, architecture, design, films, animation, comics (Manga), etc. Students will analyze how contemporary Japanese culture has developed with the necessary periodical background and discussion on aesthetic features. Furthermore, students will study the impact of Japanese contemporary art and culture on Asian civilization.
This course explores ‘discourses on Japan’, which discussed Japan, Japanese people and culture. It will provide an opportunity for students to deepen their understanding of Japanese behavior and mentality. In the class we will read not only texts published in Japanese, but also ones published in Korean and English. This course consists of instructor's lectures and students’ presentations.

M2753.000200 전후 일본사회와 영화 3-3-0

Postwar Japanese Society and Cinema

이 강의에서는 1950년대의 대표적인 일본영화를 다룬다. 일본영화의 형식적 특성과 미적 규범에 대해 살펴보고, 아울러 영화 테스터의 사회적 실천에 대해 주목한다. 특히 전후 일본영화가 일본과 관련된 경제성과 제구조에 어떻게 관여했는지에 고찰한다. 이조구치 토요지, 구로하시 아키라, 오츠 아스카 등 가정들의 작품 중에 역사인식, 전통과 현대, 가족, 성 역할, 동양과 서양 등의 주제에 관련된 작품을 선정하여 진행한다. 강사는 영화감상 및 관련 문헌을 토론하고 주제발표, 토론, 테드로 배출의 의무를 지난다.

This course examines Japanese cinema in the 1950s, focusing on its social practice as well as its formal characteristics and aesthetic standards. In particular, it explores the ways in which postwar Japanese films engaged in the reconstruction of national identity of Japan. Among the films by Genji Mizoguchi, Akira Kurosawa and Yasujiro Ozu, we will discuss selected works that deal with issues related to memories of the war, tradition and modernity, family, gender roles, and the East and the West. Students are expected to watch the films, complete all assigned readings, participate in class discussion, and hand in all writing assignments on time.

M2753.000400 전후 일본 문화와 예술 3-3-0

Art and Culture of Postwar Japan

본 교과목은 미술, 건축, 디자인, 영화, 애니메이션, 만화 등 현대 일본의 문화와 예술을 대표하는 장르를 중심으로 일본의 현대 문화와 예술에 대한 비판적 이해를 도모한다. 일본의 현대문화는 어떠한 사대적 배경과 미적 특성을 가지고 발전해왔는지를 연구 분석하고, 더 나아가 일본어 문명 속에서 갖고 있는 일본 현대 예술과 문화의 영향력을 고찰한다.

This class explores contemporary Japanese art and culture by examining fine arts, architecture, design, films, animation, comics (Manga), etc. Students will analyze how contemporary Japanese culture has developed with the necessary periodical background and discussion on aesthetic features. Furthermore, students will study the impact of Japanese contemporary art and culture on Asian civilization.

M2641.000300 아시아연구지도 3-3-0

Supervised Research in Asian Studies

본 과목은 아시아연구학부의 전공 학생들을 대상으로 하는 졸업논 문 제작과 관련된 수업이다. 이 과목에서는 바람 정리를 위한 과제 속에서 작업을 진행하는 학생들은 주로 전공과목 및 전공과목과 관련된 주제로 병행 연구를 진행하게 된다. 또한, 학생들은 전공과목과 관련된 주제에 대해 종합적이고 전문성을 갖춘 논문을 작성하게 된다.

This course is for the thesis writing of students majoring in Asian studies. It teaches the detailed crafts of the field in the process of deciding on one’s research subject, collecting materials, and developing arguments. The research subject can be selected from the vast scope of Asian languages and civilizations, and it is strongly advised that the student meet with experts other than the instructor outside of the class.

M2750.000200 근대 인도의 사회와 문화 3-3-0

Society and Culture in Modern and Contemporary India

본 강의에서는 인도 아대륙의 근대부터 현재에 이르는 사회와 문화의 변화를 토대로 15세기 말부터 20세기 말까지의 인도 역사와 현대화의 과정을 파악한다. 특히 영국의 식민통치가 1947년 인도 독립으로써 인도의 경제, 정치, 사회, 종교까지 큰 영향을 끼쳤다. 이 시기 역사적 과정을 바탕으로 인도에 대한 연구에서 심화된 오리엔탈리즘의 진영이 인도인들의 지식적 전통과 현대 사회 등에 이르는 영향을 이해함으로써 논문은 인도 근현대사 연구를 좇는다.

This course investigates the changes in society and culture of the Indian subcontinent from the modern to contemporary period. Following the advent of western powers since the 15th century, most regions of the subcontinent became colonized or under indirect rule by the 19th century. Particularly, British rule continued for almost 200 years from 1757 until the establishment of the Republic of India in 1947 and had great impact on the politics, economics, society, religion and history of contemporary India. In addition to historical developments of this period, we aim a broader understanding of the self and contemporary society of India through a recognition of the Orientalist approaches shaped through colonial studies of India.
Readings in Thai

Readings in Thai

This course is to lead students, who studies Thai vocabularies and grammar in Intensive Thai 1 and 2, to learn sentences and expressions for conversation with Thai people. In addition, it helps students to read literary or scholarly works in Thai by developing reading capacity.

Understanding West Asian Literature

Literature provides major materials through which to understand views on religions, values, historical events, and life. Ancient and medieval literature helps understand West Asian history and civilization whereas modern works reveal social issues of the Middle East, such as modern wars, oppressive government, uneven distribution of wealth, sectarian conflict, women’s status, discrepancy between tradition and modernity, and protest against imperialism. This course will facilitate students to get interested in and approach West Asian society and culture through reading and discussing translated West Asian literary works in Korean or English.

Topics in West Asian Civilization

This course examines one or more select themes pertaining to West Asian civilizations and languages, and provides an in-depth introduction and discussion of issues pertaining to the selected themes. Themes of the course may change each time it is offered.

Advanced Arabic 1

This course is provided for students who have taken Readings in Arabic 1 and 2. Those who have acquired general knowledge of grammar, reading comprehension, expression and communication can further their command of the language to reach the advanced level of educated Arab people. More concretely, students can learn how to read and discuss Arabic materials in specific fields, and how to compose complex sentences and essays.

Advanced Turkish 1

This course is prepared for those students who have finished Advanced Arabic 1. This course further develops from Advanced Arabic 1 to have students practically use the language in academic activities or business practices. Students who have acquired communicative abilities will read and discuss academic materials, literary criticism, news analyses, and official documents. More concretely, they will be able to learn how to read and comprehend Arabic materials in specialized fields, discuss select topics, and write papers.

Advanced Turkish 2

This course is provided for students who have taken Readings in Turkish 1 and 2. Those who have acquired general knowledge of grammar, reading comprehension, expression and communication can further their command of the language to reach the advanced level of educated Turkish people. More concretely, students can learn how to read and discuss Turkish materials in specific fields, and how to compose complex sentences and essays.
Discuss academic materials, literary criticism, news analyses, and official documents. More concretely, they will be able to learn how to read and comprehend Turkish materials in specialized fields, discuss select topics, and write papers.

**M2752.001300** 이슬람 사상특강 3-3-0

Topics in Islamic Thought

This is a special topics course for the students of upper divisions of undergraduate program. Each year it will explore a new theme related to Islamic thought [Intellectual history], focusing either on Islamic thought of particular historical periods and regions or on specific areas of intellectual activity (e.g. Quranic exegesis) and intellectual trends (e.g. traditionalism and rationalism in Islamic thought). The course will offer students an opportunity to study these themes in depth through examination of the contributions made by prominent Muslim thinkers, analysis of their writings, and critical engagement with relevant scholarship.
Comparative East Asian Literature

The goal of this class is to help students, who are interested in the Comparative East Asian Literature major, survey and understand the scale and characteristics of related majors from a comparative literature perspective. By means of a comparative literature approach, the many societies which form East Asia, including Korea, China, Japan, North Korea, Mongolia, Taiwan, etc., will be examined, and students will learn about each country's individual and historical development. In particular, using a mutual comparative literature method, we will focus on various regions' modernization and globalization, emphasizing common historical challenges which opposed the established processes.

Korean Language and Culture in East Asia

Thanks to the international diffusion of Korean culture, the interest for Korean language and culture has increased. In order to understand in depth Korean language and culture, it is important to acquire knowledge related to the character and status of Korean language, the current situation and development of its teaching and the Korean culture connected to language. Moreover, by means of this deep understanding of Korean language and culture, students will be stimulated to research autonomously about the relation between Korean and other Eastern Asian languages and the connection between Korean culture and Eastern Asian cultures.

Supervised Research in Comparative East Asian Humanities

Translation and Modernity in East Asia

Encounter with the West was a major facet of the East Asian modern era. The encounter involved exchanges in knowledge, information, and also personnel, and a key factor in all these was translation. East Asian intellectuals attempted to understand Western culture and ideology through translating Western texts, and develop new political systems and social structures through their newly gained knowledge. Translation is more than simple transliteration in a different language; it is a formation of cultural interrelationships between the translator and the translated. The East Asian region has been a cultural nexus of various cultural elements such as Buddhism and Taoism set upon a foundation of Confucian social order. Translating Western cultural and ideological concepts, both from Western to Eastern and among East Asian languages, thus meant reconstructing the West based on each East Asian culture. This course focuses on the problems involved with translations, and the implications of these findings to modern histories of Korea, China, and Japan, through the scope and viewpoint of Comparative Humanities.
동아시아 비교인문학 특강 3-3-0

Topics in Comparative East Asian Humanities

본 과목은 동아시아 각 지역의 역사인식에 초점을 맞춰, 촉도와 공간, 영토와 경계, 기가라 교육 등 세 주제를 다루며 동아시아 역사 간동 비교에 요구되는 삼국의 자질과 상호작용 시기를 갖추는 것을 목표로 한다. 구체적으로는 사라시대 이후 응중과 독동도의 통치가 대중사의 형성에 어떻게 영향을 미쳤는가. 또한 동아시아 각 지역의 관점을 기반으로 교육하는 방식도 비교 검토하였다. 이와의 주제에 대해 교원의 강의와 학생의 발표를 적절히 배합하고, 나아가 현장 답사, 외부 전문가 초청 강연을 배포하는 등 다양한 배움의 방식을 도입하고자 한다.

The objective of this course is to develop proper knowledge and perspective for resolving various historical conflicts in East Asia, focusing on the three topics of Mourning and Space, Territory and Borders, and Memorialization and Education. This course shall first investigate one of the most hotly debated issues in Korea, the Dokdo issue, in light of reunification of Korea and Japan in the 20th century. It places the development of modern science in East Asia, from early modern period during the late 20th century. It provides students with a critical perspective by which to understand science as a cultural context. This approach will provide students with a modern science in East Asia under its social, political, and cultural contexts. This class aims to provide an overview of the history of modern science in East Asia, from early modern period through the late 20th century. It places the development of modern science in East Asia under its social, political, and cultural contexts. This approach will provide students with a critical perspective by which to understand science as a cultural context. This class further compares historical experiences of the three East Asian countries (Korea, China, and Japan), examining how different relationships between science and other fields of culture were forged in the three countries, in different periods.
Readings in East Asian Classics

This course aims to read East Asia sinological classics in the original to acquire ideological and cultural features in them. Classical Chinese is the written language which is indispensable to understand the ideology and culture included in them. Classical Chinese is the written language which is indispensable to understand the ideology and culture included in them.

This course aims at offering students an opportunity to learn Attic Greek grammar from diverse angles. In large measure, real Greek sentences are selected for the lecture. For securing as large a vocabulary as possible, it is strongly recommended that many of the sentences be learned by heart. The vocabularies contain words and expressions which are of great enough frequency in Plato and Xenophon. Furthermore, this course will provide students with practical experiences in Latin composition, which will help them to learn the proper features of the classical Latin sentence. Finally, students are expected to acquire a higher level capacity to decipher ancient Latin texts.

Latin Grammar and Composition

This course aims at offering students an opportunity to learn the classical Latin grammar from diverse angles. With the basic knowledge of the classical Latin grammar, students will study in depth the principles of word-formations and all kinds of morphological inflections and declensions of the Latin. They will learn the proper features of the classical Latin as an inflected language and syntactic rules of the
mentaries of classical texts. They will choose a text of an appropriate length, produce a Korean translation of it, and justify his/her own reading by providing a suitable commentary. Final outputs will be presented and discussed in a workshop session at the end of the semester.

M2910.000700 서양고전문헌학입문 3-3-0

Introduction to Western Classical Philology

This course aims at providing a general introduction to the students in the Combined Minor in Classics and Philology. Students will learn about basic tasks and study areas of Western Classical Philology, focusing on its history and the basic concepts and methods used in it. With concrete case studies, students will learn about the concept of the critical edition, the reason why such an edition is needed, and the problem of tradition. At the later stage of the course, students will learn about contributions, limits, and possible new research areas of Western classical philology, by comparing it with the achievements of Classical Chinese Philology or Western Modern Philology.

M2910.000800 그리스고전강독 1 3-3-0

Readings in Greek Classics 1

This course aims at increasing the reading skill of Greek proses. With paradigmatic sentences of classical Latin as Caesar’s, students will deepen the knowledge of Latin grammar and enhance the capacity to interpretate Latin prosaic sentences. In addition, they will learn how to appreciate the style, how to analyze argument structure and rhetorical skills of Latin proses.

M2910.000900 라틴고전강독 1 3-3-0

Readings in Latin Classics 1

This course aims at increasing the reading skill of Latin proses. With paradigmatic sentences of classical Latin as Caesar’s, students will deepen the knowledge of Latin grammar and enhance the capacity to interpretate Latin prosaic sentences. In addition, they will learn how to appreciate the style, how to analyze argument structure and rhetorical skills of Latin proses.

M2910.001000 라틴고전강독 2 3-3-0

Readings in Latin Classics 2

This course aims at cultivating the reading skill of classical latin poetry. After learning basic components of latin meters, students will read a book of the Aeneid of Virgil and thereby learn how to analyze and to evaluate various components of classical latin poetry. Correct recitation of classical latin verses and appropriate understanding of the latin epic will be the goal of this course.
1031.301 미국학 개론 3-3-0

Introduction to American Studies

미국학 연구의 길잡이 역할을 하는 과목. 미국학의 역사를 개관 하고 미국학의 목적과 내용을 광범위하게 고찰하며 미국학의 방법 론에 관해 구체적으로 검토한다.

This course is designed to help students understand what American Studies is about. The students will read a diversity of representative and exemplary American Studies texts with focus on their method and familiarize themselves with interdisciplinary studies.

1031.302 미국대중문화와 미국사회 읽기 3-3-0

Reading American Popular Culture and Society

미국대중문화와 미국영화에 나타난 미국의 문화적/사회적 특수 성을 연구하는 과목. SF, 판타지, 추리소설, 팝뮤직, 팝아트, 그래픽 노블, 애니메이션, 그리고 다양한 힐러웃 영화의 분석을 통해 미국에 대한 포괄적이고 정확한 이해를 시도한다.

This course aims at exploring the theme “What is America?” by reading American pop culture, Students will read and discuss SF, fantasy, detective stories, graphic novels, animations, pop art, pop music, and a variety of Hollywood movies.
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In this course students read, interpret and discuss historical literature written in Russian. The main object of the course is to provide sophomores and juniors majoring in Western history/Russian language and literature/Russian studies with basic Russian reading abilities. Through the course students are expected to broaden their understandings of the history of the Russophone world and to have an enhanced interest in its cultural traditions.

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1071.201
Introduction to Latin American Studies

This course is designed to provide students with an overview of Modern Latin America. The course intends to examine Latin American countries in terms of their social, economic, and political trajectories in the prevailing international conditions. It aims to trace patterns and trends that help us to understand the complexities and variations in Latin America’s paths to the present.

1071.202
Modern Latin America

This course is designed to provide students with an overview of Modern Latin America. The course intends to examine Latin American countries in terms of their social, economic, and political trajectories in the prevailing international conditions. It aims to trace patterns and trends that help us to understand the complexities and variations in Latin America’s paths to the present.

1071.203
Latino society and culture

This course will provide an introduction to Brazilian Studies by surveying some of the major historical, political and cultural issues that the region has faced during the past five hundred years. This course will explore major topics like discovery and rediscovery of Brazil, colonial period, independence, modernization, Estado Novo, military regime, democratization, urbanization, race, immigration, and regional inequality. It will also examine Brazil’s cultural formation and increasingly diverse regional cultures in the nation.
한문대학(College of Humanities)

인문데이터과학개론 3-3-0
Introduction to Data Science for the Humanities

이 과목은 인문데이터과학 전공 전반에 대한 기본 지식을 돕는 데 목표를 두고 있다. 우선 인문학의 각 영역에서 생산되는 다양한 인문데이터를 고찰하고, 이 데이터를 과학적으로 분석하고 데이터화하는 방법과 실제로 처리하는 데 필요한 개념을 다룬다. 데이터과학을 공부하고자 하는 인문사회계열 학생들은 이 강좌에서 데이터과학의 핵심 요소의 하나인 컴퓨터과학의 방법론과 도구를 학습하고, 인문데이터과학을 위해 필요한 전문적인 컴퓨터 기술, 디지털 인문학, 프로그래밍의 기초를 학습할 수 있는 기회를 갖게 된다.

The goal of this course is to teach students fundamental concepts related to the data science for the humanities. A variety of data will be considered from each subdiscipline relating to the humanities, with students learning basic concepts in the scientific analysis and processing of data. Students affiliated with the humanities and social sciences that want to learn more about data science will also have an opportunity to learn key concepts in the field that make up a crucial component of the overall tools and methodologies used within computer science. This includes specialized knowledge in computing, digital humanities, and basic elements of programming.

인문데이터 수량분석 3-3-0
Quantitative Analysis in the Humanities

인문학의 전통적으로 격리된 접근을 주 방법론으로 삼아왔으나, 최근 수량적 접근의 필요성이 크게 부각되고 있다. 이 과목은 인문데이터과학 전공하는 학생들에게 인문학의 여러 영역의 자료를 수량적으로 분석하기 위한 기초 지식을 제공한다. 통계와 기분 개별, 추론의 원리를 익히고 통계 소프트웨어를 활용하여 실제 데이터를 분석하는 능력을 키운다. 인문과학 1학년 수준의 수학 배경 지식에 맞추어 통계적 기법을 이해할 수 있도록 이론적인 부문을 최소화하고 추후에 전문적인 통계 관련 수업을 들을 수 있는 수리적인 기초를 닦을 수 있는 기회를 제공할 수 있도록 한다.

Disciplines traditionally used in the humanities employ qualitative approaches, however, recently the application of quantitative analysis has been increasing rapidly for fields related to the Humanities. This course provides students majoring in the Humanities with the fundamentals of quantitative analysis on humanistic data. Students will learn concepts related to probability and statistical inference, and the associated analytical methods.

데이터과학은 디지털 사회에서 점차 중요해지고 있는 데이터의 역할을 이해하고 분석하여 데이터의 의미를 찾고자 하는 학문이다. 본 과목에서는 그동안 여러 교과목을 통해 학습한 데이터 과학의 방법론을 실제 프로젝트에 적용하여 실무에 활용할 수 있도록 한다. 이를 위해 본 과목에서는 데이터과학의 실제 적용 사례의 조사를 통해 데이터 과학의 가능성을 확인하고, 프로젝트의 수행을 통해 데이터 과학에 대한 포괄적 경험을 구축하고자 한다.

Data science is the study to find the meaning of data through data analysis, which becomes increasingly important in the digital society. In this course, students will learn how to apply data science methods to the real world’s problem solving projects. To do this, students will explore data science case studies and conduct team projects in order to build a comprehensive experience in data science.
M2908.000100  정치경제철학 입문  3-3-0

Introduction to Philosophy, Politics, and Economics

This course introduces fundamental concepts, ideas, and analyses through reading core classics in politics, economics, and philosophy. It aims that students could read these classics and discuss each theme in an interdisciplinary way. Students will learn how issues and thoughts in politics, economics and philosophy are integrated and be asked to develop comprehensive understanding on problems in modern society. It is designed as a seminar course where students are expected to participate actively in every discussion.

M2908.000200  시장과 윤리  3-3-0

The Ethics of Markets

This course is designed to examine the value and limits of market as a social institution. Topics discussed include the value of market distribution of goods and services, the relation of markets with property rights, fairness and inequality, the role of consumers, corporations and the government in the markets, and whether and why some things should not be for sale (Such as organ trade, surrogacy, and prostitution).

M2908.000300  정치·경제·철학을 위한 경제적 분석  3-3-0

Economic Analysis for Philosophy, Politics, and Economics

This course introduces you to the core concepts and basic tools of economics that are used in the analysis of issues at the intersection of politics, philosophy, and economics. Topics covered include rationality and utility, efficiency, collective action, evolution of cooperation, game theory, social choice theory, public choice theory. Based on the framework of economic analysis students can understand political phenomena in society better and confront the question of what public policies will improve the situation and how to institutionalize the policies.
사회과학대학

College of Social Sciences
This course is open to freshmen and purports to introduce the first-year students to a variety of perspectives in social sciences. By exploring how diverse approaches to social sciences enable them to search for career options and build career aptitude in this freshman seminar program, freshmen can expand their respective field of concentration to prepare for the kind of job skills for future career. Therefore, reading a classics text provides us with imagination and insights into human beings and the world as well as wisdom with which for us to lead a meaningful life. In this course, students will read thoroughly one of those classics in politics such as Machiavelli’s Prince, Hobbes’ Leviathan, Rousseau’s Social Contract, Mill’s On Liberty, Tocqueville’s Democracy in America, Habermas’s Between Facts and Norms, Rawls’s Theory of Justice with a view to examine the meanings, possibilities, and limits of politics in human life. In doing so, the course will not only provide students majoring in social sciences with knowledge and insights from the classics but also train them to think and imagine on their own in pursuit of knowledge.
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세계에 대한 통찰과 상상의 풍요로운 원천이며, 인생을 살아가는 지
해의 기반이다. 이 강의는 제임스의 《원학적 철학》, 프로 몰
플레시의 《돈의 철학》, 빌리어의 《광학의 연구》, 헤러의 《광학의 실험》
과 《광학의 원리》, 파슨스의 《사회의 기능적 역할》, 헤적이 《사회의 기능적 역할》
과 《사회의 기능적 역할》 등 사회과학의 고전에서 인문사회적 소양에 특히
도움이 되는 책을 선정해서 강독한다. 그 뿐만 아니라 평론과 생활, 문
화개방성을 강조하는 이론과 실천의 중요성에 대한 인류학적 접근을 제공한다.
이를 통해 사회과학의 다양한 분야를 전공하고자 하는 학생들에게 기초 지식과 상상의 풍요로운 원천이며, 
인생을 살아가는 지혜의 기반이다.
The questions asked and answered in social science classics have universal validity that transcends time and space; therefore, reading a classics text provides us with imaginations and insights into human beings and the world as well as wisdom with which for us to lead a meaningful life. In this course, students will read thoroughly one of those classics in media and communications such as Plato’s Phaedrus, Aristotle’s Rhetoric, Milton’s Areopagitica, Eisenstein’s The Printing Revolution in Early Modern Europe, Habermas’s The Structural Transformation of the Public Sphere, and Schudson’s Discovering the News to examine the relationships between media, communications, and society. In doing so, the course will not only provide students majoring in social sciences with knowledge and insights from the classics but also train them to think and imagine on their own in pursuit of knowledge.
당하는가? 경영 독점 과정 및 다양한 경영형태 또는 제재기업 대기업 중기업 소기업 등 다양한 기업조직의 장단점은 무엇인가? 사회주의 계획경제체제와 자본주의 시장경제체제 중 어떤 경제체제가 나선가? 시장경제에서 정부가 맡아야 할 역할은 무엇이며 정부가 하지 말아야 할 일은 무엇인가?

The primary objective of this course is for students to develop appropriate skills to analyze economic appearances. The class addresses the following topics: definitions of Economics and its methodologies; supply and demand and their balance; the role of the corporations in hiring productive input and producing goods for the national income; the role of the household economy in supplying productive inputs and disposable income; the merits and drawbacks of various competitive systems (competitive, monopoly, and oligopoly) and industry types (big, medium, and small corporations and business conglomerates); and finally, the socialist planned economy vs. the capitalist market economy.

200.106 경제학론 2 3-3-0

Principles of Economics 2


This course cultivates the ability to analyze various economic problems. The class focuses on the following topics: How are national income, prices, interest rates, unemployment rates, employment, wages, consumption, and investment determined? What principle is national income included and allocated? Why do booms and recessions occur and how can they be controlled? By what process does the economy experience growth? What place does the Korean economy occupy in the world and how are exchange rates and balance of payments determined? What effect does the government’s economic policy have on economic activities and how are we to evaluate the merits and demerits of those economic policies?

200.107 현대사회학과 사회학 3-3-0

Sociology in Contemporary Society

이 강좌는 사회학의 근본에서 사회현상을 탐구함으로써 현대사회에서 나타나는 인간의 행위와 사회구조 문제를 이해하는데 목적을 두는다. 또한, 인간과 사회학 구조 성과를 통해 살펴볼로서 우리의 행위가 세계의 가치, 종교, 교육, 사회재지, 성차별, 범죄 등 정치, 경제 문화적 조건에 어떻게 영향을 받는지 설명하고자 한다.

This course is designed for students who are seeking a general overview of Sociology. It investigates human behavior and social phenomena from a sociological perspective, offering a more complete world view. Using student’s daily experience as examples, the class will illustrate how our behavior is influenced and constrained by societal ‘structures’ and factors, such as family, education, social class, and gender discrimination.
Comparative Politics

This course introduces students to the comparative study of politics and government. It will examine several, specific aspects including political regime, its institutions, cultures, processes, political behaviors and public policies. It also discusses both methodological and substantive issues in seeking empirical, political knowledge by comparing diverse countries.

Western Political Thoughts 1

This course examines the political theories of ancient philosophers who sought the ideal human community and motivation for the common good. Through this study, students will come to understand the ideas that form the basis of modern political behavior as well as evaluate the philosophical foundation of our own society.

Western Political Thoughts 2

This is a follow up course to Western Political Thoughts 1. It will delve deeper into the issues and topics covered in the previous course.

Government and Politics of Japan

This course surveys the political history, culture and institutions of contemporary Japan. Recent changes in Japanese politics are also introduced. In addition, students are expected to learn the Japanese model of development and compare it with other cases of modernization.

Introduction to the History of Korean Politics

This undergraduate course is intended to introduce to the students the basic facts and history of Korean politics. Topics will include the legacies of the Chosun dynasty and the failure of modern state-building, the historical background of the Japanese colonial rule, the independence movement, liberal economic reform, 3) implications of globalization and information society, 4) institutional limitations and reforms of representative democracy, and 5) governance issues in contemporary democracies.

Introduction to Public Administration

Public Personnel Administration is one of the key sectors of public administration. In this course, theories of the optimal usage, operation, and structure of organizations are studied. This course is intended to introduce the students the basic principles of public administration and how it has evolved over time. It also prepares students for future research in the various sub-fields of public administration.

Introduction to the Korean State and International Relations

This course discusses the dynamics of democratization and deepening of democracy. Major topics are: 1) various explanations about political changes, transition to democracy in particular, 2) political dynamics and implications of neoliberal economic reform, 3) implications of globalization and information society, 4) institutional limitations and reforms of representative democracy, and 5) governance issues in contemporary democracies.

Issues of Contemporary Democracy

This course discusses the dynamics of democratization and deepening of democracy. Major topics are: 1) various explanations about political changes, transition to democracy in particular, 2) political dynamics and implications of neoliberal economic reform, 3) implications of globalization and information society, 4) institutional limitations and reforms of representative democracy, and 5) governance issues in contemporary democracies.
eration and division of Korea, war and reconstruc-
tion, historical survey of Korean politics from the 1st to the 6th
Republic, and the process of democratization in contemporary
Korea. Survey of history, context, elite structure, institutions
and their processes are the main themes for organizing lec-
tures for this course.

216A.216
Politics and Society of North Korea

As political science and economics are no longer regarded
as two distinct and autonomous disciplines in our society, a
more integrated view is required to understand them pro-
icably. In this course students will study more reasonable
and realistic theoretical frameworks. Furthermore, they will under-
stand economics from a political way of thinking and apply
the theories into an analysis of modern society.

216A.301
Research Methods in Political Science

이 과목의 수강생은 정치현상에 대한 과학적 연구의 본질과 목
적을 이해하고 더 나아가서는 그와 같은 연구를 체계적으로 추구
하는 데에 필요한 정치적 성과를 학습한다. 주된 장외론작은 정
치현상에 대한 과학적 탐구의 가능성을 타개하고 하안, 설명하고 예측을 위한
개념·모형·이론·개념 및 변수, 자료수집의 전략, 자료 분석의
기법 등이다.

This course prepares students to understand the nature and
purpose of scientific study of politics and government. It
will also introduce the necessary methods for scientific
inquiry. Topics include the philosophical premises for studies
in political science, theoretical elements used to predict
trends, and strategies for data collection as well as methods
of qualitative and quantitative analysis.

216A.303
Political Party

정당론은 정당 조직, 정당 체제, 그리고 선거제도와 정당 체제와의
관계에 관한 강의로 구성된다. 이 강의는 유럽성의 정당청계로
부터 나온 가능성과 이론을 소개하는 것이 목적이며, 유럽 주요 정
당과 발달사도 소개한다.

This course consists of lectures in the following three
areas of political party theory: the political party as an
organization, the party system as a whole and the relationship
between electoral rules and the party system. The purpose of
this course is to introduce students to hypotheses and theo-
ries regarding these three areas of study.

216A.304
Government and Politics of Korea

한국정치론은 지난 반세기의 현대한국정치를 국제정치론, 정치
체제론, 정치문화론, 정치과정론, 정치경제론의 시각에서 분석하는
강의이다.

This course examines Korean politics from diverse persp-
ectives. Throughout the course, theories of international pol-
itics and political institutions will be studied. In addition, the
Korean culture and economy and their related processes will
be examined.

216A.308
Government and Politics of China

이 과목은 근대 정치사에서 시작하여, 이 과목에서 학생들은 중국
학문의 기원과 과정 및 그것이 중국사학에 미친 축적에 대하여 공
부한다. 학생들은 또한 전통 중국의 유산, 이데올로기와 문화, 정
치학원구조의 배경을 배운다. 또 이 과목은 중국의 정치체계가 도전을 받
고 있는 민주시, 경제발전, 환경, 국가와 사회의 관계 등에 관하여
논의한다. 이 과목의 마지막 부분은 중국의 국제적 지위에 관한

216A.217
The Politics of Globalization

이 과목은 탈냉전과 지구화 시대의 국제관계에 대한 인문과목
이다. 따라서 국제관계의 기본적인 연구와 이론을 통해, 탈냉전시
대 국제관계와 국내정치의 관계, 국내정치에 대한 국제관계의 영
향 및 국제관계의 중요성을 이해하는데 목적으로 한다. 한반부에서
는 근대 국제질서의 형성에서 탈냉전과 지구화의 당대 국제질서에
이르러까지 국제관계의 변화과정을 역사적으로 추적한다. 후반부
에서는 지구화 시대 국제관계의 본질에 대한 다양한 시각, 이론
및 개념들을 이해하고 비교한다.

This course aids students in understanding international re-
lations in our post-Cold War, globalized society. In the first
section of the course, students will learn about the historical
events which led to the end of Cold War and initiated the
globalization process. In the latter part, the student will com-
pare a variety of perspectives and theories.

216A.219
Civil Society and New Politics

이 과목은 현대 정치학에 있어 ‘시민사회와 신정치’ 관련 논의
들을 중심으로 주요 이론적, 경험적 연구들을 비판적으로 분석함
으로서 향후 독립적인 연구를 수행할 수 있는 기초를 마련하고자
제공하는 것을 목적으로 한다. 강의 내용은 시민사회의 개념, 집단행
동, 사회적 자본, 결제체 인구수, 직접민주주의의 등에 포함한다.

The purpose of this course is to introduce students to hypotheses and theo-
ries regarding these three areas of study.

216A.220
Political Economy

In this course, students will study more reasonable and
realistic theoretical frameworks. Furthermore, they will under-
stand economics from a political way of thinking and apply
the theories into an analysis of modern society.

216A.216
Politics and Society of North Korea

This course provides an overview of North Korea's politi-
cal history, ideology, system and development strategy. In
addition, we will review the relationship between North and
South Korea as well as other security issues in Northeast
Asia.

This course examines Korean politics from diverse pers-
pectives. Throughout the course, theories of international pol-
itics and political institutions will be studied. In addition, the
Korean culture and economy and their related processes will
be examined.

216A.217
The Politics of Globalization

The purpose of this course is to introduce students to the
hypotheses and theories regarding these three areas of study.

This course consists of lectures in the following three
areas of political party theory: the political party as an
organization, the party system as a whole and the relationship
between electoral rules and the party system. The purpose of
this course is to introduce students to hypotheses and theo-
ries regarding these three areas of study.

216A.219
Civil Society and New Politics

This course aids students in understanding international re-
lations in our post-Cold War, globalized society. In the first
section of the course, students will learn about the historical
events which led to the end of Cold War and initiated the
globalization process. In the latter part, the student will com-
pare a variety of perspectives and theories.

216A.220
Political Economy

In this course, students will study more reasonable and
realistic theoretical frameworks. Furthermore, they will under-
stand economics from a political way of thinking and apply
the theories into an analysis of modern society.
Beginning with the modern political history of China, students are expected to study the origins of the Chinese Revolution and its impact on society. Additionally, the legacies of imperial China—its ideologies, culture, and organizations of political power—are studied in depth. The course continues by studying the challenges that lie ahead for the Chinese political system. It will also consider the problems of economic development, environmental destruction, and state/society relations. The course culminates with a discussion of the problematic nature of China’s place in the world, its current posture and future development.

This course aims to pursue a systematic understanding of modern Chinese political thought, we will pay special attention to Xunzi, Han Feizi, Zhu Xi, Wang Yangming, and Mao Zedong. Asian history: Confucius, Mozi, Mencius, Laozi, Zhuanzi, the writings of some of the most influential thinkers in East Asia. Readings include origins in China: Confucianism, Maoism, Daoism, and others.

This course provides a specialized study in the field of Administrative Organization. Students learn the basic ways that an administrative organization operates. The students will then apply their knowledge to contemporary society, acquiring a deeper understanding of the mechanisms of bureaucracy.

This course has no prerequisites, and assumes no background in foreign languages.

This course is an introduction to East Asian political thought. Rather than surveying the long history of East Asian political thought, this course focuses on the major schools that originated in China: Confucianism, Maoism, Daoism, Legalism, Neo-Confucianism, and Maoism. Readings include writings of some of the most influential thinkers in East Asian history: Confucius, Mozi, Mencius, Laozi, Zhuangzi, Xunzi, Han Feizi, Zhu Xi, Wang Yangming, and Mao Zedong.

In addition to introducing the major features of each school’s political thought, we will pay special attention to developing skills in three areas: reading, writing, and reasoning. This course has no prerequisites, and assumes no background in foreign languages.

This course provides a specialized study in the field of Public Finance Administration. It is designed to help students understand general administrative functions of state concerning finance and various government policies. Students learn the basic ways that an administrative organization operates. The students will then apply their knowledge to contemporary society, acquiring a deeper understanding of the mechanisms of bureaucracy.

This course is an introduction to East Asian political thought. Rather than surveying the long history of East Asian political thought, this course focuses on the major schools that originated in China: Confucianism, Maoism, Daoism, Legalism, Neo-Confucianism, and Maoism. Readings include writings of some of the most influential thinkers in East Asian history: Confucius, Mozi, Mencius, Laozi, Zhuangzi, Xunzi, Han Feizi, Zhu Xi, Wang Yangming, and Mao Zedong.

This course has no prerequisites, and assumes no background in foreign languages.

This course is a specialized study in the field of Public Finance Administration. It is designed to help students understand administrative functions of state concerning finance and various government policies. Students learn the basic ways that an administrative organization operates. The students will then apply their knowledge to contemporary society, acquiring a deeper understanding of the mechanisms of bureaucracy.

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This course has no prerequisites, and assumes no background in foreign languages.

This course provides a specialized study in the field of Public Finance Administration. It is designed to help students understand administrative functions of state concerning finance and various government policies. Students learn the basic ways that an administrative organization operates. The students will then apply their knowledge to contemporary society, acquiring a deeper understanding of the mechanisms of bureaucracy.

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This course has no prerequisites, and assumes no background in foreign languages.
the organization and operation of parliament or legislature as well as the central institution of representative democracy. Major topics under review include the nature and history of representative politics, the structural attributes and functions of the modern parliament, policy and representational activities and parliamentary reform.

216A.323  
**Goverments and Politics of America**

This course aims to provide a comparative understanding of the nature and principles of democracy in the United States. Focusing on the unique institutions and processes of American democracy, students will realize how diverse democratic systems can be as well as understand the domestic and foreign actions of the United States.

216A.325  
**Public Choice Theories**

Public choice theory understands the political process as with political processes such as voting behavior and the public interests of the community. It specifically deals which cause individual actions and interests to converge with the public.

216A.328  
**Political Economy of East Asia**

This course intends to provide understanding of dynamics in development and underdevelopment of East Asian region, as one of growth axes in world economy. The growth and crisis of East Asian countries could be analyzed by looking at dynamic interactions of countries within regional economy of East Asia and interaction with external environments. In the first half of this seminar, we will explore various theoretical perspectives of political economy. In the latter, we will discuss issues such as changes in international political economy, growth and crisis of East Asia, and responses of East Asian countries in the globalization era.
216A.407  *Politics and Role of the State*

Topics in Political Science

The function and role of the State.

This course introduces new trends in political science, dealing with specific issues that haven’t been adequately addressed in the previous courses. Topics will vary from semester to semester at the discretion of the instructor.

216A.413  *Theory of State*

State as a political entity. Through this course students will compare conflicting views of various theorists on the origin, issues relating more to human psychology and behavior.

Recent trends have shown a renewed interest in the State as a political entity. Through this course students will compare conflicting views of various theorists on the origin, function and role of the State.

216A.414  *Contemporary Political Thoughts*

Contemporary Political Thought

As political behavioralism developed, the focus of research shifted from legal and institutional features of the State to human psychology and behavior. However, recent trends have shown a renewed interest in the State as a political entity. Through this course students will compare conflicting views of various theorists on the origin, function and role of the State.

216A.415  *Game Theory and Politics*

Game Theory and Politics

This course introduces game theory, a relatively new method for studying politics. Students will be encouraged to apply game-theoretic ways of thinking to diverse political phenomena. Game theory is a study of how actors make decisions and what collective outcomes result in strategic and interdependent decision making situations. In particular, this course will approach traditional topics of political science such as elections, political institutions, collective action, and international relations from game theoretic perspectives.

M1320.01100  *Human Rights*

Human Rights

This course introduces game theory, a relatively new method for studying politics. Students will be encouraged to apply game-theoretic ways of thinking to diverse political phenomena. Game theory is a study of how actors make decisions and what collective outcomes result in strategic and interdependent decision making situations. In particular, this course will approach traditional topics of political science such as elections, political institutions, collective action, and international relations from game theoretic perspectives.

M1320.01300  *Political Systems and Political Change*

Political Systems and Political Change

This course introduces new trends in political science, dealing with specific issues that haven’t been adequately addressed in the previous courses. Topics will vary from semester to semester at the discretion of the instructor.

M1320.01400  *China’s Rise and Asia’s Future*

China’s Rise and Asia’s Future

This course examines key conceptual and substantive issues of China’s rise in the Asian context. The course begins with exploring what and where China is in a new global and regional context. It then examines China’s global and regional impact, and key governance challenges in the areas of security, economy, energy, environment, culture, human rights and internet.

M1320.00600  *Law and Democracy*

Law and Democracy

This course examines key conceptual and substantive issues of China’s rise in the Asian context. The course begins with exploring what and where China is in a new global and regional context. It then examines China’s global and regional impact, and key governance challenges in the areas of security, economy, energy, environment, culture, human rights and internet.
verse research methods and engages students in the management of empirical data along with statistical and quantitative reasoning.

**M1320,001900**

**Classic Theories on Politics and Society**

This course will introduce students to the classical theorists and their theories of politics and society. Students will study the works of major political philosophers and political scientists, including Hobbes, Locke, Rousseau, Marx, and Weber. The course will cover the main political theories developed since the eighteenth century, such as social contract theory, the theory of the state, the theory of justice, and the theory of social change. Students will learn about the historical and philosophical context of these theories, as well as their implications for modern political thought.

**M1320,002000**

**Modern Theories on Politics and Society**

This course is designed to help students understand the important concepts and debates in contemporary political thought. The course will cover the main political theories developed since World War II, such as functionalism, behavioralism, and constructivism. Students will study the works of major political scientists and social scientists, including Pareto, Tocqueville, and Habermas. The course will cover the main political theories developed since World War II, such as functionalism, behavioralism, and constructivism. Students will learn about the historical and philosophical context of these theories, as well as their implications for modern political thought.
216A.416 정의학연습 3-3-0

Exercise in Political Science

This course studies the main issues of political sociology, such as the state, civil society, democracy, democratization, and the crisis of democracy, as well as various types of development patterns, which have been developed recently. In particular, this course will address the effects of globalization on modern conception of national politics.

216B.214 중국외교정책론 3-3-0

Chinese Foreign Policy

This course is comprised of the following five elements: a survey of basic theories in foreign policy; discussions of key determinants of Chinese foreign policy; an examination of Chinese foreign policy since 1949; a comparison of security and economic issues in Chinese foreign policy; and overviews of bilateral relations between China and the US, Russia, Japan, the Third World, Taiwan and South Korea.

216B.219A 세계지역연구개론 3-3-0

Introduction to World Area Studies

This course examines the diplomatic history of traditional Korea. Specifically, it traces the difficulties resulting from the traditional Chinese-centered world order as well as Korea’s European relations during the Joseon Dynasty of the 19th century.

216B.211 국제관계사개설 3-3-0

Introduction to the History of International Relations

This course examines the history of international relations between Korea and modern Europe, Asia and other regions.
This course observes a five-century-long history of the modern international order. Modern international political order is a product of the emergence of nation states, often arising through strife, dispute, and conflict. This class will accelerate the students’ understanding of international political thought.

216B.222 미국과 국제관계 3-3-0

America in World Politics

This course scrutinizes the US foreign policies leading today's international politics. It covers the country's history since the second World War and its policy-making process.

216B.223 국제정치경제론 3-3-0

International Political Economy

This course observes a five-century-long history of the modern international order. Modern international political order is a product of the emergence of nation states, often arising through strife, dispute, and conflict. This class will accelerate the students’ understanding of international political thought.

216B.224 안보론 3-3-0

Security Studies

This course critically reviews existing studies of international politics, analyzing the structure and dynamics of international politics as well as discussing how Korea can take advantage of the dynamics of international politics surrounding the peninsula.
216B.326 국적기구론 3-3-0

International Organization

본 강의는 오늘날 국제정치에서 점점 중요성을 더해가고 있는 국제기구들에 관한 것이다. 특히 담당교수의 강의와 함께 실제 해당 국제기구에서 실무를 담당했던 사람들의 특강을 같이 실시하여 국제기구가 실제로 어떻게 운영되는지를 간접적으로나마 경험하고자 한다.

This class examines international organizations whose importance has been increasing in recent years. Especially, it opens special lectures presented by specialists from various international organizations.

216B.328A 정보세계정치론 3-3-0

The Global Politics of Information

본 과목은 정보기술의 발달로 인해 야기되는 국제정치의 변화 또는 연속성을 국제정치의 이론적 경험적 시각에서 검토한다. 관련 주제의 보다 심층적인 이해를 위해 과학기술에 대한 개념적, 역사적, 학제 간 논의를 다루며, 군사안보, 정치경제, 지식문화 등의 분야에서 제기되는 정보화시대 세계정치의 구체적인 사례들을 살펴볼 것이다.

This class surveys the changing (or continuing) nature of world politics caused by the development of Information Technology from the theoretical and empirical perspectives of international relations. To understand these issues in more thorough ways, this course relies on various conceptual, historical, and inter-disciplinary resources accumulated in the tradition of social science, and examines specific cases in the fields of military and security affairs, political economic affairs, and knowledge and cultural politics in international relations.

216B.335A 미국 정책결정과정의 이해 3-3-0

Understanding Decision-Making Process in US Politics

이 강좌에서는 미국식 민주주의가 정치제도와 정치과정을 통해 주요 이슈들을 어떻게 해결하는지 검토한다. 강의 전반부는 해당 주제에 관한 lecture 위주로, 후반부는 주제와 관련된 "West Wing" episode를 정리한 후 토론팀의 발표와 토론으로 진행된다. 본 강좌는 미국정부와 정치에 관한 survey course로서 이론적인 면과 Hollywood version이나 실제적인 면을 조화시켜 이해를 도모하는 것을 목표로 한다.

This course analyzes political system and political processes in US. The first half of the class features traditional lectures on a specific topic of the week. Meanwhile, the second half of the class consists of watching an episode from the "West Wing", pertinent to the topic for the week, followed by class discussion and interaction. Student participation in a 'debate team' is mandatory. Each debate team takes a turn in leading class discussion and interaction throughout the semester.

216B.336 한국외교정책론 3-3-0

Korean Foreign Policy

이 과목은 학문적 탐구의 대상으로서 1948년 이후 한국외교정책의 전개과정에 대한 개괄적인 이해를 목적으로 한다. 강의 내용으로는 먼저 강의의 중심이 되는 기본적 개념과 이론적 논의에 대해 알아본다. 그리고 한·미·일 관계를 중심으로 박정희 한국정부의 전개과정을 살펴본 후 탄핵기일에 있어서 그 변화의 양상과 동상정책과 다자외교, 대북정책과 통일정책, 민주화와 외교정책 등의 문제를 다룰 것이다.

This course covers the development of Korean foreign policy since 1948. It will first review the basic concepts and theoretical arguments of the policy-making process. Next, it will examine the relations among Korea, Japan, and the United States during the Cold War era. It will then discuss new challenges in the post-Cold War era, such as multilateral diplomacy, trade policy, and the reunification of the Korean peninsula.
This course aims to explore the problems of the transformation and the upheaval of foreign policy experienced by this Post-Soviet Russia since the collapse of the Soviet Union in 1991. First, it will review the unchanging “Russian Idea” and “Russianness” even through the “great transformation” accompanied by the transition to the post-communist society and market economy. Next, it will examine the changes of Russian foreign policy as the manifestation of the complex political, economic, social phenomena and identity of Russia. Then it will discuss the relevance of understanding the changes in Russian foreign policy as a result of complex interaction between its domestic politics and international environment.

This course surveys the history, structure, and characters of modern Japanese foreign policy. It places special emphasis on postwar US-Japan relations. This class can roughly be divided into 4 areas, an overall introduction to Japanese foreign policy, their decision making process, Japan’s domestic constraints and diplomatic trends as well as analysis and prognosis of modern Japanese foreign policy.

This course is designed to help students understand the dynamics and international implications in relations in Eurasia (Central Asia and Caucasus region) after the collapse of the Soviet Union, focusing on the great powers rivalry in this region and the responses of regional newly independent states to the changing structure of regional politics.

This course examines the concept and history of diplomatic institutions, analyzing negotiations among states through theoretical approaches and case studies. Each group consists of 3-4 people who will choose and investigate a specific case in terms of its process and results.
국제정치의 주요쟁점 3-3-0

Issues in International Relations

이 강의는 최근 국제정치적 여건의 변화가 미치는 국내외 영향을 배경으로 하면서, 국제정치, 경제구조와 국내 정치-경제-사회 구조에 미치는 영향을 다양한 시각적 상황을 통해 검토하는 것을 목적으로 한다. 구체적으로 자유주의, 전쟁, 식민주의, 네덜란드, 태평양 전의 사회와 주제를 정하고 각 시대의 주요 국가와 사건 중주로 국제사회와 국내외 영향을 살펴 볼 것이다. 특히 이시아 외환 정책이 이후 세계화가 국내외에 미치는 영향에 주목한다.

This course examines the impact of international politics on domestic society. Major topics include the impact of colonialism, war, the cold war, and changes in international economies.

동남아의 정치와 외교 3-3-0

Politics and Foreign Policies in Southeast Asia

이 과목의 목적은 동남아시아 국가, 아시아의 정치와 외교에 대한 지식을 제공하고 이해를 높이는 데 있다. 아시아는 동남아시아 정치와 국제관계에서 중요한 지역일 뿐 아니라 아시아 지역주의는 동남아시아 국제관계에 중요한 의미가 있고, 분 강의에서는 아시아 국가들의 정치와 외교가 역내 관계와 역외 관계에 어떻게 작동하고 있는지를 알아본다.

This course aims at enhancing the understanding of politics and foreign policies in Southeast Asian countries. ASEAN region plays an important role in East Asian economic development and regionalism, bearing considerable implications for Korean diplomacy and East Asian international relations. This lecture explores how ASEAN states' politics and foreign policies work in intra-regional and inter-regional relations.

동남아국제정치사상론 3-3-0

International Thought in East Asia

동남아시아인들은 국제사회와 국제관계, 전쟁과 평화, 인간과 국가와 세계에 대해 어떤 생각을 가지고 왔었는가? 동남아시아인들의 국제적 의식의 성립과 그 변화, 이에 대한 의문이 많은 동남아시아 국제관계와 외교정책의 이해는 동남아시아 국제정치사상에 관한 기본 지식을 제공한다. 분 강의에서는 동남아시아 국제정치와 외교정책에 대한 이해를 위해 동남아시아 국제정치사상에 대한 기본 지식을 제공한다. What kind of thought have East Asian thinkers showed about international society and relations, war and peace, and man, the state and the world? What conditions have defined the nature of East Asian international political thinking? This course provides basic knowledge about East Asian thinking of international relations for understanding contemporary East Asian countries' foreign relations and policy.

Guide to International Relations

본 수업은 국제정치학을 공부하고자 하는 학생들에게 국제정치학을 소개하고자 하는 것을 목적으로 한다. 수업을 통해 학생들은 국제정치학의 일부분을 배우고, 국제정치학의 기초를 이해하게 된다. 본 강의는 International Relations에 대한 기본 지식을 제공한다.
한국정치사 3-3-0

Korean Political History

한편 한국 정치의 특성과 변화를 1945년 해방 이후부터 오늘 날까지 한국 정치의 전개 과정에 대한 학습을 통해 이해하도록 한다. 이를 통해 한국정치사에 대한 기본적인 사실과 과정, 특징 등 정치학 전공 학생들에게 교육한다.

이 과정은 다음 주제에 대해 이해하도록 유럽 정책 이론적 이해를 통해 국제정치에 대한 이해의 폭을 넓힌다.

M1319.000800 유럽정치론 3-3-0

Government and Politics of Western Europe

단기 민주주의의 혁명 이후 유럽 세계에서 전개된 정치경제적 발전의 역사적 과정과 한편 민주주의의 한 축으로서 유럽 민주주의의 역사와 경쟁을 이해함으로써 유럽 정책에 대한 이해의 폭을 넓힌다.

이 과정은 다음 주제에 대해 이해하도록 유럽 정책 이론적 이해를 통해 국제정치에 대한 이해의 폭을 넓힌다.

M1321.000200 현대국제정치사상 3-3-0

Contemporary International Political Thought

본 과목은 정치사상적 맥락에서 현대국제정치의 주요 쟁점들을 검토하는 것을 목적으로 한다. 학생들은 현대정치사상의 중심주제 (예, 전쟁, 민주주의, 인권 등)가 어떻게 국제정치적 쟁점과 맞닿아 있는지를 이론적으로 이해하고, 구체적인 사례의 적용을 통해서 국제정치에 대한 폭넓고 깊이 있는 시각을 확보하게 할 것이다.

이 과정은 다음 주제에 대해 이해하도록 유럽 정책 이론적 이해를 통해 국제정치에 대한 이해의 폭을 넓힌다.

M1321.000800 글로벌 리더십 연습 3-3-0

Seminar in Global Leadership

본 수업은 정치외교학부 학생들에게 사회과학, 특히 정치외교학 논문작성 능력을 함양하는 것을 목적으로 한다. 학생들의 자율 연구 구조 및 교수들의 밸락 지도를 통해 개별연구, 그룹연구의 학습체계를 통해 사회과학적 글쓰기, 인구설계방법, 그리고 논문의 구성요소와 특징에 대해 학습하고, 적절 사례연구를 진행한다. 본 수업은 학생들의 자신만의 연구주제를 선정하고 발전시킨 졸업논문을 제출적으로 준비할 수 있도록 주제별 요수준 및 그로나누어 진행한다. 또한 주제와 연계하여 필드리서치, 중간발표, 기본 발표를 진행하고 수수과제들을 모아서 시각 및 출판을 할 것이다.

The aim of the course is to help students learn how to write social science research papers with a focus on topics of political science and international relations. With small group undergraduate seminar, professors and students will discuss scientific writing skills, research design, and components of good research papers by examining important works in the field of political science and international relations. Also the course expects students to discover and develop their own topics for a thesis during the course. In order to accomplish the goal, small group seminars will be administered according to specific topic. Each seminar groups will have field research, mid-term presentation, final presentation. Excellent papers will be awarded and will be given a chance to publish.

M1321.000900 글로벌 냉전의 이해 3-3-0

Understanding the Global Cold War

냉전의 종말 이후 냉전에 대한 연구는 더욱 확장해졌으며, 단순한 냉전을 미국과 소련의 이념적/군사적 대립으로 보는 것을 넘어 다양한 방법론과 개념, 그리고 분석수준의 연구가 이루어지고 있다. 본 강사는 이러한 학문적 추세를 반영하여 글로벌 냉전의 주제를 학계적으로 이해하고, 지역적 수준에서의 냉전을 비교적으로 검토하는 것을 그 내용으로 한다. 강사는 냉전 연구의 방법론을 살펴보고 각 지역에서의 냉전의 특성을 비교하는 방식으로 진행될 것이며, 단기교수 이외에 국내외 관련학자의 초빙 강의가 이루어질 것이다.

Since the end of the Cold War, the field of Cold War Studies has grown to include a variety of methodologies, agendas and levels of analysis that did not exist in prior research on the event as an ideological/strategic confrontation between the US and the USSR. In recognition of this, this course tries to understand the subject of the ‘Global Cold War’ through an interdisciplinary approach and examines regional Cold Wars from a comparative perspective. An added feature of this course is that lectures are not only conducted by two professors, but also by other scholars from both Korea and abroad.

M1321.001100 국제법과 국제관계 3-3-0

International Relations and International Law

근대 국제관계에서 국제법의 본질과 역할, 국제정치와의 관계를 연구한다. 특히 21세기 국제정치가 다양한 분야에서 제도화됨에 따라 국제법의 역할이 비증가하고 있음을 고려하여, 현대 국제관계에서 국제법이 차지하는 역할과 기능을 공부할 것이다.

This course explores the nature, function, and the relationship of international law with international relations. Especially
with the rising importance of international institutions in international relations, this course focuses on the modern role of international law in the 21st century.

**M1321.001200 유럽지역연구 3-3-0**

*Europe in World Politics*

This course examines the role of international institutions in modern international relations, with a focus on the modern role of international law in the 21st century.

**M1321.001400 현대동북아국제정치경제 3-3-0**

*International Political Economy of the Contemporary Northeast Asia*

This course covers the Northeast Asian countries' cooperation and conflicts in production, trade, finance, investment, resources, and energy after the 1990s. The focus of the course will be placed upon the exploration and analysis of time series cross national data, multicountry survey data, and public data. Students will learn basic skills and knowledge about data science for the study of international relations from this course.
Microeconomics

This course covers basic microeconomics starting from the idea of a private decision, and going to analysis of the equilibrium of supply and demand in commodity markets and factor markets and finally price theory and the fluctuation of prices. Topics are selected for students to understand the allocation of resources and efficiency and also to grasp the causes of market failure and solutions to these problems.

Economic History

This course investigates theoretical and empirical analyses of economic growth and development, structural change, and economic crises and bubbles. The historical perspectives provided by economic theory will help students develop the ability to analyze economic phenomena and to understand the main economic trends in modern economy.

Introductory Statistics for Economists

This course provides elementary mathematical knowledge to students who are beginning to study economics. Topics in

Labor Economics

This course provides elementary mathematical knowledge to students who are beginning to study economics. Topics in

Marxian Economics

This course provides elementary mathematical knowledge to students who are beginning to study economics. Topics in

International Economics

This course provides elementary mathematical knowledge to students who are beginning to study economics. Topics in

Mathematics for Economics

This course provides elementary mathematical knowledge to students who are beginning to study economics. Topics in
include elementary algebra, linear algebra, differentiation, differential equations, and the basics of the optimization programs.

212.215 정책경제학입문 3-3-0
Introduction to the Political Economy

주류경제학의 문제점을 부각시키면서 대안적인 경제학 제제가 무엇인가를 강의한다. 특히 현실의 경제문제에 대한 주류적인 시각과 대안적인 시각을 제시하면서 다양한 사고를 개발한다.

This course contrasts mainstream economics with its alternates, with special emphasis on alternative approaches to current economic problems.

212.216 시장경제의 이해 3-3-0
Introduction to Market Economy

이 과목은 한국형 자본주의가 어떻게 시장경제로 정착되기 시작하였으며, 그 발전 전망에 대하여 수강학생들의 이해를 높이기 위한 과목으로 강의내용은 시장경제에 참여하는 소비자, 생산자와 정부가 인식하고 있는 시장경제에 대한 이해를 분석하여 전달하고 이를 효과적으로 이해시키기 위하여 대기업, 중소기업 및 국내외 경제에 진출한 해외기업과 정부 및 소비자보호단체의 대표를 초청한다.

The course is to promote students’ understanding of how Korean capitalism had been evolved and what is its prospects for future development. The contents of team lecture are to introduce and analyze the roles of three major participants in the market economy: Firms, Consumers and Government. In order to give students the “feel” of how market economy is operated and how economic agents interact among themselves, lectures on different topics will be invites from domestic and research institution.

212.301 경제영향학 3-3-0
Econometrics

이 과목은 현실 경제에서 얻어낸 자료를 이용하여 경제이론의 현실적 적합성을 분석하는 경제영향학의 기초를 다룬다. 경제영향학과 경제수학에서 얻은 기본지식을 바탕으로 단순회귀모형, 다중회귀모형의 최소자승 추정 및 가설검정방법, 연립방정식모형의 식별 및 계수추정 등에 관한 이론을 소개한다.

This is an introductory course in econometrics and provides students with tools to evaluate and carry out empirical re-search. This class offers basic knowledge of calculus and statistics, the theory of simple linear regressions, multiple linear regressions, least square estimations, hypothesis testing, and simultaneous equation problems.

212.302 수리경제학 3-3-0
Mathematical Economics

경제수학을 수강한 학생들을 위한 고급코스이다. 경제수학에서 배웠던 여러 분석도구를 보다 깊이있게 다룬다. 최적화문제의 부등식 제약을 다루는 쿤-타커 정리, 투입산출모형과 관련된 선형대수학의 정리들, 최적화문제에서 등장하는 라그랑지 승수의 경제적 의미 등을 다룬다.

This is an advanced course for those majoring in economic mathematics. The course will help students gain a comprehensive understanding of the Kuhn-Tucker theorem, theorems of linear algebra for the Input-Output model, and the economic meaning of the LaGrange multiplier.

212.303 화폐금융론 3-3-0
Money and Finance

이 과목의 목표는 현대화폐금융이론을 광범위하게 습득함으로써 금융시장, 중앙은행, 금융정책 등이 어떻게 돌아가는지를 이해하는 것이다. 이를 위해 금융시장, 일반상환성장, 중앙은행, 화폐량, 화폐수요, 금융정책, 이자이론 등과 관련된 여러 가지 이론적 견해와 그 현실적 의미를 살펴본다.

This course equips students with modern theories of money and finance so as to gain a basic understanding of financial markets, central banking, and financial policies. We also examine various theoretical views monetary supply and demand, theories of interest rate, and their relevance to the actual world.

212.305 재정학 3-3-0
Public Finance

이 과목은 응용미시경제학의 한 분야로서, 합리적인 경제행위가 정부의 행위에는 어떻게 적용될 것인가를 알아보는 것을 목표로 한다. 공공재, 공공선택 이론, 의존성 문제, 소득분배이론, 정부지출 분석, 비용편익 분석, 조세이론, 정부 및 지방 재정 등이 이 과목의 주요 주제가 된다.

As a course in applied microeconomics, this lecture focuses on government policy decision in terms of rational economic behavior. Main topics include: public goods, Public Choice Theory, externalities, Income Distribution Theory, Government Spending Analysis, Cost-Benefit Analysis, Tax Theory, and Municipal financing.

212.307 국제무역론 3-3-0
International Trade

이 과목에서는 국제무역의 기초이론을 공부한다. 구체적으로 무역의 이익, 규모의 경제와 다중질 병폐환된 제품의 소비, 상대적생산능력의 차이에 근거한 비교적적 이론, 이론적 소득배분론을 통해 전구성원의 후생증대 가능성을, 교역조건의 결정, 관세와 환경적 비용을 제시하며, 이론의 이해, 자유무역과 요소소득등분화 가능성을, 요소공급의 증가, 가속의 전가료와 요소공급구조와 교역조건 및 요소소득에 미치는 영향, 보호무역과 우평, 최적관세제, 유지산업보호론, 자본의 이론, 화폐과 공공재안정, 보호무역의 단기적 효과, 다재화 다국가 무역양상 모형, 상품주기설, 수출주도형성장과 수입대체형성장, 국제무역환경 등을 공부한다.

This course will cover the following topics: fundamental theories of international trade; the benefits of trade; economies of scale; consumption of discriminated products; the doctrine of production costs based on the difference of relative production technology; the doctrine of comparative costs based on the difference of factor-endowment ratio and factor intensity; the possible improvement of people's welfare by idealistic income redistribution; the determination of trade conditions; protective tariffs and change of the factor income; possibilities of free trade and factor income equalization; increase of factor supply; effect of technological progress on the production-trade structure; the trade conditions and the factor income; protective trade and welfare; theory of optimal tariffs; arguments for the protection of infant industry; theory of the second best; the short-term effect of protective trade;
212.309 International Monetary Economics

This course introduces students to the development of economics, with special emphasis on the history of economics at the turn of the 20th century. Students also examine the relation between theoretical features and environment and the foundation of a scientific world-view.

212.316 History of Economic Theory

Students’ purpose in this course is to study the path of expansion and the growth of the Korean economy in modern times.

212.317 Industrial Organization

This course examines how the market price is set and how market failure occurs as well as how the market can improve market performance. It is recommended for students who have taken Microeconomics and are interested in further studies of oligopoly behavior and competition policy.

212.322 Modern Marxian Economics

This course surveys Marxian economics after Marx’s death. It covers the Second International, theories of monopoly, capital, and imperialism, the socialist system of the USSR, Althusserian Marxism, problems of the Third World, and the globalization of capital.

212.326 Industrial Relations

This course surveys Marxian economics after Marx’s death. It covers the Second International, theories of monopoly, capital, and imperialism, the socialist system of the USSR, Althusserian Marxism, problems of the Third World, and the globalization of capital.
The issues concerning individual contracts and unionism are addressed in this course. The course is open for the second semester and focuses on explaining the institution of capital markets. The aims of this course are to overview major demographic issues around the world in long-term perspectives, and to introduce basic methods and principal findings of population economics. The focus of the course will be on the interrelationship between demographic and economic changes in major developed countries and Korea. The topics to be taught include (1) introduction to demographic indexes, (2) overview of the long-term population changes, (3) economic analyses of fertility changes, (4) economic analyses of health and mortality, (5) international and internal migrations, (6) issues in economics of aging.

212.337A 주식•채권•파생금융상품 2: 제도 3-3-0

Stocks, Bonds and Financial Derivatives 2: Institutional Analysis

This course is designed for junior and senior students of economics, the aim of this course is to teach the structure and status quo of the Korean capital market. This subject is connected with "Stocks, Bonds and Financial Derivatives 1: Theory" which is opened for the second semester and is focused on explaining the institution of capital markets.

212.338A 주식•채권•파생금융상품 1: 이론 3-3-0

Stocks, Bonds and Financial Derivatives 1: Theory

This course provides students who are interested in early stage knowledge in finance and financial asset pricing models. Both discrete-time and continuous-time models are discussed. It will deal with pricing, hedging and investing strategy of stocks, bonds, and swap, options and derivatives of other structured bonds theoretically. Specially it studies risk neutral pricing.

212.339 게임이론 및 응용 3-3-0

GameTheory and Its Application

This course discusses the basic tools of game theory. It examines the basic models of strategic behavior in modern microeconomics. It also builds a framework for the analysis of markets in which traditional price theory fails. Central in development are choices under uncertainty, choices in strategic situations, and choices under asymmetric information. The theories are applied to the analysis of oligopolistic markets, insurance markets, the theory of actions and other applied areas.
212.349 미시금융론 3-3-0
Theory of Microfinance

본 과목은 경제학부 3학년생 대상으로 기업의 자본조달 및 투자정책에 대한 기본 및 중급지식을 강의한다. 경제학부의 '최적 자본조달'이 기지경제학에서 자본조달을 분석하는데 초점을 두는 데 반해 본 과목은 미시면에서 중간점을 둔다. 구체적으로 기업의 자본조달 방정식, 종류 및 상대적 장단점과 최적 자본조달 방법론에 대해 분석한다. 따라서 기업의 투자정책의 기준을 제시하고 이에 대한 사안에 대해 논한다.

Targeting for the junior students majoring in economics, the course is to deliver fundamental and intermediate knowledge about corporate finance. This course centers upon the course is to deliver fundamental and intermediate knowledge about corporate finance. This course centers upon the optimal financial structure. This course also provides alternative criteria for assessing the firms’ investment decision and corresponding risk management.

212.350 정치경제의 이해 3-3-0
Understanding Political Economy

정치경제는 경제적 제도와 정치적 제도의 상호관계를 연구한다. 이 과목은 법, 정치제도, 그리고 정책이 어떻게 경제적 행위 및 제도와 관련되어 있는지에 대하여 공부할 것이다. 제도와 정치결정에 대한 규범 이론들을 개관하고, 정치결정 및 집행 과정과 개별 의사결정자들의 경제적 행위가 그 결과에 대한 분석을 다룰 것이다. 수강생들은 정치경제 분석의 철학적 기초, 선거, 의회정치분석, 이익집단, 정치적 의사결정의 유인제제, 투표 등에 대하여 배우게 될 것이다.

This course is a study of the interrelationships between political and economic institutions. It studies how laws, political institutions, and policies are related with economic behavior and institutions. The course covers normative theories, the process of public policy formulation and implementation, and the economic behavior of individuals in policy making. Students will study philosophical foundations for public policies, electoral competition, legislative politics, interest group politics, the incentive structure of government decision making, and voting behavior.

212.412 한국경제론 3-3-0
Korean Economy

한국경제의 특성과 성장 및 발전과정을 최근의 이론과 분석들로 동화하여 검토하고, 다른 나라와 비교하여 분석하며 한국경제론에 관한 국내외 경제전문가들의 최근의 연구결과를 소개하고 이를 토대로 한국경제의 주요 문제점은 체계적으로 검토할 수 있게 한다.

Our purpose in this course is to examine the Korean economy and its development by applying recent theories and analytic methods. We will compare the Korean economy with its counterparts, and enable students to examine the Korean economy using recent research by foreign and domestic economic specialists.

212.436 중국경제론 3-3-0
Studies on Chinese Economy

본 과목은 중국경제에 관심을 가진 학생을 대상으로, 중국경제에 대해 소개하고, 특히 개혁기 중국사회와 경제에서 일어나는 변화에 초점을 맞춘다. 경제학에 대한 사전 지식은 필요하다. 발달하는 중국은 경제학의 주요 분야 중의 하나로, 경제학의 발전에 많은 영향을 미쳤다.

In this introductory course on the Chinese economy we focus on economic change since the 1978 national reform and address aspects of the resulting socio-economic changes. (For this course prior economics knowledge is desirable but not required.) We use some textbooks and reading materials but we devote at least one-third of the time to audio-visual presentations on Chinese society and economy, with related discussions.
firm which are recently discovered by many microeconomists who have attempted to open that “black box” such as (1) how the workers can be effectively induced to achieve the firm’s goal, (2) how they are organized for smooth information transmission among them, and (3) how the various decision rights of a firm are to be assigned to them.

212.471 동태적 거시경제이론 3-3-0
Dynamic Macroeconomics

본 강좌는 동태적 일반계획을 초래하고 이를 기초로 하여 경제성장, 경제변동, 인플레이션, 금융 및 외환위기, 화폐금융정책, 재정정책 등의 주요 기간 경제이론들을 이론적, 실증적으로 분석한다.

This course provides an introduction to dynamic general equilibrium models, a major tool of modern macroeconomics. Based on dynamic macro models, major macro issues will be discussed including economic growth, business cycles, inflation, financial & currency crises, and monetary & fiscal policy.

212.472 이행기 경제와 경제체제이론 3-3-0
Transition Economics and Economic Systems

구조적 동작의 사회주의 경제의 동락과 그들의 시장경제로의 이행을 다룬다. 기존경제학의 분석틀뿐만 아니라 그동안 경제학에서 간과한 경향이 있었던 제도와 정치경제학적인 요인들을 고려한 분석틀이 이용될 것이다. 이 과목은 성공적으로 수행한 학생들은 사회주의 경제의 기본 특성을 파악하고 동시에 어떠한 요인이 이들 경제의 붕괴에 영향을 미쳤는지 이해할 수 있을 것이다. 또한 이와 같은 문제들은 시장경제로의 이행과정속에서 드러나게 되었으며 그 결과는 어떠한 요인들이 이들 경제의 붕괴에 영향을 미쳤는지 이해할 수 있을 것이다. 또한 이와 같은 문제들은 대부분 경제학의 이행과정속에서 드러나게 되었으며 그 결과는 어떠한 요인들이 이들 경제의 붕괴에 영향을 미쳤는지 이해할 수 있을 것이다. 또한 이와 같은 문제들은 시장경제로의 이행과정속에서 드러나게 되었으며 그 결과는 어떠한 요인들이 이들 경제의 붕괴에 영향을 미쳤는지 이해할 수 있을 것이다. 또한 이와 같은 문제들은 시장경제로의 이행과정속에서 드러나게 되었으며 그 결과는 어떠한 요인들이 이들 경제의 붕괴에 영향을 미쳤는지 이해할 수 있을 것이다. 또한 이와 같은 문제들은 시장경제로의 이행과정속에서 드러나게 되었다.

This course examines one of the greatest events in the late 20th century, that is, the economics of the collapse of European socialist economies and their transition to market economies. In this course, we will address the following questions: what were the causes of the collapse of Centrally Planned Economies?, what are the economic problems which transitional economies have faced; what can be learned from the different policies followed and degrees of success achieved so far by different countries? Students who successfully complete this course will have achieved an insight into basic features of CPEs and their shortcomings contributing to collapse.

212.474 경제예측 및 시계열 분석 3-3-0
Economic Forecasting and Time Series Analysis

본 강좌에서는 경제계획문서와 시계열 분석에 사용되는 재정경제학자 기법들을 주 학습내용으로 한다. 이러한 기법들은 간단한 경제학의 연구대상인 동적 판매의 실증분석에 주로 적용되며 다른 관련 학문분야에서의 실증분석에도 적용될 수 있다. 이러한 실증분석은 통계학이론의 현실성 검증과 함께 경제현상의 현실적 이해도를 높일 수 있다. 또한 본 강좌를 통해 수강생들은 경제학의 예측을 수행하는 능력을 배양할 수 있는 기회를 갖게 된다.

This is an upper level course for undergraduate students in economics and other related disciplines. Our main focus if on recently developed topics in the area of time series econometrics. Most of the semester will be spent in a solid introduction to concepts and techniques, formulation and use of them, that form the cornerstone of time series econometrics. Considerable emphasis will also be placed on application of practice in the area. Knowledge of basic concepts and techniques in statistics and econometrics is assumed. Students are expected to be able to use a computing software for data analysis assignments.

212.476 경제정보학 3-3-0
Economics of Information

현실 경제에서 소비자의 선택은 대부분 불확실성 하에서 이루어지고, 이 불확실성을 완화하려는 소비자의 선택으로 인해 시장에서의 정보의 생산 및 유동이 이루어지고 있다. 이 강좌에서는 최근의 미시경제학적 사례들로 설명하는 방법론적 하에서의 소비자 이론과는 달리 불확실성 하에서의 소비자 이론에 대하여 수신적으로 다루면서 시장에서 유동될 정보의 가치를 어떻게 평가할 것인가에 대한 미시적 해석에 대하여 학습한다. 이를 위해 고급미시경제학에서 다루어지는 소비자의 위험회피성(risk-aversion)에 대한 미시적 분석과 여러 가지 확률지배(stochastic dominance) 개념 등이 학습되어야 할 것이다.

Information is produced and distributed because risk-averse consumers would like to escape from uncertainty which they inevitably are faced with in real economy. In this lecture, we will study the consumers’ decision making under uncertainty which is different from the consumer theory under certainty in elementary microeconomics, and the microeconomic foundation about how to evaluate the value of information. For this purpose, micro-analysis about the consumers’ risk-aversion dealt with in advanced microeconomics, and the various concepts of stochastic dominance will be introduced as an undergraduate level.

212.478 금융 중개와 규제 3-3-0
Financial Intermediation and Regulation

본 과목은 금융경제학 이론 중에서 특히 은행을 중심으로 하는 금융 중개기업의 구조와 작동원리를 소개하고 아울러 이들 금융 중개기업에 대한 규제론을 살펴본다. 금융 중개 산업은 경제의 도입을 통해 효율성을 제공하기 어려운 산업인데, 그러한 특성을 이해하기 위해서는 이들 금융 중개기업들의 기능을 이해할 필요가 있다. 아울러 경제학을 통한 효율성 제고가 이론에서 존재하는 이들금융중개기업들에 대한 규제가 어떤 형식으로 부과되는 것이 바람직한지에 대한 고찰을 담당한다.

This course introduces the structure and the working mechanism of financial intermediaries including banks. It is well known that introducing competition into the financial intermediation industry to promote economic efficiency is not easy. The course first attempts to explain the functions and the working mechanisms of the financial intermediaries to understand why the introduction of competition may not promote efficiency. Next the course attempts to find the optimal regulation structure for the financial intermediation industry.
M1314.000100  응용계량경제학 3-3-0

Applied Econometrics

This course presents the theory of mechanism design that explores the possibilities of designing a new economic mechanism (or reorganizing the existing mechanism) where the competitive market fails or is non-existent. We will study how alternative mechanisms affect the economic agents' incentives and their welfare in the setups such as principal-agent relationships, auctions, and matching markets. While this course focuses on learning the mechanism design theory at its basic level, it will also deal with design issues in a variety of practical markets and briefly cover some empirical analysis as well.

M1314.000800 보건의료경제학 3-3-0

Health Economics

Health economics is a filed of economics that studies the efficiency, effectiveness and value in the production and consumption of health and healthcare. This course aims to understand the following topics: 1) socioeconomic determinants of health, 2) economic model of health production function, 3) distinguishing features of healthcare market, 4) role of health insurance in avoiding uncertainty and risk intrinsic in health and healthcare, 5) effect of health insurance on the demand, supply and price in healthcare market, and 6) role of government in improving population health and welfare in the aspects of national health insurance, regulation and legislation.
Empirical Financial Economics

In the field of economics, it is often necessary to analyze data and draw conclusions about economic phenomena. This involves using statistical methods and computer software to perform regression analysis, test hypotheses, and make predictions. The course aims to equip students with the necessary skills to conduct empirical research in economics.

The course covers the following topics:
1. Regression analysis: Understanding the basic concepts of regression analysis and how to interpret the results.
2. Hypothesis testing: Learning how to formulate and test hypotheses using statistical methods.
3. Econometric modeling: Developing models to estimate economic relationships and predict future outcomes.
4. Time series analysis: Analyzing data collected over time to understand trends and cycles.
5. Panel data analysis: Working with data that has multiple observations over time for the same units.
6. Instrumental variables: Understanding how to deal with endogeneity and omitted variable bias.
7. Causal inference: Learning how to estimate causal effects using various techniques.

The course uses R for data analysis and programming. Students will be expected to complete weekly assignments and a final project. The project will involve designing and conducting an empirical study in economics.

Introduction to Numerical Methods

This course provides an introduction to numerical methods and their applications in economics. It covers topics such as interpolation, approximation, numerical integration, and numerical differentiation.

The course aims to:
1. Introduce students to the basic concepts of numerical analysis.
2. Teach students how to implement numerical methods using programming languages such as Python or MATLAB.
3. Provide practical experience in applying numerical methods to solve economic problems.
4. Develop students' skills in critical thinking and problem-solving.

The course is suitable for students who have a basic understanding of calculus and linear algebra. It is recommended that students have some prior programming experience, as the course involves coding exercises.
Purpose: This course serves a double purpose: to make students familiar with formal proofs, and to teach mathematical techniques that a widely used in economics. The course can serve students in a variety of ways: as preparation for reading technical books or articles in economics, as a first step to take further proof-based courses in a mathematics department, or as preparation for doing research in economics.

M1314.001600 산업의 혁신과 경제 3-3-0

Economics of Innovations in Industries

The course deals with the following subjects. 1) How recent innovations have reshaped industries and related markets, and investigate its implications from economic perspectives. 2) Prospect of major ongoing innovations and how industries have been and will be affected by them. 3) Case studies, how individuals, firms and governments have responded to the new and ever changing economy.

Recent innovations in industries have made huge impact on economy. New industries were born and most industries were being reshaped. And, it is not over yet. This course aims to enhance the understanding of innovations in industries and to investigate its implications from economic perspectives. The course deals with the following subjects. 1) How recent innovations have reshaped industries and related markets (case studies). 2) Prospect of major ongoing innovations and its impacts on economy. 3) How individuals, firms and government to prepare for the new and ever changing economy.

M1314.001700 경제학연습 3-3-0

Exercises in Economics

The aim of this course is to deepen what they have learned. Students will learn to discuss and present their ideas and learn to write a short paper which will be reviewed by the instructor. The course will also serve as a writing practice session for those who are preparing their graduation thesis by requiring every student to write a short paper which will be reviewed by the instructor.

M1314.001900 거시 금융 경제학 3-3-0

Macro Financial Economics

The demand of a money is equal to the supply of a money. The demand of a money is a function of the price level and the real income. The supply of a money is a function of the velocity of circulation and the money supply. The money supply is determined by the central bank. The central bank can change the money supply by changing the reserve requirement or by changing the discount rate.
Connected with “Stocks, Bonds and Financial Derivatives 1: Theory” and “Stocks, Bonds and Financial Derivatives 2: Institutional Analysis”, this course aims to provide the students with applied topics in financial economics. Specifically, the topics include (i) pricing of financial derivatives and (ii) empirical analysis with market data.

M1314.002600 경제 분석을 위한 데이터 사이언스 3-3-0

Data Science for Economic Analysis

This course provides an overview of Korean economic development and its relation with the global economy, starting from 1960s during which Korean economy started to take-off to the most recent years. While this course will focus on Korean economy and its development, it will cover both traditional trade models as well as more recent ones to develop better understanding of the relationship between Korean economic development and international trade.

M1314.0037000 이론 경제지리학 3-3-0

Theoretical Macroeconomic Analysis

This course will provide an overview of Korean economic development and its relation with the global economy, starting from 1960s during which Korean economy started to take-off to the most recent years. While this course will focus on Korean economy and its development, it will cover both traditional trade models as well as more recent ones to develop better understanding of the relationship between Korean economic development and international trade.
This course covers various macroeconomic theories developed during the period of 1980-2020 to help students have a better understanding of actual macroeconomic issues through the enhancement of their analytic capability from the modern macroeconomic perspective. Reflecting macroeconomic changes since the 2000s, the topics of the course include the macroeconomic aspect of network theory, macroeconomic implications of asset and income inequalities, household debts, the size distribution of firms, jobless recovery, and boom and busts of asset prices. The other important topics are covered through the theoretical analysis of New Keynesian macroeconomic model and natural-rate economy. The first part of this section discusses how to eliminate wedges between actual and natural economies by the adoption of appropriate macroeconomic policy responses. The second part covers the equilibrium determination of potential output and natural interest rate with their inter-temporal movements.

M1314.003900 경제학과 시장경제의 이해 3-3-0
Understanding Economics and Market Economy

M1314.003900 경제분석을 위한 마신러닝 3-3-0
Machine learning for Economic Analysis

M1314.002700 교육경제학 3-3-0
Economics of Education

M1314.002800 조세·재정정책세미나 3-3-0
Tax·Fiscal Policy Seminar

M1314.002900 고급금융경제세미나 2-2-0
Advanced Seminar on Finance and Economics
대 주요점이 있다면 고급 금융경제세미나는 경제 현장에 종사 중인 실무진들이 좀 더 기술적이고 세부적인 내용의 경제 현장 홍보음 학생들에게 알려주게 될 것이다.

이와 함께 학기 중 3-4회 정도 세미나 형식의 발표 토론 수업도 진행될 예정이다. 사회과학대학 경제학부에서는 학생들이 좀 더 기술적이고 세부적인 내용의 경제 현장 흐름을 학생들에게 알려주게 될 것이다.

Compared with the class named Seminar on Finance & Economy, class named Advanced Seminar on Finance & Economy will be designed with different type or grade of lecturers. Lecturers at Seminar is composed with high ranking VIPs such as Ministers, Chairmen and so on. Advanced Seminar's lecturers are mainly field experts such as directors, specialists, investors and so on.

 Especially, a couple of weeks during the Advanced Seminar are planned to have a formal seminars on timely issues with presentators and commentators. During this seminar, students are also playing as the active audience.

政治経済論 3-3-0

Political Economy and Game Theory

이 강의는 정치경제학의 다양한 주제를 게임이론의 분석적 틀을 이용하여 탐구한다. 수업을 통해 학생들은 투표, 대표제 민주주의 하에서의 의사결정과정, 정치적 협상, 언론편향, 부패 등의 주제에 대해 게임이론을 토대로 만들어진 모형들을 분석하고 그 결과가 가지는 함의에 대해 토의한다.

This course explores various topics of political economy using the game theory as the main analytical tool. During the course, the students will analyze the models based on game theory and discuss implications of the result. The subject in this course includes (but not limited to) voting, collective choice under representative democracy, political bargaining, media bias, and corruption.

한국금융정책세미나 2-2-0

Seminar on Korean Financial Policy

한국의 금융시장, 금융산업, 금융하부구조 등 금융제도 현황을 이해하고, 한국의 금융산업과 관련된 규제법령 등 규제체계를 연구하는 한편, 한국 경제에서 금융산업의 성장과정과 역할, 앞으로의 발전과제를 논의하고자 한다. 아울러 본 강의는 금융산업을 응용하고 융합하기 위한 금융정책의 생태과정과 배경, 주요한 금융산업과 시장의 현안이슈 등을 살펴보고자 한다.

The aim of this course is to enhance the understanding of financial industry and to improve analytical skills in economics by studying Korean financial system and policies. The course will focus on the following areas:

(1) Overview of Korean financial system (financial supervision system, financial market, policy on financial consumers and so on.)
(2) Development of Korean financial industry
(3) Case studies on financial crisis
(4) Decision process for financial policies
(5) Real-life cases and issues in financial market.
History of Sociology

본 강좌는 풍토, 스펙서, 마르크스, 베버, 뒤르켐, 맷델, 만하임, 파슨스 등 초기 사회이론을 전반적으로 소개하고, 이들의 이론과 현대 사회이론의 연계를 조조하면서 이들의 개념을 현대사회에 적용하고자 한다.

This course provides a critical overview of classic social theories. Some of the theorists include A. Comte, H. Spencer, K. Marx, M. Weber, E. Durkheim, G. Simmel, K. Mannheim, and T. Parsons. It will highlight the connections between theories and modern social analyses, while attempting to apply their concepts to contemporary society.

Methods in Social Research

본 강좌는 경험적 자료를 수집, 기술, 분석하는 방법을 주로 소개한다. 특히 사회조사에서 얻어진 정보를 통계적 분석의 주요 방법들을 강조한다.

As an introduction to the various methods of empirical social research, this course surveys how researches are used to assemble, describe, and draw inferences from bodies of data. Emphasis will be placed on elementary methods in the statistical analysis of information drawn from surveys or archives.

Social Stratification and Inequality

본 강좌는 사회적 계층화 과정을 분석한다. 그리고 사회적 지위, 계급, 반인간적 사고와 생애에 따라 어떻게 영향을 주는지 분석한다.

This course explores social stratification and its process. The implications of status, class, and poverty for people of different races, regions, and genders are also covered.

Urban Sociology

이 수업은 서울대학교 사회학과 학생들에게 도시사회학 분야의 고전들과 최신 연구들을 알고, 이해하고, 토론할 수 있는 기회를 제공하는 것은 기본 목표로 삼는다. 아울러 이 수업은 한국 도시의 발전과 변화 과정, 그리고 그 이로인한 한국 학계의 인구 구조를 통해 살펴보고, 과거 도시와 과거 도시와 현대 도시와 계획에 덕선적인 영향을 미쳤거나 하고 있는 정책 결정자 및 실무자들에 대하여 한국 도시의 현실에 대해 이해를 증진한다. 이러한 과정을 통해 학생들은 앞으로 어떻게 도시들이 생겨나겠는지, 그들이 어떻게 발전했는지, 그리고 이들이 개인, 사회적 관계, 정치적 상황에 미치는 영향이 무엇인지에 대해 답을 찾아야 한다. 특히 한국사회 도시 문제가 집중되어 있는 수도권 도시의 영향을 본 사람들의 생각과 관리도 살펴본다. 도시의 이론과 도시와 관련된 현장적인 연구, 한국의 도시들은 집중한 후, 이 수업은 현대 도시와 현대 도시의 역할에서 발생하는 사회문제들과 가장 밀접한 관련이 있는 국제적(migration) 문제도 다룬다. 국제적, 주거 문제는 국제적 이론, 정책, 민자 지방, 사회문화적 등의 주제들을 포함하고 있다.

This course aims to provide the students of Sociology with the opportunity to read classics and up-to-date studies in urban sociology, understand and discuss them. In addition, this class will examine the development process of Korean cities and its aftermath through the research results of Korean academia. Also it promotes understanding of the reality of Korean cities by inviting policy makers and practicing professionals who have played a key role in the past urbanization process and current urban planning. Through this process, students will find answers on why and how cities have emerged, how they have developed, and their impact on personal, social, and political phenomena. In particular, the case of the metropolitan city where the problems of Korean social cities are concentrated will be examined. After examining urban theory, controversial studies on cities, and examples from Korea, this class deals with international migration, which is most closely related to social problems that arise in the globalized city context. International migration issues include topics such as international migration theories, policies, immigration adaptation, and social integration.
This course analyzes the structure and processes of different types of organizations (e.g., banks, schools, government agencies, corporations, venture/entrepreneurial firms). The focus will be on the intra- and inter-organizational relationships, organizations and their environments, as well as their efficiency.

205.240A Sociology of Environment and Ecology

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Historical Sociology

This course assists students to understand social institutions and ideologies by combining historical analysis with sociological theory.

Cultural Sociology

This course attempts to do sociological researches on the domain of culture and find current cultural phenomenon. The areas of the study would be focused on the concept and origin of culture; cultural production, distribution, consumption; cultural spaces, performers, collective consciousness, ceremony; and cultural grammar.

Contemporary Sociological Theories

This course leads students to a critical understanding of selected contemporary sociological theories while exploring the relative merits of these theories.

Social Research Practicum

In this course, students conduct independent research on topics of their own choice. They are to submit a proposal on the nature and meaning of labor for the individual and the society Students survey inequalities related to occupations, firms, gender and age by observing career patterns and the role of power in the workplace.

Sociology in Industry and Labor

This course explores the nature and meaning of labor for the individual and the society. We examine the relative merits of these theories.

Information Society and Cyber Society

This course explores the relationship between market developments and patterns of industrial organization. Main themes include the emergence of capitalist market systems and their implications for the organization of labor, as well as the relationship between markets and production systems in developed economies.

Family and Life Course in Modern Society

This course explores the relationship between market developments and patterns of industrial organization. Main themes include the emergence of capitalist market systems and their implications for the organization of labor, as well as the relationship between markets and production systems in developed economies.

Online Social Network

Online social network is an online platform that connects people through shared interests, activities, or affiliations. The platform allows users to create profiles, join groups, and participate in discussions with other users. It can be used for various purposes, such as personal communication, business networking, or social networking. The platform typically includes features such as messaging, status updates, and event scheduling.
This course aims to trace the classical roots of contemporary social theories, highlighting the relationships between theories and their social context, as well as seeing how this general flow of ideas shaped the theories of modernity and post-modernity.

205.342A  성과 사회 3-3-0

Gender and Society

This course explores how gender difference is transformed into a system of gender stratification. The main topics are the demographics and social positions of women and men in the family, education, media, politics, and the economy. Special attention is paid to the socio-psychological and sociological bases underlying the behavior and attitudes of women and men.

205.343A  중국인과 중국사회 3-3-0

People and Society in China

This course explores how gender difference is transformed into a system of gender stratification. The main topics are the demographics and social positions of women and men in the family, education, media, politics, and the economy. Special attention is paid to the socio-psychological and sociological bases underlying the behavior and attitudes of women and men.

205.344A  민족사회학과 북한연구 3-3-0

Sociology of National Identity and North Korean Issues

This course analyzes nation-related phenomena in contemporary world with special reference to the globalization and informatization. Main theoretical issues in the class would include, but not limited to, national identity formation, nationalism and post-colonialism, multiculturalism, citizenship and nationality, etc. North Korean society and the issue of the two Korea’s unification are also going to be discussed.

205.339A  저지사회학 3-3-0

Sociology of Knowledge

This course approaches the status of knowledge within modern society from a theoretical paradigm. We will examine texts about the phenomenological origins of the sociology of knowledge. Topics include the change of the importance of knowledge in contemporary society; changes in perception of the relationship between knowledge and power; knowledge as a means of control; and knowledge as a menas to freedom.

205.341A  고전사회학이론 3-3-0

Classical Sociological Theories

This course analyzes nation-related phenomena in contemporary world with special reference to the globalization and informatization. Main theoretical issues in the class would include, but not limited to, national identity formation, nationalism and post-colonialism, multiculturalism, citizenship and nationality, etc. North Korean society and the issue of the two Korea’s unification are also going to be discussed.
본 강좌는 오늘날 한국사회에서 흔히 인지되는 문제들 사이에서 다루어집니다. 사회적 불평등이 질병에 미치는 관계 등이 다루어질 것입니다.

이 과목의 주목적은 학생들이 사회구조와 건강에 관한 여러 사안들 사이의 관계를 사회학적으로 인식할 수 있도록 하는 것입니다. 이 과목에서는 주로 한국사회에서 건강과 관련된 의료계가 어떤 사회적 맥락 속에서 조화하고 있는지를 살펴볼 것입니다. 이를 위해 질병에 대한 개인적 체험과 효과, 의료검진, 의료적 병, 의사와 환자 사이의 관계, 사회적 불평등이 질병에 미치는 관계 등이 다루어질 것입니다.

The major objective of this course is to enable students to analyze sociologically the relationships between the structure of society, the delivery of health, and the pursuit of health. This course explores the social context of health, illness and the health care system in Korean society. Issues related to the experience of illness, the healing professions, health policy, relations between providers and patients, and the effects of social inequality on health will be examined.

Sociology of Health and Illness

이 강좌는 사회 현상의 새로운 보고(新報)인 ‘소셜 빅데이터 (social big data)’를 수집하고 분석하는 방법을 다룹니다. 이는 이전의 사회과학적 사례들 속에서 조사해야만 할 문제와 함께, 개발이 완전한 데이터입으로 사회에서 재정적 배분을 기리거나 분석의 기회와 방법을 제공합니다. 이를 위해서는 적어도 Open API를 활용한 데이터 수집, 텍스트 분석, 소셜 네트워크 분석, 기계 학습, 스크립트에 의한 분석도를 제어 방법 등이 필요합니다. 개방적인 소프트웨어와 더불어 유사 벡터를 직접 수집해 다양한 주제들로 보는 체제에 허용되며, 수학과 프로그래밍을 전공하지 않음도 불구하고, 소셜 빅데이터를 다루는 것이 수학적 사례들 사이에 연계되어야 할 문제는 이 강좌의 목표입니다.

This course introduces various methods for gathering and analyzing ‘social big data’. With the advent of ‘hyper-connected society’, more and more of our social behavior and interaction records are stored in a digital big data. This ‘social big data’ poses new challenges to conventional research methodology, which has been normally based on sam-

M1304.001200 소셜 빅데이터 조사분석 3-2-2

Social Big Data Analytics

이 강좌는 사회 현상의 새로운 보고(新報)인 ‘소셜 빅데이터 (social big data)’를 수집하고 분석하는 방법을 다룹니다. 이는 이전의 사회과학적 사례들 속에서 조사해야만 할 문제와 함께, 개발이 완전한 데이터입으로 사회에서 재정적 배분을 기리거나 분석의 기회와 방법을 제공합니다. 이를 위해서는 적어도 Open API를 활용한 데이터 수집, 텍스트 분석, 소셜 네트워크 분석, 기계 학습, 스크립트에 의한 분석도를 제어 방법 등이 필요합니다. 개방적인 소프트웨어와 더불어 유사 벡터를 직접 수집해 다양한 주제들로 보는 체제에 허용되며, 수학과 프로그래밍을 전공하지 않음도 불구하고, 소셜 빅데이터를 다루는 것이 수학적 사례들 사이에 연계되어야 할 문제는 이 강좌의 목표입니다.

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M1304.001600 범죄사회학 3-3-0

Sociology of Crime

이 강좌는 범죄사회학의 주요 이론들과 현세적 problems들을 검토합니다. 범죄가 발생하고 정의되는 과정, 형사절차의 작동 방식, 범죄를 둘러싼 정책과 실천들의 사회적 효과를 이해하고 범죄를 둘러싼 지식들을 비판적으로 검토하는 것을 목표로 합니다.

This course is designed to provide intensive overview of sociological criminology and contemporary issues. It covers the process by which crime occurs and is defined, the role of the criminal justice system in managing crime, and the social effects of policies and practices for crime control. This course aims to critically question popular assumptions about criminological knowledge.

M1304.002000 이주사회학 3-3-0

Sociology of International Migration

이 강좌는 이주사회학의 주요 이론들과 현세적 problems들을 검토합니다. 이주가 발생하고 정의되는 과정, 이주절차의 작동 방식, 이주를 둘러싼 정책과 실천들의 사회적 효과를 이해하고 이주를 둘러싼 지식들을 비판적으로 검토하는 것을 목표로 합니다.

This course is designed to provide intensive overview of sociological criminology and contemporary issues. It covers the process by which crime occurs and is defined, the role of the criminal justice system in managing crime, and the social effects of policies and practices for crime control. This course aims to critically question popular assumptions about criminological knowledge.
본 강좌는 데이터과학의 방법론을 사회 자료 통계 분석에 이용하는 능력을 갖추고자 한다. 기술 및 추론 통계의 기본 방법론을 사회과학 연구 설계와 경험 분석의 관점에서 다루고, 프로그래밍 및 언어 습득을 통해 사고 사회과학과 통계 분석을 수행할 수 있는 능력을 함양시킨다.

This course teaches students how to use data science methods for statistical analysis of social data sets. Descriptive and inferential statistics are introduced in the context of sociological research design and empirical analysis. The students will gain data visualization and statistical analysis skills by learning a computer programming language.

M1304.002900 문학과 예술의 사회학 3-3-0

Sociology of Literature and Art

본 강좌는 문학과 예술 작품들이 어떻게 생산되고, 환경에, 해석하는지를 탐구하고 이해하는 것을 목적으로 한다. 다양한 문학 텍스트들과 조형 예술, 혹은 영화 작품들에 대한 깊이 있는 논예와 사회학적 분석을 시도함으로써, 사회현상과 미학적 현상을 포괄적으로 접근하는 방식을 훈련하는 계기를 제공할 것이다.

The course is designed to explore and understand the ways in which literary and artistic works are produced, enjoyed, and interpreted. Attempting to read and analyze deeply a variety of literary texts, fine arts, or cinema, this course will provide the opportunities of studying comprehensively the social phenomena and esthetic phenomena altogether.

M1304.003000 계산사회과학 입문 3-3-0

Introduction to Computational Social Science

계산사회과학은 대규모 자료의 수집과 창출, 분석에 전산학과 통계학의 방법론을 적극적으로 활용하는 사회과학의 새로운 편리 다닷다. 이 수업은 계산사회과학이 이용하는 방법론을 소개하고, 사회과학 연구 설계와 수행이 어떻게 변하고 있는지 살펴본다. 그리고 자동화된 알고리즘을 이용한 대규모 자료의 운용이 산업계와 공공 영역에서도 표준적 절차가 되면서 발생하는 제도적, 윤리적 쟁점에 대해 논의한다.

Computational social science is a new paradigm in social science that actively utilizes the methodologies of computer science and statistics for collecting, producing, and analyzing large-scale data sets. This class introduces a set of methodologies used in computational social science and how they change social science research designs and practices. Students will also discuss institutional and ethical issues that arise as a result of the widespread use of automated algorithms for managing massive data sets in the private and public sectors.

M1304.002600 사회연구를 위한 데이터과학 3-3-0

Data Science for Social Research

본 강좌는 데이터과학의 방법론을 사회 자료 통계 분석에 이용하는 능력을 갖추고자 한다. 기술 및 추론 통계의 기본 방법론을 사회과학 연구 설계와 경험 분석의 관점에서 다루고, 프로그래밍 및 언어 습득을 통해 사고 사회과학과 통계 분석을 수행할 수 있는 능력을 함양시킨다.

This course teaches students how to use data science methods for statistical analysis of social data sets. Descriptive
206.204A 206.219B

Marriage and Family  Understanding Japanese Culture

이 과목은 인류학 연구의 기본이자 가장 중요한 분야로 수 있는 가족과 친족 연구에 대해 개설적으로 다루는 과목이다. 구체적으로는 첫째, 다양한 사회와 종속에서 나타나는 가족과 친족 제도를 살펴보고, 둘째, 출산, 출애, 성인, 친척 관계 등 친족 관계를 둘러싼 기본적인 이론들을 일컬고, 셋째, 가족과 친족 연구와 다른 인류학 하위분야들의 관계를 검토함으로써 수강생들이 허구 가족과 친족 제도를 이해하고 실제 생활에서 가족과 친족을 객관적으로 바라볼 수 있는 시각을 가르도록 한다.

This course covers the most important subfield of Anthropology, Family and Kinship. The main objects of study are the institutions of various societies and tribes, the basic theories for investigating kinship such as principles of descent and marriage. It will also examine the relationship of this study to other subfields of Anthropology. This class will help students understand the institutions of kinship and family as they exist in real-life while gaining a more objective and broadened perspective.

206.211

Folklore

이 과목은 민속학에 대해 개설적으로 다룬다. 이 과목에서는 민속학의 발달 과정을 우선 검토함으로써 다양한 이론들을 철저하게 한다. 아울러 인성생활 문화나 문학이나 설화에서 나타나는 민속문화에 대한 소개 뿐 아니라, 이론적 자료나 문헌에서 검증할 수 있는 전통적인 문화와 생활양식을 검토한다. 또한 실재하는 유산과 유물 등에게 통한 민속 전통을 고증함으로써 수강생들이 허구 민속학 민속문화에 대해 이해하고 객관적으로 바라볼 수 있는 시각을 갖게 한다.

This course deals with the introduction of the folklore or folkloristics. It offers an introductory overview of theories and development of folkloristics. It focuses generally on the culture of everyday life. In addition, it deals with the traditional culture and lifestyle as they are represented in historical documents, literature and folktales. Students will investigate folk tradition through existing heritages, past artifacts and remains. They will also be comparing the Korean cultures with the counterparts of the other cultures, thus, gaining a more objective and theoretical viewpoint of the folkloristics and folk cultures.

206.211A

Introduction to Psychological Anthropology

이 강좌는 ‘문화가 어떻게 인간의 심리에 영향을 주며, 인간 심리가 어떻게 문화적 과정에 기여하는가’라는 질문을 중심으로 조직되며, 다양한 민족적 사례 연구를 중심으로 이 질문에 접근한다. 민족심리학, 감정의 사회화, 정신영상학, 아성과 사회, 감정의 상호작용 등 주요 소재들이 높인다.

As an introduction to psychological anthropology, this course is centered on the nature of the dynamic relationship between culture and psyche, which concerns the focal question of the field. The course approaches the question by examining diverse ethnographic case studies, focusing on ethno- psychology, affective socialization, psychodynamics, culture and cognition, and commodification of affect.

206.222

Gender, Sexuality and Culture

여성이란 것은 두 가지 의미를 갖는다. 여성과 남성을 지칭하는 (gender)과 성과 사랑을 논할 때 사용하는 (sexuality)의 두 가지이다. 이 과목에서는 위의 두 가지 주제를 가정하여 비교문화적 자료들을 통합함으로써 인간사회의 성문화에 대해 고찰하고자 한다. 이 두 가지 주제는 현대사회에 있어서 가장 일반적이고도 모범적인 주제로서 학생들에게 허구한 객관적인 시각을 갖고 이러한 문제에 접근할 수 있도록 도와준다. 이를 위해 첫째, 성리라는 주제에 대하여 그 역사와 다양한 입장들을 비교·분석하고, 둘째, 민족사회에서 이루어진 여성에 대한 이론적 논의들을 고찰하고, 셋째, 특히 문화론이 요소로서 인간 속성에 입해 대응 가능한 관점들을 이해함으로써 성과 문화에 대한 올바른 접근을 시도하고자 한다.

This course explores the concept of gender and sexuality through the examination of various cross-cultural data. Students explore in-depth anthropological theories concerning gender and sexuality, as well as examine ‘sex’ within its cultural context of a particular society. Through this class, students will gain a broader perspective on sex in the modern society.

206.224*

History of Anthropology

이 과목은 인류학의 다양한 학설들이 발전해 나온 과정에 대한 검토를 통해 인류학이라는 학문이 지난 특성과 인류학의 주요 개발 과정이나 이론 그리고 방법들에 대한 학문의 전반적인 이해를 높이자는 목표로 한다. 이를 위해 이 과목에서는 사구 학문에서 인류학이 하나의 문화학으로서의 동향과 함께 영역적 배경을 살펴보고, 이에 19세기 중반의 진보주의의 이래로부터 20세기까지, 그리고 특별히 20세기 후반의 학문적 이론적 주제들에 대한 각각의 발전하는 학문의 개요에 대해 비교고찰을 통해 각 주제가 지난 특성을 파악한다.

This course enhances the students’ understanding of major
concepts, theories, and anthropological methods, through a review of the historical process as well as the development of anthropology. Special attention will be placed on particular characteristics of anthropology as a discipline. For this purpose, we will first examine the historical background in the rise of the discipline of anthropology within Western Humanities and the Social Sciences. We will then examine the main proponents and arguments of the various theoretical paradigms within anthropology. We will begin with the evolution of the 19th century through functionalism and historical particularism of the early 20th century, leading up to diversification of paradigms in the latter half of the 20th century.

**206.226 도시생활과 문화 3-3-0**

**Urban Life and Culture**

This course examines ethnographic documentary film as an important means of anthropological research. It teaches the use of visual techniques such as cameras, videos and films. It reviews important ethnographic films and discusses the merits and limits of visual technique in anthropological field-work.

**206.229A 동남아문화의 이해 3-3-0**

**Understanding Southeast Asian Culture**

This course examines ethnographic documentary film as an important means of anthropological research. It teaches the use of visual techniques such as cameras, videos and films. It reviews important ethnographic films and discusses the merits and limits of visual technique in anthropological field-work.

**206.230 전지구화와 문화변동 3-3-0**

**Globalization and Culture Change**

Globalization is a process and phenomenon, which the world is currently experiencing. This course covers the impacts globalization is having on individuals and societies in different parts of the world.
Food and Culture

This course aims at understanding, in comparative perspective, the cultural characteristics of Russia. Topics covered include: ethnic and linguistic composition, everyday patterns of life including religious beliefs and rituals, family and kinship systems, and social stratification, and sociocultural changes following acculturation and modernization. Special attention is paid to the relationship with Korea and problems after collapse of Soviet Union.

206.234 음식과 문화 3-3-0

Food and Culture

This course will attempt to understand the idea of “power” from an anthropological perspective. It will discuss topics as the use of cultural means utilized by the state and ethnic groups to affect power and control, as well as the power relations found within cultural phenomena. Accompanying these discussions will be an examination of concrete case studies.

206.322A* 인류학연구방법실습 3-3-2

Methodology and Fieldwork in Anthropology

This course is an introduction to linguistic anthropology, one of the four sub-fields of anthropology. It will introduce students to many important aspects of language from the view point of man and culture. Its purpose is a basic understanding of interrelationships among language, society and culture.

206.309C 러시아 문화의 이해 3-3-0

Understanding Russian Culture

This course aims at understanding, in comparative perspective, the cultural characteristics of Russia. Topics covered include: ethnic and linguistic composition, everyday patterns of life including religious beliefs and rituals, family and kinship systems, and social stratification, and sociocultural changes following acculturation and modernization. Special attention is paid to the relationship with Korea and problems after collapse of Soviet Union.
group. The third is to understand the relationship between human biological traits and cultural elements.

206.330A  생태인류학 3-3-0

**Ecological Anthropology**

This course will develop an understanding of cultural phenomena that is based on insights from cross-cultural perspectives. In addition, the course will examine economic activities within socio-cultural contexts. It will also include: cultural imperialism, change and continuity of local cultural practices, and responding to such processes. Discussion topics will include: cultural resistance movements, the traits of cultural and minority cultures, as well as problems related to exhibitions. Students of this course will gain a more objective understanding of the museums. Course work will also include weekly visits to anthropological museums.

206.335A  중국의 사회와 문화 3-3-0

**Chinese Society and Culture**

This course, through the use of historical and cross-cultural perspectives, attempts to understand the sociocultural changes resulting from the encounter between Western Colonial powers and the affected colonized non-Western civilizations. For this purpose, we will examine the colonization process from a macro-historical point of view, as well as examine the diverse ways in which the colonized perceived and responded to such processes. Discussion topics will include: cultural imperialism, change and continuity of local culture, and responded to such processes.

206.333  문화와 경제 3-3-0

**Economy in Culture**

This course will attempt to understand cultural changes resulting from the encounter between Western Colonial powers and the affected colonized non-Western civilizations. For this purpose, we will examine the colonization process from a macro-historical point of view, as well as examine the diverse ways in which the colonized perceived and responded to such processes. Discussion topics will include: cultural imperialism, change and continuity of local culture, and responded to such processes.
Students will also participate in fieldwork, focusing on a particular feature of social group differentiation within contemporary Korean society.

206.424A 마음의 전환과 문화 3-3-0

Evolutionary Psychology and Human Culture

This course will help to illuminate how culture affects human biological traits by trying to understand the links between culture and biology. We will focus on the correlation between culture and the biological traits of human beings through the study of human behavior.

206.425A 종교문화의 이해 3-3-0

Understanding Religious Culture

This course offers an anthropological perspective on religious phenomena and a deeper understanding of the relationship between culture and religion. Topics of discussion will include: rituals and religions of various societies and ethnic groups; the relationship between rituals and non-religious behaviors; and the intersection of cultural phenomena and historical processes. It reviews oral histories and life histories that focus on cultural traits from daily life, and the character of Modernization. Students are encouraged to develop an interdisciplinary approach to understanding culture and history.

206.420 사회집단과 불평등 3-3-0

Social Groups and Inequalities

This course offers an anthropological perspective on religious phenomena and a deeper understanding of the relationship between culture and religion. Topics of discussion will include: rituals and religions of various societies and ethnic groups; the relationship between rituals and non-religious behaviors; and the intersection of cultural phenomena and historical processes. It reviews oral histories and life histories that focus on cultural traits from daily life, and the character of Modernization. Students are encouraged to develop an interdisciplinary approach to understanding culture and history.

206.426B 언어현지조사 3-3-2

Linguistic Fieldwork

This course offers an anthropological perspective on religious phenomena and a deeper understanding of the relationship between culture and religion. Topics of discussion will include: rituals and religions of various societies and ethnic groups; the relationship between rituals and non-religious behaviors; and the intersection of cultural phenomena and historical processes. It reviews oral histories and life histories that focus on cultural traits from daily life, and the character of Modernization. Students are encouraged to develop an interdisciplinary approach to understanding culture and history.
Language and Emotion

This course examines how anthropology and anthropologists engage with contemporary issues, such as youth, migration, refugees, multiculturalism, human rights, intercultural encounters, and expressions of emotions in everyday life. This course will focus on cross-cultural meanings of emotional expressions, which appear differently across time and space. In this course, students will read ethnographic accounts of emotions in everyday life from a broad variety of ethnographic settings, ranging from small-scale communities, postindustrial complex societies to cyberspace, and diverse genres from Bedouin love songs, Kaluli laments, to the U.S. cable news. Specific topics include: definitions of emotion; emotions and the body; emotions and non-verbal communication; emotion and self-presentations; emotion and music; gender and emotional expressions; authenticity in language and emotion; political use of emotions; emotions in cyberspace; emotions in global encounters.

206.453 언어와 아이덴티티 3-3-0
Language and Identity

언어는 인간의 일상적 상호작용을 위한 것이뿐만 아니라, 사람들의 정체성을 표시하는 가장 중요한 수단이기도 합니다. 우리는 언어를 통해서 '나'를 나타낼 수 있고, 또한 '남'을 구분하며, '나'와 '남'의 관계를 조정하기도 합니다. 그러나 이러한 정체성 표현과 사회관계의 조정을 위해서 우리는 어떻게 인식을 사용하는가? 본 강좌에서는 언어를 정체성 형성과 표현을 위한 중요한 사회문화적 수단의 하나로 규정하고, 언어와 정체성의 관계를 다양한 비문화적 관점에서 다루고자 한다. 이론적인 토기는 사회언어학, 인간언어학적인 접근방법을 살펴보고, 다양한 민족지적 사례를 통해, 다양한 나라의 언어와 정체성의 관계를 규명한다. 본 강좌의 앞부분에서는 몸에 관한 핵심적인 학문적 논의를 다루며, 이를 통해, 소비자 문화사회학에서 대규모 산업사회까지, 또한 이집트 베두인 리브슨을, 파우치 뉴기니의 비가, 나바로 아이디오 냉장의 사회에 이르기까지 다양한 감정의 표현 장르와 그 사회적 의미를 논의한다. 보다 구체적인 장의 주제로는: 감정의 정체; 감정과 신체의 문제; 감정의 비언어적 표현; 감정의 상호작용과 자연; 언어와 음악; 감정과 케플러; 인과 감정의 순서로, 감정의 정체적 사례; 사이버 스페이스에서의 감정 표현; 감정과 세계화 등이 있다.

How do people experience and express their emotions in everyday life? This course aims to examine emotions not as biological products but as one of socio-cultural acts, especially focusing on verbal and non-verbal communication of emotions. Through this course, students will be able to gain a better understanding of emotions as one of social aspects in their everyday life. This course will focus on cross-cultural meanings of emotional expressions, which appear differently across time and space. In this course, students will read ethnographic accounts of emotions in everyday life from a broad variety of ethnographic settings, ranging from small-scale communities, postindustrial complex societies to cyberspace, and diverse genres from Bedouin love songs, Kaluli laments, to the U.S. cable news. Specific topics include: definitions of emotion; emotions and the body; emotions and non-verbal communication; emotion and self-presentations; emotion and music; gender and emotional expressions; authenticity in language and emotion; political use of emotions; emotions in cyberspace; emotions in global encounters.

206.454 몸의 인류학 3-3-0
Anthropology of the Body

우리는 몸을 인간에게 선천적으로 주어진 어떤 당연한 것으로 생각하기 쉽지만, 사실 인간의 몸은 생물학적 대상으로서 우리의 일상적 삶에 매우 중요한 관심사이기 때문에 생물학적, 정신학적, 문화학적 등에 기초하여, 몸에 대해 인류학적 관점으로 고찰할 수 있는 기초를 제공한다. 수업의 앞부분에서는 몸에 관한 학문적 논의를 통해, 몸이 어떻게 인류학적으로 고찰이 되는지를 몸의 역사적 발전을 중심으로, 인간의 몸이 서로 다른 문화와 역사적 맥락을
Globalizing Korea

This course examines how South Korea has been enmeshed in the age of globalization. How does the modern Korean nation-state relate to Koreans internationally; transnational adoption; and international labor; nationalism and transnationalism of Korean sports; political outsiders in its midst? What happens to Korean culture and local culture are explored. Drawing on case studies from around the world (but mostly from East Asia), we will explore how media practices are defined not only by available technologies but also by societal infrastructures and cultural needs; how the actual circulation of media escapes the desires and intentions of media producers; how media audiences appropriate mass media to their own ends; how old and new media are implicated in social and political change; how media shape national, ethnic and gender identities; and what challenges these complexities present to researchers of media.

M1307.000400 전지구화와 한국사회 3-3-0

Globalization and Cultural Change

전지구화란 기술, 경제, 정치, 사회문화적 차원에서 국경을 넘어 민족적, 문화적, 소수자와 관련된 문제를 다루는 것이다. 특히 현재의 통신기술 및 운송수단의 발전에 따라 그 정도가 급속히 확대되고 있다. 이 수업에서는 국경을 넘는 자본, 산업, 사회, 이미지의 이동과 연결, 이러한 과정이 가져오는 사회문화적 영향에 대해 공부한다. 구체적으로는 세계화의 배경, 세계화를 분석하는 관점, 세계화와 문화적 아이덴티티, 소비문화, 펜다, 세계화와 지역문화 등의 주제를 이론적 접근과 사례연구를 통해 공부하며, 이를 통해 변화하는 세계에 대한 인류학적 이해를 도모한다.

In this course, students are going to study the movements and inter-connections of the capital, people, products, and images across the national borders, and the socio-cultural impacts of globalization. Through theoretical approaches and case analysis, such themes and issues as backgrounds of globalizations, globalization and cultural identity, consumption in globalizing world, gender and globalization, globalizations and local culture are explored.

M1307.000700 전지구화와 문화변동 3-3-0

Science, Technology and Culture

The course investigates the issues of contemporary science.
Anthropology of the Internet

The emergence and spread of the Internet has had a profound effect on contemporary life. The course surveys how anthropologists have dealt with theoretical and methodological challenges that the Internet presented. We will situate the rise of the Internet within a variety of infrastructures, technologies and practices while exploring related cultural phenomena, such as blogging, online gaming, netizen activism, government 2.0, hacking, online dating, cyberbullying, sharing economy, and so on.

East Asian Cultures and Globalization

Anthropology of Industry and Labor

This course aims to understand industry and labor in terms of cultural politics. It deals with several issues such as the historical development and essence of capitalism, racial/ethnic/gender division of labor, and the resistance and consent of inequality. While discussing such issues, this course introspects the ways how labor and culture produce politics within the industries in capitalism.
여러 가지로 인한 다양한 병태생리적 상태를 가시하고 공정적인 시각에서 이해하고, 공공 보건적 관점에서 진화의 이론의 적용 가능성을 탐구하는 것이다. 이를 위해 진화생물학, 인류진화학, 진화의학, 인구 및 질병 역학 등에 관한 기본적인 내용을 학습한다. 또한 발달, 번식, 의료, 노화, 수명, 감염, 신생물, 면역, 식이, 영양, 행동 등 구체적 주제에 대한 진화인류학적 가설을 토론한다. 이를 통해 의료 및 보건 영역에 있어서 진화인류학적 연구 및 실험을 계획하는 학생은 새로운 진로 탐구를 할 수 있을 것이다.

This course is designed to help students understand the various pathophysiological conditions of human beings from the perspective of evolutionary anthropology and explore the applicability of evolutionary theory to public health. To do this, we will learn basic knowledge about evolutionary biology, evolution of hominins, evolutionary medicine, and epidemiology of population and disease. Students will also discuss evolutionary anthropological hypotheses on specific topics such as development, reproduction, degeneration, aging, lifespan, infection, neoplasm, immunity, diet, nutrition, and behavior. This will allow students who plan evolutionary anthropological research and practice in the medical and health fields to identify the potential for new career exploration and have a broader perspective on human evolution and disease.

M1307.001900 북한의 인류학 3-3-0

Anthropology of North Korea

북한은 우리와 심한 차이를 가진 타사하락에 의할 수 없는 타
자이면서, 이를 의미하는 타자가 아닌 타자이다. 태만화를 통해 자
문화를 들여다보고 인간의 보편과 구체를 탐색하는 인류학에서
북한은 의살 없는 대상이라고 할 것이다. 북한은 고도로 정치화
된 사회이기 때문에 정치적 차원을 따로 논의하기 어렵다.

문화를 들여다보고 인간됨의 보편과 구체를 탐색하는 인류학에서
탐색하는 것으로 이루어진다. 토함으로써 공연예술이 담지하고 있는 문화적 다양성과 보편성을
좌의 주 내용은 현 시대의 다양한 공연예술을 비교문화적으로 검
토하여 공연예술이 몸을 사용한 예술적 재현을 통해 해당
사회의 에토스를 압축적으로 표현한다는 점에 특히 주목한다.

이 강좌에서는 북한을 한국 현대사의 역사적 과정 속에 밀착
한 중국 도시의 전개 과정을 한국 사회와 사회주의 시기, 그리고
1980년대 개혁 개방 이후 시기로 나누어 설명한다. 특히 도시
라는 의험한 공간에 의미를 부여하는 문화적 측면에 집중하여,
한국 도시문화를 특징짓는 혼용(hybridity)을 만들어 낸 장기적
으로서의 역사적 과정과 단기간에 촉발한 전지구화 과정에 주목하
고, 이러한 상황에 중국 인민이 어떠한 반응을 보았는지를 조명한다.

This course attempts an anthropological approach to North Korea by delving into the sociocultural world as experienced by North Koreans themselves. It is intended that students develop a perspective to understand cultural characteristics of the North Korean society as well as to situate North Korea in the broader context of East Asia.
207.202* 심리통계학 3-2-2

Psychological Statistics

This course is an introductory course in statistics for undergraduates majoring in Psychology. The course covers random variables, statistical and computational techniques of descriptive statistics, correlation, regression, and analysis of variance. There will also be discussion on the experimental design for psychological research.

207.203 성격심리학 3-3-0

Psychology of Personality

The course covers important neuro-biological concepts unique to nerve cell functions, sensory and motor systems, and the connected brain cells make possible the way we perceive the world around us, react to external events, and store past memories. This class is open to all undergraduate and beginning graduate students in Psychology, Physics, Mathematics, Engineering, and Computer Science who do not have previous exposure to biological sciences. The course covers important neuro-biological concepts unique to nerve cell functions, sensory and motor systems, and the relationship between brain and behavior. This course is a prerequisite for the ‘Biopsychology Lab’ course as well as for the intermediate and advanced courses in neuroscience.

207.223 신경과학 3-3-0

Neuroscience

This course introduces the basics of psychological study beyond that of experiments, and will be considered the proper treatments for mental disorders as well as how to improve mental health in general.

207.214* 실험심리입문 및 실험 3-2-2

Introduction to Experimental Psychology & Lab

The course is open to all undergraduate and beginning graduate students in Psychology, Physics, Mathematics, Engineering, and Computer Science who do not have previous exposure to biological sciences. The course covers important neuro-biological concepts unique to nerve cell functions, sensory and motor systems, and the relationship between brain and behavior. This course is a prerequisite for the ‘Biopsychology Lab’ course as well as for the intermediate and advanced courses in neuroscience.

207.229 발달심리학 3-3-0

Developmental Psychology

This course introduces theories, empirical research, and ap-
사회과학대학(Dept. of Psychology)

**207.230 사회심리학 및 실험 3-2-2**
Social Psychology and Lab.

사회심리학은 사회적 상황에서 사람들이 어떻게 생각하고, 느끼고 행동하는지를 이해하려는 분야이다. 이 강좌에서는 사회심리학의 각 주제를 포괄적으로 소개하는데 그 주제들은 사회인지, 태도와 성격, 집단행동, 그리고 공격행동들을 포함한다.

**207.232 학습과 기억의 심리학 및 실험 3-2-2**
Psychology of Learning and Memory & Lab.

이 강의의 목적은 심리학 학부생이 학습과 기억의 연구에서 발전한 결과들을 이해하는 것을 돕는다. 이 강의는 과거적 조건형성과 조작적 조건형성, 기억 모형, 그리고 신경망에 대하여 다루는 것이다. 특히 행동주의의 엄격한 방법론에 초점을 맞추어집니다. 이 강의를 통해서 예술 작품을 만드는 사람이 아닌 감상자가 되고 예술감상의 기본 개념들을 이해하여 입문을 시도하게 된다.

**207.233 시각예술의 지각 3-3-0**
Perception of Visual Art

예술 활동은 인간이 다른 동물과 구별되게 하는 고유한 행동이 다. 심리학의 발달로 그동안 예술가가 주관적 세계를 만드는 예술에 대한 객관적 검증이 시작되었다. 본 강좌에서 시각 예술에 이르는 주요 특성인 색, 형태, 깊이, 운동성, 흐름, 감상자의 심리적 특성인 경험, 의도, 감정의 역할을 이해한다. 이를 위해, 시각 예술을 지각심리학의 관점에서 이해한 예술 이론들을 살펴보고, 예술 감상 전략에 대한 주요 심리학, 신경과학적 발전을 소개한다. 이 강의를 통해서 예술 작품을 만드는 사람이 아닌 예술 감상자로서 가치가 있는 기초 지식을 지각심리학의 관점에서 추출할 것으로 기대된다.

**207.234 인지과정 및 실험 3-2-2**
Cognitive Process and Lab.

인지심리학은 '인지과정', 즉, 우리가 어떻게 세상에 대한 정보를 획득하며 그 정보를 어떻게 표상하고 지식으로 변환시키는지, 또한 지각된 지식이 우리의 주의와 행동을 어떠한 방식으로 이끌게 되는지를 다루는 학문이다. 이 과정에서 인간의 지각과정과 관련된 여러 이론체계들이 이 현상을 설명하기에 이론체계로 가를 수 있다. 이 강의는 이러한 지각과정의 기본 개념들을 중심으로, 인지과정에서의 주요 실험들을 통해 인지과정을 탐색할 것이다.

**207.303 지각심리학 및 실험 3-2-2**
Psychology of Perception and Lab.

본 강의의 주요 목표는, 물체, 색채 및 운동 등 주요 지각현상들의 성질이 무엇이며, 그에 따른 적절한 과정이 어떤 실험들에 의해 어떻게 발전하였는지를 개괄하고, 또한 이론체계들이 이 현상을 잘 설명하고 있는지, 또 어떤 실험들 통해서 지각에 관한 우리의 이해를 깊게 되는지를 다룬다. 이 강좌에서는 인간은 물리적 특성정보를 수집하고 해석하는 자로 간주된다. 지각과정과 그 구조의 특성을 사각하는 실험들이 논의되며, 이들이 인간의 지각, 인지 및 행동에 어떤 함의를 갖고 있는지 살펴본다. 이 강의는 지각에 관한 구체적 집단을 강조하지만, 전반부에서는 인간의 생태학적 접근(특히 concept of affordance)을 비롯 대상을 삼는다. 본 강의에서 우리는 이러한 인론적, 실증적 근거를 바탕으로 지각현상에 관한 심해 격을 수행한다.

This course covers major perceptual phenomena in the perception of surface, form, object, color, and motion, and how they are uncovered in major experiments. It will also survey the pertinent theoretical frameworks on the assumption that humans are the measuring devices in collecting and measuring a variety of physical information for intelligent adaptation. Students discuss experiments that have explored major perceptual processes and representations and their implications for future research. Particular emphasis will be placed on Gibson's Ecological View of Perception, especially the concept of Affordance. They will be expected to conduct perceptual experiments to gain a deeper understanding of the given perceptual phenomenon and further practice in applying these concepts.
Counseling Psychology

Counseling psychology is the science and practice of professional and personal counseling. Counseling psychology is concerned with improving personal and interpersonal functioning, preventing mental disorders, and maximizing human potential. It is a profession that involves helping people to achieve their maximum potential and to live more fulfilling, productive lives. Counseling psychologists use a variety of techniques and strategies to help clients cope with a wide range of problems, including emotional distress, academic difficulties, career problems, and personal conflicts. They work with individuals, couples, families, and groups to help them achieve their goals and to improve their well-being.

Clinical Neuropsychology and Experiment

Clinical neuropsychology is a branch of neuropsychology that focuses on the relationship between neurological functioning and psychological processes. It is concerned with the assessment, diagnosis, and treatment of neurological and psychiatric disorders. Clinical neuropsychologists use a range of methods to evaluate and treat individuals with neurological and psychiatric disorders, including brain imaging, neuropsychological testing, and functional brain imaging. They work with a variety of populations, including children, adolescents, and adults, and with a variety of disorders, including brain injury, stroke, and neurological disease.

Organizational Psychology

Organizational psychology is a subfield of psychology that focuses on the behavior of individuals in organizations. It is concerned with understanding the psychological processes that influence the behavior of individuals in organizations, as well as the impact of organizational factors on individual behavior. Organizational psychologists use a range of methods to study organizational behavior, including surveys, interviews, and experimental designs. They work with a variety of populations, including employees, managers, and organizational leaders, and with a variety of organizations, including companies, government agencies, and non-profit organizations.

Psychomotorics and Psychological Testing

Psychomotorics is a subfield of psychology that focuses on the relationship between motor behavior and psychological processes. It is concerned with the assessment, diagnosis, and treatment of motor and learning disorders. Psychomotorics is used in a variety of settings, including clinical settings, educational settings, and research settings. Psychomotorics is used to assess and treat a variety of motor and learning disorders, including dyspraxia, dyslexia, and attention-deficit/hyperactivity disorder (ADHD).

Psychology of Emotion

Psychology of emotion is a subfield of psychology that focuses on the study of emotions and emotional processes. It is concerned with understanding the nature of emotions, the functions of emotions, and the mechanisms that underlie emotional experiences. Psychology of emotion is used in a variety of settings, including clinical settings, educational settings, and research settings. Psychology of emotion is used to assess and treat a variety of emotional disorders, including depression, anxiety, and bipolar disorder.
This is an advanced course for students to enhance psychological thinking about how the theory and research of developmental psychology. Developmental psychology can be applied to various field work and settings. Based on research accomplished in Korea, this course is going to teach students about children’s education, production of children’s TV programs, and it will discuss how these programs are applicable to children and adolescent’s real life. In this course, students will analyze theories and the production of programs through the school violence programs that were already accomplished in Korea. Therefore, this course will try to help the students’ creative and active thinking, not just theoretical psychology, but applicable developmental psychogoy and their applications for the clinical psychology and positive psychotherapy.

207.424 | Cognitive Neuroscience Lab.

In this course, we will (1) learn about the basic theories and methods in the filed of Cognitive Neuroscience, (2) review recent important findings in Cognitive Neuroscience, and (3) replicate those findings or execute modified versions of them in a laboratory.

207.425 | Perceptual Self & Action

This course is designed to introduce students to the ways of applying experimental psychological facts to real worlds. We will examine the applications of experimental and cognitive psychological theory and research, and we will also discuss how to solve real world problems using experimental methods. Topics covered will include a variety of vision, perception, cognition, psycholinguistics, problem solving, and decision making areas of research that relate to experimental and cognitive theory and practice.

207.422 | Applied Experimental Psychology

This course introduces the main topics of positive psychology, but applicative developmental psychology. Therefore, this course will try to help the students’ creative and active thinking, not just theoretical psychology, but applicable developmental psychogoy and their applications for the clinical psychology and positive psychotherapy.

207.424 | Cognitive Neuroscience Lab.

Students will (1) learn about the basic theories and methods in the filed of Cognitive Neuroscience, (2) review recent important findings in Cognitive Neuroscience, and (3) replicate those findings or execute modified versions of them in a laboratory.

207.425 | Perceptual Self & Action

Students will (1) learn about the basic theories and methods in the filed of Cognitive Neuroscience, (2) review recent important findings in Cognitive Neuroscience, and (3) replicate those findings or execute modified versions of them in a laboratory.

207.424 | Cognitive Neuroscience Lab.

Students will (1) learn about the basic theories and methods in the filed of Cognitive Neuroscience, (2) review recent important findings in Cognitive Neuroscience, and (3) replicate those findings or execute modified versions of them in a laboratory.
Our lives are filled with making judgments and decisions. How can we judge a situation accurately and make good decisions? Even when normative analysis produces a best solution, people often make judgments and decisions in real life that are far from that solution. There have been a great deal of research in the fields of cognitive psychology, social psychology, and quantitative psychology, on describing the actual behavior of judgment and decision making and seeking methods which would allow these behaviors to approximate normative models. This course will review research on judgment and decision making in various sub-fields of psychology and introduce ways which can improve judgment and decision making.

M1308.001800 인간의 심리학 및 데이터사이언스 3-3-0

Data Science in Human Neuroimaging

In brain science, data science, convergence of statistics and computer science, is becoming important in studying the complex correlation between the brain system and cognition, emotion, and behavior. The fields of psychology and cognitive brain science are also becoming data and computationally intensive fields as the amount and range of data rapidly increase. Indeed, in these fields, having no suitable approaches to extract knowledge from the massive, complex data, the increasing amount and complexity of it presents a tremendous opportunity and challenges at the same time. Therefore, in neuropsychology and human cognitive neuroscience, access to data science and artificial intelligence is essential in the present and future. In this course, focusing the study of human neuroscience, I will adopt the principles of modern data science suggested by David Blei of Columbia University (Science and Data Science, Blei et al, PNAS 2017) "computational perspective", "computational perspective", and "human perspective" that involves the ability of communication and data-driven decision making.
cept, and how they can be implanted into robots. Specifically, students will learn about embodied cognition, human/machine perception, human/machine motor control, human-machine interaction, machine learning basics, and developmental robot theories. This course will be helpful for students who want to understand and prepare for the upcoming life of artificial intelligence.

M1308.002000 주식 심리학 3-3-0

Trading Psychology

Today, investing in stocks has become an important part of life. Although stock prices are affected by the economy and finance, the investor who buys and sells stocks is a person, and the psychology plays an absolute role in stock trading. In this lecture, students will understand phenomena related to stock trading by applying knowledge of Cognitive Psychology, Social Psychology, and Emotion and Personality Psychology that have been well studied in Psychology. Through this, it is expected to learn the attitude of a smarter investor in stock trading.
Economic Geography

The economic activities in the context of the European Union and the EU member states since the end of the Cold War. It also examines the social and economic changes in Eastern and Western Europe. Through a comparative and systematic geographical approach, students learn about the regional problems and policies affecting the major countries of Eastern and Western Europe.

This course focuses on changes in Europe since German reunification and the end of the Cold War. It also examines the social and economic changes in Eastern and Western Europe. Through a comparative and systematic geographical approach, students learn about the regional problems and policies affecting the major countries of Eastern and Western Europe.

Geography of Europe

This course explores Europe from a cultural perspective. Through a comparative and systematic geographical approach, students learn about the regional problems and policies affecting the major countries of Eastern and Western Europe. Covering the late twentieth century, the course primarily focuses on changes in Europe since German reunification and the end of the Cold War. It also examines the social transformations promoted by European integration and the creation of the twelve-nation European Community.
주요 학습내용은 지대론을 포함하여 토지이용의 경제적 원리와 살펴보고, 이러한 기본적 원리에 입각하여 다양한 토지이용 정책수단의 효과를 검토한다. 그리고 지역정책의 기본적 수단으로서 토지정책의 의미와 관련성을 이해하고, 토지이용의 대표적인 분야로서 주거용 토지이용을 살펴본다. 주거용 토지이용은 주거지역, 주거지역화, 택지개발정책, 지역정책과 주택정책의 관계에 대한 통합적인 이해를 추구한다. 수강생들은 토지이용의 유형, 특성, 차이, 형성과정과 그 원리에 대하여 학습하고 지역정보사회에 바람직한 국토공간의 계획과 이용방안을 모색하는 기초지식을 습득한다.

This course is an introductory level on land use and housing issues. The main objective of the course is to provide students with fundamental concepts, policy instruments and methods in the analysis of land use patterns and housing problems including land rent theory. Especially this course will stress the importance of understanding the ways in which land use patterns are affected by regional policy and vice versa. Also this course provides an integrated approach which land use patterns are affected by regional policy and problems including land rent theory. Especially this course methods in the analysis of land use patterns and housing vice versa. Also this course provides an integrated approach which land use patterns are affected by regional policy and problems including land rent theory. Especially this course.

208.226A 아시아지리 3-3-0

Geography of Asia

이 과목은 아시아지리에 대한 이해를 목적으로 한다. 아시아 지역을 이해하기 위해서 자연환경을 고찰하고 이를 바탕으로 역사적, 사회적 구조와 각 지역의 문화적 특성들을 파악한다.

This course is designed to provide students with basic understanding of the Asian regions. The natural environment is explained, and the historical changes as well as the characteristics of different areas are reviewed on the basis of their natural environmental conditions.

208.228A 인구변동과 이동의 지리학 3-3-0

Population Change and the Geography of Mobility

이 과목의 목표는 학생들이 지리적 관점에서 인구변동을 이해하도록 하는 것이다. 출생, 사망, 이동이 가지는 인구변동과 그 결과에 중점을 두는 것이다. 지역별 사회적 구조와 그 지역의 특성과 생활방식의 차이를 파악한다. 이 과목은 인구학의 발전과 사회적 구조와 지리학의 발전을 살펴볼 것이다.

This course focuses on the causes and consequences of population change. It aims to help students understand demographic dynamics brought about by birth, death, and mobility. To aid in understanding counting and controlling, the course looks at the tension between how demographic knowledge (and in particular, demographic categories) has been constructed and how such categories are used. The course pays special attention to the spatial mobility of human beings as the increase in human mobility receives increasing attention from both academia and policy-making.
cultural and economic changes in Korea. It will enable them to see the regional structure and characteristics from the viewpoint of Regional Geography. Through research on cultural characteristics and environment of various regions as well as the analysis of regional structure, students will further discuss Korea’s prospects.

208.311 Social Geography

Social Geography

Social Geography

This course explores the dialectical relationship between society and space by examining the spatial organization of social structures and the influence of various groups on geographical as well as economic processes. Mainly focusing on social structures and the influence of various groups on geography and space by examining the spatial organization of societies and the changes of social and geographical mobility, the course analyzes economic and social development.

208.316 Geography of Metropolitan Seoul

Geography of Metropolitan Seoul

This course illuminates the growth, development, and the human and social factors in the major sub-regions. The focus is on the interaction between social and geographical mobility, the course analyzes economic and social development.

208.318A Geography of America

Geography of America

This course will acquaint students with the human and physical geography of America, and help them study the similarities and differences among the major sub-regions. The students become familiar with the geographer's perspective and their concern with spatial patterns and processes. They will be equipped with skills to interpret the major issues confronting the region.
산업의 입지요인, 입지조성과정, 지역적인 발전과정을 분석하고 이에 대한 제안 이론을 이해하고 응용하는 과목이다. 산업입지의 \n변화에 대한 요인과 영향을 가리, 국가 및 세계적인 차원에서 \n분석하고 바람직한 산업입지정책을 검토한다. 구체적인 학습내용 \n은 다음과 같다. 첫째, 공정과 기업, 기업과 산업, 산업과 지역의 \n관계에서 산업의 입지문제를 이해하고 분석한다. 둘째, 기술의 \n비화와 기업조직의 변화에 따른 산업정책의 변화를 분석하고 이해한 \n다. 셋째, 산업입지와 지역개발 및 정책의 관계를 이해하고 지속가 \n능한 지역발전전략을 검토한다. 넷째, 한국산업의 입지변화, \n산업정책, 지방사회화 세계화를 사례연구를 통해 이해한다.

이 강좌는 사회에 주요한 위험 요소로 인식되는 다양한 유형의 \n재해들의 특성을 소개하고 이러한 재해에 대한 사회의 대응방식에 \n대한 논의를 다룬다. 재해의 대상이 되는 재해는 자연재해들이 중 \n심이 되지만 인간에 의해 야기된 재해들도 함께 다루이게 된다. \n재해를 수행하는 재해는 재해에 대한 이해와 분석을 통하여 \n자연과학적인 대상의 분석과 사회과학적인 문제해결과정을 공유하 \n는 통합적인 사고를 함양하게 한다.

도시지역정책은 기본적으로 법제의 영향을 가장 크게 받는 분 \n야이다. 법률과 제도, 이의 실행을 위한 사법적 관리 및 행정행위는 \n도시지역정책을 통해 공간구조를 형성하며, 현실의 공간구조는 \n법의 지리로 통해 법제의 형성에 영향을 미친다. 법제지리학의 \n범주(공간의) 교차지점을 연구하는 분야이며, 법리와 행정법 \n이의 실행을 위한 사법적 관리 및 행정행위, 공간구조는 법제의 \n법제지리학은 법률과 제도, 이의 실행을 위한 사법적 관리 및 행정행위는 \n도시지역정책을 통해 공간구조를 형성하며, 현실의 공간구조는 \n법의 지리로 통해 법제의 형성에 영향을 미친다. 법제지리학의 \n법제지리학은 법률과 제도, 이의 실행을 위한 사법적 관리 및 행정행위는 \n도시지역정책을 통해 공간구조를 형성하며, 현실의 공간구조는 \n법의 지리로 통해 법제의 형성에 영향을 미친다. 법제지리학의 \n법제지리학은 법률과 제도, 이의 실행을 위한 사법적 관리 및 행정행위는 \n도시지역정책을 통해 공간구조를 형성하며, 현실의 공간구조는 \n법의 지리로 통해 법제의 형성에 영향을 미친다. 법제지리학의 \n법제지리학은 법률과 제도, 이의 실행을 위한 사법적 관리 및 행정행위는 \n도시지역정책을 통해 공간구조를 형성하며, 현실의 공간구조는 \n법의 지리로 통해 법제의 형성에 영향을 미친다. 법제지리학의

208.323A 산업입지와 정책 3-3-0

Industrial Location and Policy

208.326A 토양환경론과 실험 3-2-2

Soil Environment and Laboratory

208.327A 경영지리학의 이해 3-3-0

Understanding Business Geography

208.328 환경재해와 사회 3-3-0

Environmental Hazard and Society

208.329A 법제지리학과 도시지역정책 3-3-0

Legal Geography, Urban and Regional Policy

208.328A 공간정치와 지정학 3-3-0

The Politics of Space and Geopolitics
This course aims to help students understand the politics of development at various geographical scales (urban, national, and international). It also strives to provide insight into how partnerships and negotiations work among various participants who have conflicting, competed, and cooperated throughout the modern history of space/place making. Once armed with such insight, students will be equipped with the skills to critically analyse the power relations that exist among different actors involved in development. The course asks “Who governs?” and “Who makes decisions or influences decision-making that leads to the formation of space?” Regarding the influence of decision-making, the course focuses on the politics of policy narratives and environmental discourses.

Environmental conservation for sustainable development; 4) examining and discussing development of human resources and resource management policy; 5) in synthesis, analyzing and discussing resource problems in Korea.

Understanding Satellite Imagery Information and Applications

This course aims at enhancing the understanding of the problems and developing analytical abilities for the phenomena related to transportation and/or information and communication technology from the geographical perspectives. The main topics include development process of transportation and/or information and communication systems, spatial interaction and location-allocation models, transportation and/or information and communication technology and urban development, intrarural trips, u-city, cyberspace, accessibility, mobility, and transportation and/or information and communication policies.
Experts outside the University will be also invited to encourage students’ understanding on these issues. Students will be encouraged to develop their own knowledge and methodologies based on intensive discussions during the course.

**M0.003400 인문지리학개론 3-3-0**

*Introduction to Human Geography*

*Faculty of Social Sciences*

This lecture aims to provide basic knowledge and understanding on 1) history of development studies; 2) main theoretical orientations, 3) available methodological frameworks; and 4) current issues in development research communities. Students will be exposed various examples from the lecturer’s experience in African and Asian countries.

**M1310.000100 글로벌 지역연구 방법론 1-1-0**

*Methods in Global Regional Studies*

This course aims at developing students’ abilities to understand specific area, organize and present the results of research work through the pre-investigation and field trip of foreign region. This class consists of four themes as follow.

1. Theoretical framework for regional investigation
2. Methods in natural environment survey
3. Methods in human environment survey
4. Application of research data. To improve students’ understanding in contents of class and capability for field application, students will be guided in their studies to fix the topic about the research area before the beginning of the course, and then make a report by dividing into several teams during the course. Also it is expected to offer five open lectures about the research area by regional experts. This course will be aided more effectively by combining with regular overseas field trip that is supervised by Department of Geography.

**M1310.000800 스마트도시의 지리학 3-3-0**

*Geography of Smart Cities*

This course aims at developing students’ abilities to understand specific area, organize and present the results of research work through the pre-investigation and field trip of foreign region. This class consists of four themes as follow.

1. Theoretical framework for regional investigation
2. Methods in natural environment survey
3. Methods in human environment survey
4. Application of research data. To improve students’ understanding in contents of class and capability for field application, students will be guided in their studies to fix the topic about the research area before the beginning of the course, and then make a report by dividing into several teams during the course. Also it is expected to offer five open lectures about the research area by regional experts. This course will be aided more effectively by combining with regular overseas field trip that is supervised by Department of Geography.
바트도시에 대한 관심이 급증하고 있다. 국가 차원의 스마트도시 전략과 개발은 항후 국토공간의 변화를 주도할 것이며, 세계적인 스마트도시 개발은 도시형태와 및 세계 공통구조에 영향을 줄 것이다. 본 수업에서는 정보통신기술의 발달과 함께 스마트도시가 주요 공간 전략으로 등장하게 되는 배경과 이해관계자 등을 이해하고 전 세계 다양한 스마트도시의 추진 사례를 살펴본다. 또한, 재난, 안전, 교통 등을 포함한 다양한 도시 영역에 활용되고 있는 기초적인 정보통신기술을 이해하고 스마트도시 개발로 나타나게 될 지역주민의 생활양식과 생활공간의 변화 등을 포함한 지리적 변화를 살펴보고자 한다.

Facing rapid urbanization and dealing with urban problems existed, smart cities are now emerging as an attractive strategic as well as futuristic urban planning model. For both in national and global scale, the development of smart cities would be resulted in changes of spatial network and structure, including mode of people’s spatial behaviour. This course intends to give an overview of the various aspects of Smart Cities; backgrounds and history of emerging smart cities and worldwide references, components and potential collaboration with ICT(Information and Communication Technology) and worldwide references, components and potential collaboration with ICT(Information and Communication Technology) and the role of key stakeholder. The course also will focus with possible geographical changes followed smart and the role of key stakeholder. The course also will focus with possible geographical changes followed smart and the role of key stakeholder. The course also will focus

M1310.000400 북한지역연구특강 3-3-0

Lecture Series on North Korea

앞으로 다가올 남북통일에 대응하기 위하여, 북한의 공간환경에 대한 이해는 필수적이다. 또한 최근 한반도의 정세변화에 따라 북한의 공간문제와 지역문제에 대한 관심이 증대되고 있다. 하지만 북한에 대한 공간정보 및 지역정보는 양적, 질적으로 부족한 실정이다. 이를 보충하기 위해, 이 강의는 북한의 공간환경을 현장에서 직접 체험한 관련 전문가, 실무자, 세터민 등의 강연으로 구성된다. 이 강의로 학생들은 이론적인 학문적 지식을 바탕으로 실제현장에 대한 이해를 담당한 강의를 통해 학생들은 이론적이고 분과학문적인 기존 지식에 대한 이해를 높일 수 있다.

In order to prepare reunification with North Korea, it is necessary to understand geographical characteristics of North Korea. Moreover, with the change of the state of affairs in the Korean Peninsula and its surrounding areas, the importance of spatial information of North Korea is being emphasized. However, the spatial information and knowledge about North Korea is inadequate both quantitatively and qualitatively. In this sense, this lecture will invite spatialist or practitioners who have been experienced in Inter-Korean cooperation or who is North Korean defector, in order to overcome lack of this information. Through this invited speaker, this lecture will be able to provide the realistic spatial information and knowledge about North Korea to student.

M0000.021500 생물지형학과 실험 3-2-2

Biogeomorphology and lab

지형학은 지리학의 대표적인 서부 분야이다. 지형학자들은 증리, 동, 동물, 식물과 같은 환경인식적 지표의 형태를 변형시키는데 주된 관심을 기울이고 있다. 이러한 오염 전통 속에서 미생물 과 동물, 식물과 포함한 살아있는 유기체가 지형학적 현상에 기여하는 역할에 대한 연구는 상당히 낮은 비중을 차지하고 있다. 그러나 오늘날 학문의 지구공학의 존재와는 거의 모든 지형학적 작품이 생물의 영향을 받고 있는 것으로 판단하고 있다. 즉, 생물, 산후, 자구, 심장, 비 못한 음식과 침체에 이르기까지, 일리적 형태를 만들고 변화시키는 모든 작용에 있어 생물의 활동이 직접적으로 개입되어 있다는 가설은 이미 현장에서의 실험과 컴퓨터 시뮬레이션을 통해 검증이 거듭되고 있다. 산지의 사막에 포래 가 바람에 날리고 떨어지는 현상이자, 저지력으로, 규류, 박테 림 등으로 구성된 이론적 “생물 박파(.physical crust)”의 영향을 끌어내는 체 설명할 수 없고 알려져 있다. 본 강좌에서는 이런 문제 의식 속에서 더욱 발전된 생물지형학(biogeomorphology)이라는 분야를 수행생들에게 소개하고자 한다. 지형학과 생물지형학 강좌를 시전에 수강할 것을 권장한다.

Geomorphology is a core sub-field of physical geography. Geomorphologists are interested in the dynamics of surficial landforms, driven by various physical agents, including gravity, water, wind, and glacial ice. In contrast, the contribution of living organisms (i.e., animals, plants, and microbes) to geomorphic processes has been underestimated in the geomorphological literature. Today, many Earth scientists increasingly recognize that biota plays a considerably more important role than traditionally perceived in modulating landforms and soil substrates over space and time. Field observations, experiments, and computer simulations demonstrate that organisms are directly or indirectly involved in virtually all geomorphic processes, ranging from weathering, erosion, transportation, deposition, and even tectonic lift and subsidence. Biogeomorphology has emerged under this new trend. Students are advised to take geomorphology and biogeography classes in advance.

M0000.021600 중국지리 3-3-0

Geography of China

중국은 다양한 자연환경과 문화환경을 갖고 있다. 또한 최근 중국의 불안정한 내적 공간조직과 지정학적 전반에 큰 변화를 보이고 있다. 나아가 중국은 한반도와 인접하고 있다는 점에서 공간 계획에 있어서 특별한 중요성을 갖는다. 학문의 중국 역사의 자연환경적 배경과 문화 및 경제환경의 공간적 전반에 대해 학습한다. 지정학적 위치, 산업, 산업화, 풍린, 환경문제, 주요 경제지역, 도시의 발달, 도시-농촌관계, 각종 인프라의 개발, 향권문제 등에 대해 설명하면서 지리학을 전공하는 학생들에게 중국에 대한 기초지식과 경험을 제공하고자 한다.

China has various physical environments and cultural landscapes. The rising of China in recent has accompanied an important impact to the inner spatial organization and the geopolitical pattern. Furthermore her proximity of Korean Peninsula has a multiple implication in spatial planning. This course intends to give an overview of various aspects of the geography of China from the physical environmental background of her history to the spatial development of modern cultural and economical activities. The course will deal with China's geopolitical location, mountain ranges and river system, cultural and economic regions, cities, rural-urban relation, infrastructures, and environmental problems, providing a fundamental understanding of China for students in geography department.

M0000.021700 역사지리학 3-3-0

Historical Geography

역사지리학은 지리학의 전통적이고 기초적인 분과 중의 하나이 다. 현재에의 공간적 현상은 역사적 전개과정을 고찰함으로써 온전한 이해에 도달할 수 있다. 이 강좌를 통해 지리학을 전공하는 학
Historical geography is a traditional and fundamental discipline in the field of geography. The present spatial patterns can be understood by the consideration on the historical process. This course intends to give an overview of various fields of historical geography from archives to main subjects. The course will deal with the development of modern historical geography, local chronicles, old map, geomancy, the formation and change of urban structure, agriculture and irrigation facilities, transportation and markets, the management of frontier and military geography, national boundary, the environmental history of oasis silk road, and history atlas etc.

Spatial Analytics 1: Statistical Modeling

The course is designed to guide students in gaining a better understanding of statistical science when it is applied to the unique features of spatial data. We will cover from the descriptive statistics involving acquisition and sampling of spatial data, spatial centorgraphic and kernel density estimation to the inferential statistics adapted to spatial autocorrelation and spatial regression models. Furthermore, the spatial point pattern analysis, Kriging of spatial surface, detection of spatial clusters will be treated with thoroughness. Implementation of spatial analytical models will be carried out using R coding environment, and a variety of cartographic visualization skills will be practiced.

Spatial Analytics 2: Machine Learning

This course is designed to guide students in gaining a better understanding of social and environmental data measured in spatio-temporal metrics. This is for students who completed the prerequisites such as “Spatial Analytics 1, 2”. The course aims to provide an understanding of how to use modern machine learning algorithms and the extent of their applications in spatio-temporal datasets.

Spatial Analytics 3: Spatio-temporal Data Science

The course is designed to guide students in gaining a better understanding of social and environmental data measured in spatio-temporal metrics. This is for students who completed the prerequisites such as “Spatial Analytics 1, 2”. The course aims to provide an understanding of how to use modern machine learning algorithms and the extent of their applications in spatio-temporal datasets.
사회복지가론 3-3-0

Introduction to Social Welfare

사회복지가론을 전공하려는 학생들에게 사회복지학의 학문적 연구와 실천에 관한 지식을 개괄적으로 소개하고 동시에 다른 과목과의 연계를 이루어진다. 학생들의 개념, 가치와 이념, 발단과과정을 먼저 이해한 후 사회복지학의 연구 및 실천방법, 사회복지의 미시적 분야와 기초적 분야, 사회복지 실천방법론, 정책, 제도 그 리고 실천의 주요 분야를 공부한 후 마지막으로 사회복지학의 학문으로서의 연구방법과 사회복지제도의 실천적 전망을 설명한다.

This course introduces students majoring in Social Welfare to a general foundation in the social sciences. It offers practice in social welfare, guiding the students to understand the connection between Social Welfare and other majors. The study of Social Welfare is divided into the following major topics: the concepts, values, ideologies, and development history; the macro-and micro-subfields; the practical methodologies, policies and institutions; and its practical applications.

사회복지행정 3-3-0

Social Welfare Administration

이 과목은 사회구성원로서 인간의 기본적 욕구와 발달적 욕구를 충족시키기 위하여 필요한 유행 및 무형의 서비스를 전달하는 사회복지지침과 사회복지조직체계의 요인으로서 조직을 효율 적이고 효과적으로 관리운영 할 수 있는 지식과 기술을 개괄적으 로 연구하는 것을 목적으로 한다.

This course equips students with the appropriate knowledge and skills to effectively manage and maintain social welfare organizations. It will address organizations which provide material resources as well as those which offer intangible services in order to satisfy basic needs of society members.

사회복지조사 3-3-0

Social Welfare Research

이 과목은 사회복지의 제반분야에 있어서 과학적인 지식을 수 립하는 기반적인 방법론 사회조사의 이론과 절차를 학습하고, 이 를 근거로 사회조사의 절차에 따라 조사연구계획서를 작성하는 연 습을 한다.

This course focuses on the research methodologies used to increase scholarship in the area of Social Welfare. Students will be required to prepare research plans according to a social research framework.

번론론 3-3-0

Studies on Poverty

번론론은 사회복지의 중심가설을 이해하기 위한 기초지식을 습득하는 것을 목적으로 한다. 따라서 번론의 개념 및 측정에 관한 기존의 연구결과들을 다루고, 번론의 개념에 대한 다양한 이론들 을 학습한다. 끝으로, 우리가 번론실태에 관해 기존 연구결과들을 중심으로 번론을 이해함으로써 암호로 공부하게 될 번론학문의 문제점 및 개선방안에 관한 기존연구를 습득한다.

Students in this course will acquire a basic understanding of ways in confronting poverty, the core problem of Social Welfare. In order to address this purpose, students examine previous researches on poverty, poverty measurements, and various theories on the causes of poverty. Students learn to identify the flaws of certain policy measures and ways to improve them.

인간행동과 사회환경 3-3-0

Human Behavior and Social Environment

이 과목은 인간행동과 사회환경에 관한 다양한 이론들을 학습함으로써 사회복지에 대한 이해를 돕는데 목적이 있다. 인간의 성 장과 발달과정에 관한 행동과학 분야의 여러 이론들에 대한 학습과 함께 가족, 사회, 문화 등 사회환경의 요소들이 인간의 행동에 미치는 영향들을 토대로 한다. 인간행동에 대한 이해를 바탕으로 하 여 이상행동을 개별적으로 분석하고, 이상행동을 설명하는 다양한 이론적 모델들과 치료방법들을 학습한다. 그리고 이상행동에 대한 사회사업적 접근과 사회사업프로그램, 사회사업기의 역할 등을 익 하는데 목적이 있다.

In this course, students study various theories of human behavior and the social environment for the purpose of understanding Social Welfare. They will study behavioral science theories of human development and other research, relating to the effects of such factors as family, society, and culture on human behavior. Additional topics include the classification of abnormal behaviors and various clinical methods. The course employs a social worker’s frame of reference to discuss human behavior and the social environment.

사회복지윤리와 철학 3-3-0

Ethics and Philosophy in Social Welfare

본 과목은 사회복지 실무현장에 종사하는 사회복지사들이 전문적으로 지내야 할 윤리와 배경철학에 대한 학습의 방향을 익히고, 인간사회의 대표적인 사회문제들을 추출 분석하여 구체적 사회문제분석에 대한 연구과제수해를 설정한다.

This course analyzes how social problems can be approached through social policy and welfare organizations. It will focus on problems that are endemic to Korea and devise possible solutions.

사회복지영역과 실학 3-3-0

Social Problems

학문화된 현대사회의 대표적인 사회복지제도인 사회보장제도의 기본개념과 의의 및 목적을 고찰하고, 우리나라 사회복지제도의 실제 경험과 현황 그리고 문제점과 전망 등을 이슈중심으로 학습, 연구한다.

In this course, we study the basic meaning of social security policies, the representative social welfare policies in industrialized society. This course treats the experience, present situation, problems, and prospects of Korea and a develop-
Theories of Welfare State

본 과목에서는 복지국가의 성격과 기원, 복지국가 발전에 관한 이론, 복지국가 유형화 논의, 복지국가의 위기와 대응 등 복지국가와 관련된 제안점에 대해 학습한다. 또한 주요 선진 복지국가의 복지제도 확대과정 및 특징 등을 구체적으로 살펴보고, 한국의 복지국가 성격을 분석하는 안목을 기른다. 복지국가의 전개과정 및 복지국가의 발달의 제안인들을 살펴본 후, 미국, 스웨덴 등 주요 선진복지국가를 대상으로 하여 각 국가의 발달과정에서 나타나는 특성을 비교·연구한다.

This course will cover various aspects of welfare state, that is, welfare state characteristics and its origins, welfare state development history, theories on welfare state development, welfare state typology, criticism and response of welfare state. Also, student will review welfare state characteristics and its origins, welfare state characteristics and its origins, welfare state typology, criticism and response of welfare state, etc.

Welfare for the Disabled

본 과목은 장애인 개인의 심리적·신체적 특성과 적용이론 및 장애인을 둘러싼 체계 즉 가족, 지역사회와의 사회적·심리적 관계에 대한 이해를 높이며, 각 차원에서의 사회복지적 개발방법들을 이 해한다. 이에 더하여 기존의 정책수단들을 개발적으로 살펴본다.

In this course students will come to understand the challenges that are confronted by the physically disabled. They will study the disabled as individuals and through larger social systems such as family and community. In addition, this class will provide opportunities to learn methods in social work and to create appropriate social policies.

Social Welfare Policy

본 과목은 사회복지정책에 대한 포괄적인 이해를 목적으로 한다. 그러하여 사회복지정책연구의 세 가지 분야인 정책형성과정, 정책의 내용, 정책의 효과에 대해 개괄적으로 살펴본다.

This course provides a general understanding of social welfare policies. The three facets of social welfare policy, which are introduced in this course, are process, product, and performance.

Social Welfare Practice Theories

이 과목에서는 사회복지 실천대상 가운데 개인, 집단, 가족에게 초점을 맞춘다. 이들의 사회 기능을 향상시키기 위한 사회복지실 천에 대해 살펴본다. 구체적으로, 사회복지실천을 위한 가치, 기초 자식, 사회복지 대상자와 관계 형성, 사회사업법, 사회복지 실천 과정, 실천 대상에 따른 기초적 개입법과 기법, 사회사업의기 등 을 검토한다. 특히 사례연구와 역할연습을 통해 실제에 개입하고 평가하는 안습을 강조한다.

This course focuses on methods of improving the social relationships between individuals and their larger social groups, such as family or community. It reviews previous study in values, relationships, social work interviewing techniques, practice processes, intervention techniques, and record keeping. Students will engage in multiple case studies and role plays in class.

Community Welfare and Development

현재의 각종 지역사회가 다루고 있는 문제를 진단하고, 해결하는 전문적인 과정을 이해하고, 실천하는 역량을 배양하는데 강의의 목표를 두었다. 본 과목에서는 지역사회복지와 관련된 제커님 들을 살펴보고, 지역사회복지 운전에 있어서 사회사업가의 역할, 지역사회복지와 관련된 다양한 모델들을 중점적으로 다룬다.

This course identifies problems which modern communities face and encourages students to devise practical solutions. Students will study various models of social welfare, the role of the social worker, and other concepts associated with community welfare.

Skills and Techniques for Social Work Practice

본 과목은 사회복지 실천에 관한 심층적인 내용을 집중적으로 다루고 있다. 따라서 사회복지 실천과 관련된 주요 이론 및 방법들이 소개되며, 사회복지사의 다양한 역할들에 대해 살펴본다. 사회복지 실천과 관련된 주요 체계들과 관련된 이론, 실천과정 및 가치에 대한 심도 있는 내용으로 구성된다. 이로써 학습자들이 다양한 사회복지 실천의 모범과 체계화를 시도하는 다양한 이론적 작업들에 대해 논의해 본다.

This is an intensive course in social work practice. Students learn the primary theories, skills, and values of social work
practices in addition to the various roles that a social worker assumes. These theories and models will then be applied to social work practice in Korea.

209.325 
Child Welfare

This course cultivates, through theoretical study, the necessary skills for working in child welfare. It covers fundamental concepts and values, history, policies, organizations, services and skills required in the field of child welfare.

209.326 
Social Work with Families

This course studies the family. The course will examine the structure and functions of the family, its challenges and life cycle as well as its interactions. Also studied will be how the family structure and functions, its challenges and life cycle as well as its interactions change over time.

209.327 
Social Service Program Development and Evaluation

This course is a study of how Social Welfare policies and organizations addresses the needs of women in a post-industrial society. It provides an understanding of practical solutions to women’s problems through Social Welfare policy and methodology.

209.331 
Data Analysis for Social Welfare

This course investigates treatment methodology and theory, along with the practice and policies involved in Social Welfare. Students discuss these topics and their relevance to Korean social welfare. As they complete the course they will gain a deeper understanding of income structure, labor conditions, housing and the medical systems.

209.405A 
Topics in Social Welfare

This course introduces several statistical methods for hypothesis testing and helps students understand theoretical logics and limitations of quantitative analysis. Students are expected to learn probability theory, descriptive statistics and inferential statistics including t-test, chi-square test, analysis of variance and basic concept of the linear regression.
본 과목은 사회복지학부생이 대상으로 사회적 요인이 개인의 신체적-정신적 건강상태에 어떻게 영향을 미치고 있는지 탐색하고 이해함을 목적으로 한다. 특히 미시적, 중시적, 거시적 수준의 요인들이 개인의 건강에 어떻게 영향을 미치고 있는지를 분석해 본다.

The aim of the course is to provide student with an understanding of how social factors contribute to individual physical and mental health, outcomes using multiple theoretical frameworks developed in the U.S. and Europe. This course examines how micro-, meso-, and macro-level factors influence individual’s health. Particularly, we will evaluate the health disparities research from Western Societies and discuss how these findings apply to Korea. We will also discuss what the implications of these findings are to social welfare policies and social work practice in Korea.

M1311.002400 정신건강사회복지론 3-3-0
Social Work in Mental Health

‘기억이나 사설에 상관없이 사회복지사들은 정신건강문제를 안고 있는 클라이언트들을 자주 하게 된다.’ 따라서 정신건강의 전반과 치료에 대한 사회복지사들의 체계적인 이해가 상을 바꾸어야 한다. 본 과목은 정신건강의 원론, 진단, 치료방법론, 사회복지 괴재인 경우 치료방법론에 대한 종합적인 개론을 사회복지학적 입장에서 제시한다. 본 과목을 통해서 학생들은 다음과 같은 내용을 공부하게 된다. (1) 정신건강사회복지의 정의, 위상, 역할 및 역할, (2) 정신건강사회복지사의 역할과 율리, (3) 정신건강의 심리학적, 사회학적, 생물학적 원론 및 정의, (4) 정신건강의 진단과 치료, (5) 기타 정신건강의 진단, 치료 및 재활관련 주제

Social workers commonly encounter individuals experiencing mental health problems, whether they practice in direct mental health or general social service settings. Therefore social workers need to receive training in the diagnosis and treatment of mental disorders. This course provides a comprehensive introduction to the etiology, epidemiology, diagnosis, and treatment of mental disorders. This course also discusses issues of psychosocial rehabilitations for individuals with severe mental disorders. Upon completion of this course, students will (1) understand both definition and history of psychiatry social work, (2) understand roles and ethics of psychiatric social workers, (3) become familiar with psychological, sociological, and biological theories of mental disorders (in terms of causes and consequences of mental disorders), (4) understand multidimensional (multidisciplinary) assessment and treatment of mental disorders, and (5) learn issues related to the process of diagnosis, treatment, and psychosocial rehabilitation.

M1311.002500 디지털사회복지론 3-3-0
Social Welfare in the Digital Age

현재 우리가 알고 있는 복지국가와 사회복지체계는 근대 산업 사회의 역사적 산물이다. 그러나 최근 급속도로 발전하고 있는 디지털 기술은 근대적 국가, 시장, 시민사회 구조를 점차로 변형시키고 있다. 이는 기존의 산업경제, 민족국가, 시민권을 토대로 발전해온 복지국가의 사회복지체계에 대한 근본적인 변화와 성장을 요구하게 된다. 본 교과에서는 디지털 기술이 인간사회의 구조를 어떻게 변화시키고 있으며, 이러한 변화가 미래의 사회복지체계와 담론에 어떤 식으로 재편하게 될 것인지 함께 논의하게 된다.

The welfare states and social security systems as we know them are the historical product of the modern industrial society. However, digital technology is qualitatively transforming the modern structure of the state, the market, and civil society. This course deals with how digital technology
is changing human societies and how these changes will re-
structure the social welfare systems in the future.

M1311.002600 청소년복지론  3-3-0

Health and Social Welfare :  
An international perspective

This course covers the social, psychological, behavioral
development of adolescents, as well as the organic relations-
ships that are formed within families and social envir-
ments. Theoretical perspectives, policies, and inter-
vention methods concerning the wellbeing of adolescents will
be reviewed extensively. Evaluation of existing social poli-
cies and services on adolescent welfare will be followed by
future directions.
211.202A 저널리즘의 이해 3-3-0
Understanding Journalism

본 강좌는 매스미디어 가운데 오랜 역사를 가진 신문매체의 특성 및 기능과 가능, 발달과정, 신문의 역할과 사명, 그리고 사회적 책임과 윤리 등의 기본 개념을 살펴볼 것으로 저널리즘의 기본적인 지식을 향상시키고 이론적으로 이해하고, 나아가 신문이 우리나라 사회에 갖는 정치·경제·사회·문화적 함의를 이해하는 데 그 목적이 있다.

The course examines the historical development and characteristics of newspaper journalism. Also reviews the basics of newspaper journalism including newspaper's social functions, freedom and responsibility, ethical issues and so on. Furthermore, it aims to help students understand the political and social implications of newspapers in contemporary Korean society.

211.214A 한국미디어사 3-3-0
History of Communication in Korea

이 강좌는 한국 미디어의 역사를 공부함으로써 오늘의 우리의 미디어의 현실을 보다자고, 특히 이 강좌는 각 시대의 미디어를 당대의 정치, 경제, 사회, 문화적 상황 가운데 놓고 분석해볼 것을 제로로 이해할 수 있는 가정에 바탕해 있다.

This course focuses on classics, which connect social for-}

래와의 관련 속에서 접근하는 고전적인 논의들을 살펴본다.

211.225 설득커뮤니케이션 3-3-0
Persuasive Communication

설득 커뮤니케이션의 사회적 및 개인적 기능과 효과 등에 관한 지금까지의 여러 이론들과 연구 결과 및 연구방법 등을 학습한다. 또한 테도, 행위, 개인요인, 메시지요인, 상황 등의 결과를 조사한 주요 연구 대상에 대한 향후 연구 과제와 기존 연구의 방법론적 문제점과 개선 방향에 대해서 논의한다.

This course presents an overview of social and individual processes of persuasion in various contexts. Students will learn the developments in theories and methodologies of persuasion studies and the implications for practical applications. Theoretical issues concerning attitudes, behavior, individual differences, message factors and contexts are examined. Methodological considerations about measurement, experimenta-

tion, message construction, modeling, and analysis are also discussed.

211.227A 커뮤니케이션·문화·사회변동 3-3-0
Communication, Civilization, and Social Change

본 강좌는 사회체계의 구성과 변동의 원리를 커뮤니케이션 체계와 관련 속에서 접근, 해결하는 고전적 논의들을 살펴본다. 그 임으로써 사회의 성립과 변동의 일시를 이해하는 기초이론으로서의 커뮤니케이션 이론의 이해를 도모한다. 이를 위하여 커뮤니케이션 체계와 정치·경제·문화·국제 영역 간의 관계를 역사적, 문화론적 관점에서 다루는 고전들을 살펴본다. 또한 커뮤니케이션 이 사회운동과 민주주의적 정치변동의 과정에 개입하고 기여할 수 있는 조건들과 그 방법론에 관해 고찰한다.

This course focuses on classics, which connect social formation and change to communication system. Readings will include classics that refer to communication system as political, economic, cultural and international systems. Students will gain understanding of communication theory as a basic theory to visualize the social order and change. In this course students also consider the conditions and ways in which communication contributes to social movement and democratic political change.

211.228 커뮤니케이션학사 3-3-0
History of Communication Studies

본 과목의 목적은 언론정보학의 학문적 정체성에 대한 학생들에 이해를 돕기 위해 커뮤니케이션학문의 기원과 역사적 발달 과정을 소개하고자 한다. 미국을 비롯하여 세계적으로 커뮤니케이션 학문이 어떤 제도화 과정과 기저 독립적 학문으로 성장하게 되는 과정을 구체적으로 다루게 된다. 주로 다루는 내용은 커뮤니케이션 학문의 제도화 과정과 패러다임의 변화, 커뮤니케이션학문 선구자들의 생애와 학문 등이다.

This course is designed to introduce the origin and development of communication studies to help students understand the disciplinary identity of communication studies. Students will learn how communication studies has been institution-
alized as an independent discipline in Korea and globally as well. Main topics include process of institutionalization of communication studies, change of research paradigms, biographies of founding fathers in communication studies, and so on.

211.230* 언론정보문화특강 1-1-0
Special Topics Communication, Technology, & Culture

본 과목에서는 언론정보, 정보문화학과 관련한 현황과 연구 영역에서 최근 두각을 나타내고 있는 영역의 핵심적인 토론을 간단히 조명하여 정

문 분야의 패러다임을 독립적 학문으로 진화시키는 과정을 소개한다. 특히 언론정보학과 관련한 커뮤니케이션의 정의와 기술의 변화, 커뮤니케이션학문 선구자들의 생애와 학문 등에 관한 특수 분야에 초점을 둔다.

The objective of this course is to provide students with the current understanding of the variety of communication and information technology-related fields. By inviting outside communication professionals or researchers students have chance to learn what happens in the field and also to apply the knowledge earned through regular classes to the real-world problems. Students will eventually obtain problem-solving skills and get tips on career planning as well. The speakers will be invited in the fields of broadcasting, film, newspaper, internet contents providers, media service firms, software, game, sound, interaction design, communication strategy, PR & advertising, and the like.
Critical Communication Studies

This course aims to provide students with a comprehensive introduction to some of key critical approaches to media and cultural studies. It examines the substantial theoretical and analytical debates in the field of media, culture and communication studies and discusses some of main concepts and topics such as digital technology, mass and social media, cultural identity, the public sphere, multiculturalism, postmodern culture etc. Main readings are meant to focus on those original texts that made significant contributions to our understanding of the media, society and culture.

Political Communication

This course aims to evaluate the ways in which new media brought changes in society and human communication. The class offers students a chance to look into technological characteristics of the new media and its effects on the existing modes of communication, from theoretical and critical perspectives.

Broadcasting Analysis

This course aims to introduce foundational theories and recent research trends in interpersonal communication. Topics include, but are not limited to: communicative competence, formation and maintenance of relationships, verbal and non-verbal communication, cross-cultural communication, self-disclosure, deception, humor, and the like.
This course is designed to provide a social scientific understanding of Internet media, Internet related issues and its social implications. Topics include: concept and nature of Internet, origins and developments of Internet, basic principles of Internet technologies, Internet and online life, Internet and virtual community, Internet culture, political economy of Internet, and so on.

211.328 인터넷 시대의 읽기와 쓰기 3-3-0

Reading and Writing in the Age of Internet

Students are expected to participate in writing and production projects in class and visit various newspaper organizations to gain an understanding on news production in the field.

This course helps students learn how to plan, write and edit newspaper articles and to understand the production process of a newspaper. Students are expected to participate in writing and production projects in class and visit various newspaper organizations to gain an understanding on news production in the field.

211.325 HCl와 커뮤니케이션 3-3-0

HCl and Communication

This course aims to introduce students to a wide range of research and theories on human-computer interaction (HCI). First, we will examine how people interact with computers that emulate some characteristics traditionally associated with humans, particularly in the traditions of Computers Are Social Actors (CASA) paradigm, human-robot interaction and virtual reality research. Second, we will review how newer communication technologies, especially the Internet, have changed the ways in which people consume mass-oriented information, such as news and entertainment.

211.326A 인터넷과 디지털문화 3-3-0

Internet and Digital Culture

The purpose of this course is to offer an understanding of communication functions, and effects of new modes of reading and writing in the age of the Internet. A theoretical overview of the role of readers, writers, and mediators in between the ages of the Enlightenment and mass consumption are provided to give a perspective to the new modes of reading and writing. The students are required to participate in reading and writing in portals, communities, blogs, homepages, news sites and game sites to make participatory observations and contribute to the class activities.

211.402A 글로벌 커뮤니케이션 3-3-0

Global Communication

This course offers students an opportunity to understand various forms of international communication and engage in them from politico-economic perspective.

211.408A 커뮤니케이션 특강 3-3-0

Topics in Communication

This course discusses social importances of and theoretical perspectives on communication taking place across borders. The class offers students an opportunity to understand various forms of international communication and engage in them from politico-economic perspective.
본 과목은 커뮤니케이션 분야의 기초 이론들을 학습하고, 한국의 현실에서 발견할 수 있는 커뮤니케이션 문제들을 이론에 비추어 분석하고 토론하는데 목적이 있다. 미국과 유럽, 그리고 한국의 커뮤니케이션에 대한 이론적 축적과 합의 등을 검토하고, 한국적 맥락에 적용할 수 있는 연구주제를 선정해 보고서를 완성하고 발표하는 형식으로 진행한다.

The course reviews basic theories in the field of journalism and discusses various journalism issues in the light of theories. Also discusses the theoretical development and its implications regarding journalism in Korea, the United States, and Europe. Students will be asked to write and present a paper in the class by selecting a research subject that can be applied in Korean context.

본 강좌는 사회를 구성하고 유지시키는 핵심인 커뮤니케이션의 효과에 관한 다양한 이론 및 실제의 연구결과를 소개하는 데 그 목적이 있다. 다수의 주제로는 섹스와 폭력물, 미디어의 의제 설정, 문화 계발 효과, 이용과 충돌 모델, 미디어 이용을 통한 감정 조절 등이 있다. 또한 대인 커뮤니케이션과 메시서 커뮤니케이션의 상호작용, 전통적 미디어와 구별되는 새로운 커뮤니케이션테크날러지의 효과 등에 대한 논의도 병행될 것이다.

이 과목은 광고의 기본개념 및 광고관리의 기초에 대한 안내를 제공해주는 강의로서, 광고와 관련된 각종 문제에 접근하여 해결책을 제시할 수 있는 기본 틀을 이해시킨다. 현대사회에 있어 광고는 새로운 상품을 소비자와 연결시키는 역할을 담당하고 있는 만큼, 순간성의 소비와 판매에 중요한 역할을 담당하고 있다고 하겠다. 이 강좌에서는 광고에 대한 기본개념 및 광고관리의 기초를 학습한다. 또한 그 중요성만큼이나 부각되고 있는 광고의 문제점들, 즉 허위광고, 과장광고, 광고비의 과다지출 등의 문제에 해결책을 제시할 수 있는 기본틀을 학습한다.

Advertising is in the pivotal position in introducing and selling new commodities as it connects them to consumers in the current society. This course offers basic and managing concepts in advertising, equipping the students with abilities to solve its various problems. It will also deal with related problems such as false and puffery advertising.
211.423 미디어 현장 연습 3-3-0

Media Field Practice

This course is designed to provide students with an overview of the recent trends in media industry fields and the know-how on media service production in order for them to enhance the understanding of the current situations of media fields and the expertise in planning and producing media services. The specifics of the seminar may vary depending on the instructors.

211.424 언론 현장 연습 3-3-0

Journalism field practice

This course covers basic fundamentals of how to gather and report news events for the mass media in such a way as to be meaningful to the public. Stress is on the need for news events for the mass media in such a way as to be meaningful to the public. Stress is on the need for

M1312.000600 커뮤니케이션 질적 방법론 3-3-0

Qualitative communication research methods

M1312.000800 데이터 저널리즘 3-3-0

Data Journalism

Data Journalism reflects the increased role of digital data in the information production and distribution. In this class, students learn how to analyze data and use data as the source of data journalism using python programming language.

M1312.000900 커뮤니케이션 양적 방법론 3-3-0

Quantitative communication research methods

M1312.001000 영상문화 입문 3-3-0

Introduction to Visual Culture

M1312.001100 영화론 3-3-0

Films Theories

Films are one the most important interface of the contemporary visual culture, even though the development of
TV, Games and the Internet. As the center of the cultural industry complex and the political and aesthetic cultural practices, films have the primary importance in order to understand the socio-cultural and the political influence of images in the contemporary society. This lecture will treat the following subjects: the history of cinema; the History of films theories; Film language and Genres; Visual Culture and the Films in the 21th Century.

M1312.001200 미디어와 스토리텔링 3-3-0
Media and Storytelling

텔레비전이 생산하는 시리즈 형식의 편성들은 19세기의 소설이, 20세기 전반에 영화가 했던 것처럼, 20세기 후반과 21세기 현재 지배적인 스토리텔링의 원인이다. 텔레비전이란 매체의 특성으로 인해, 높은 사랑의 텔레비전 편성은 사회적 현실의 재현을 풀어낸 매체모니터의 창작자로서, 각 사회자가 자신의 경제성을 확장하는 중요한 사회적 커뮤니케이션의 공간이다. 최근의 장르혼합의 영향으로 텔레비전ictory가 스토리텔링 역할이 예능과 다큐 등 다른 장르로 급격하게 확장되어 있으며, 인터넷을 이용한 다양한 영상 서비스들이 등장해 텔레비전과 능동적인 공존과 관계속에서 발전하고 있다.

이 강의는 두 파트로 나뉘어 진행된다. 강의의 전반부에서는 텔레비전 사회학의 기초대로 텔레비전 편성과 동일한 사회적 커뮤니케이션 형식의 경계를 알려낸 매체모니터의 창작자로서, 각 사회자가 자신의 경제성을 확장하는 중요한 사회적 커뮤니케이션의 공간이다. 최근의 장르혼합의 영향으로 텔레비전의 스토리텔링 역할이 예능과 다큐 등 다른 장르로 급격하게 확장되어 있으며, 인터넷을 이용한 다양한 영상 서비스들이 등장해 텔레비전과 능동적인 공존과 관계속에서 발전하고 있다.

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Media products embody not only the production system and the media environment but also the historic compromise that took place, a hegemonic process that makes possible or limits the media representation and its impact. A successful television fiction becomes a social and cultural event taking advantage of television as a dominant vessel. In this course, we treat fiction as a merging point of various social discourses and consider it an important place where we can discuss issues related to identity (individual, group, collective). Recent development of television fiction related transmedia storytelling opens a new horizon of observation and theoretical development.

In the first part of the lecture, the representation system of the television fiction series (format, content, genre, reception, etc.) will be treated, students will acquire analytical concepts derived from cultural theories: social representation, hegemonic process, gender, class, race, cultural practice, active audience and fandom, etc. The lecture series feature case studies involving Korean drama, American drama series, European television fiction, and web series, in order to develop a comparative sociological standpoint on the television storytelling.

The second part of the lecture will address the questions on the recent development of visual services in the Internet and its co-evolution with the television. The concepts and theoretical frames covering the new storytelling practices will also be introduced.

M1312.001400 저널리즘 심층 글쓰기
Advanced Journalism Writing

이 강좌의 목적은 탐사보도에 요구되는 심층적인 저널리즘 글쓰기 기술을 배양하는 것이다. 기획 기사 및 시사보도 프로그램 제작 방식을 학습하고, 문장력 향상 및 구성 방식 습득에 초점을 맞춘 내러티브 글쓰기 기법을 훈련한다. 이를 위해 탐사보도에 대한 이론적 기초 지식을 탐구하고, 모범적 탐사보도 사례를 분석하며, 탐사보도 기사 작성을 실습한다.

The main goal of this course is to cultivate advanced journalistic writing skills required for investigative journalists. Students will learn how to plan, conduct research for, and produce investigative reports. To this end, students will (1) learn about basics of investigative journalism, (2) read exemplary investigative reports, and (3) write a piece of investigative report.

M1312.001500 미래미디어실습
Future News Practice I

미래미디어실습은 탐사보도를 다룬다. 민주주의 사회에서 탐사보도는 공중의 알권리 확보와 언론의 진실 조명 역할 차원에서 핵심적인 지질러즘 역할이다. 이 강좌에서는 탐사보도도 저널리즘의 기초를 학습하고, 실질적인 취재 및 기사 작성 기법을 훈련한다. 구체적으로, 심층적인 심층과 과정을 통해 탐사보도의 취재 및 뉴스 제작을 경험함으로써 탐사보도 저널리즘의 갖추어야 할 실무적 능력과 윤리적 사명감을 배양한다.

Future News Practice I deals with investigative journalism. In a democratic society, investigative journalism is one of the most critical forms of journalism because it helps protect the public’s right to know. In this course students will practice reporting and writing a piece of investigative journalism. To be more specific, students will actually go through the entire process of investigative journalism by participating in a series of group activities, thereby cultivating practical skills and a sense of responsibility as an investigative journalist.
Future News Practice II

Future News Practice II deals with advanced data journalism. Data journalism is a journalism specialty that focuses on the increased role of numerical data play in the production and distribution of information in the digital era. This course is intended to teach students methodologies for data journalists to find important pieces of information and relay those to the public in an effective and efficient manner.

To this end, students will conduct a team project related to data journalism. As new technologies such as the Internet, mobile media, AI etc. have become commonplace, modern society is rapidly moving into technology-oriented society. This course aims to explore the dynamic and complex intersection of media, culture and the city in global metropolises. The course provides students with a comprehensive introduction to key theoretical issues on digital screen, media, spectacle, urban experience, popular culture, and globalization in global cities. It also critically discusses methodological issues on the analytical framework and knowledge-forms in media and cultural research for local contexts. Students are encouraged to engage with current debates on epistemological and methodological questions in the fields of media and communicaditon studies as well as urban and visual cultural studies and to enrich their knowledge of urban culture and politics in a systematic way. In doing so, the course helps students to achieve the ability to grasp the complexity of media culture and to analyze creatively and critically a broad range of media products and cultural materials.

Media, Culture and City

This course aims to explore the dynamic and complex intersection of media, culture and the city in global metropolises. The course provides students with a comprehensive introduction to key theoretical issues on digital screen, media, spectacle, urban experience, popular culture, and globalization in global cities. It also critically discusses methodological issues on the analytical framework and knowledge-forms in media and cultural research for local contexts. Students are encouraged to engage with current debates on epistemological and methodological questions in the fields of media and communicaditon studies as well as urban and visual cultural studies and to enrich their knowledge of urban culture and politics in a systematic way. In doing so, the course helps students to achieve the ability to grasp the complexity of media culture and to analyze creatively and critically a broad range of media products and cultural materials.

Understanding Media and its Cultural Content

This course examines the theories and methodologies necessary for technical criticism as a journalist and a writer based on the understanding of positivism and pessimism, students will consider various aspects of communication technology and focus on three topics: emergence of communication technologies in the cultural and social contexts, characteristics of communication technology in each historic periods, and the social consequences of communication technology on human lives.
M1312.002800 AI와 미디어 3-3-0

AI and Media

최근 인공지능은 사회의 다양한 영역으로 확산하면서 많은 철학적, 사회학적 문제들을 제기하고 있다. 이에 본 과목은 미디어 및 커뮤니케이션 영역에서 전개되고 있는 AI 기술과 시스템의 영향을 살펴보고, 이것에 푸른 이론과 학의 미디어론, 기술철학, 문화이론, 사회이론 등 다양한 인문사회과학 이론들의 관점에서 논의한다. 이를 통해 AI의 미디어, 나아가 기술사회에 대한 보다 심층적인 이해를 제공하고자 한다.

Recently, artificial intelligence has spread to various areas of society, raising many philosophical and social questions. This course will look at the aspects of AI technology unfolding in the area of media and communication, and discuss the issues and implications surrounding them from various perspectives including media theory, philosophy of technology, cultural theory, and social theory. Through this, this course will provide a deeper understanding of AI, media, and the modern technological society.

M1312.002900 커뮤니케이션학 입문 3-3-0

Introduction to Communication

본 강좌는 인문사회과학 전공 신입생을 위한 필수 교과목으로, 커뮤니케이션학 및 서울대학교 언론정보학과 학부 교과과정을 소개하고 이를 통해 학생들의 데이터 리터러시를 함양하는 것을 목표로 한다. 본 강좌는 언론정보학 전공 신입생을 위한 필수 교과목으로, 커뮤니케이션학 및 서울대학교 언론정보학과 학부 교과과정을 소개한다. 학생들은 커뮤니케이션학의 기초 개념, 다양한 이론적 방법론적 관점들, 그리고 주요 연구 분야를 탐색할 것이다. 또한, 언론 정보-social and media, "AI and Media". Students will explore basic concepts, different theoretical and methodological perspectives, and major research areas in the field. Students will also learn about the curriculum of the program, and discover the various career paths that they can pursue with a communication degree.

M1312.003000 커뮤니케이션이론 1 3-3-0

Communication Theories I

본 교과목은 커뮤니케이션의 토대를 이루는 핵심적인 이론적 사고와 질문을 포함한다. 이 수업을 통해 학생들은 인문사회과학의 기초을 잡고, 그 이론적 방법론적 관점들, 그리고 주요 연구 분야를 탐색할 것이다. 또한, 언론정보학 전공 신입생을 위한 필수 교과목으로, 커뮤니케이션학 및 서울대학교 언론정보학과 학부 교과과정을 소개하고 이를 통해 학생들의 데이터 리터러시를 함양하는 것을 목표로 한다. 학생들은 과학적 설명과 예측의 기본 원리를 이해하고, 데이터 분석 방법을 PPDAC 문제 해결 과정 (Problem-Plan-Data-Analysis-Conclusion)의 틀 내에서 학습하게 될 것이다. 이 수업을 통해 학생들은 설득, 확산, 의존, 이론, 전문가, 공간 캠페인 등 다양한 커뮤니케이션 현상을 데이터를 바탕으로 설명하고 예측할 수 있게 될 것이다.

M1312.003100 커뮤니케이션 데이터 분석 3-3-0

Data Analysis in Communication Science

본 강좌는 커뮤니케이션과학의 기초가 되는 데이터 분석 방법을 소개하고 이를 통해 학생들의 데이터 리터러시를 함양하는 것을 목표로 한다. 학생들은 과학적 설명과 예측의 기본 원리를 이해하고, 데이터 분석 방법을 PPDAC 문제 해결 과정 (Problem-Plan-Data-Analysis-Conclusion)의 틀 내에서 학습하게 될 것이다. 이 수업을 통해 학생들은 설득, 확산, 의존, 전문가, 공간 캠페인 등 다양한 커뮤니케이션 현상을 데이터를 바탕으로 설명하고 예측할 수 있게 될 것이다.

M1312.003200 한류와 글로벌 대중문화 3-3-0

Hallyu and Global Pop Culture

한류를 통해서 드러나고 있는 한국 대중문화의 글로벌 대중문화화의 발전과 성공에 대한 입문적 수업이다. 수업의 전반부에서 30년대-90년대에 이르는 한국 대중문화 형성에 대한 사적 과학에 이르기 형성의 형성과 두뇌와 대중의 신용 현상을 다룬다. 이 기간 한국사회의 언론, 펭사사나 미디어와 인터렉션 트산업의 특성적인 발전. 더더욱 문화와 같은 구조적 원인과 현상의 조성에 초점을 맞춘다. 본 강좌는 6년내에 이르는 한국 대중문화의 핵심적 콘텐츠인 드라마, 케이팝, 그리고 BTS현상에 집중한다. 초국적 수용, 글로벌 팬문화, 유행성, 해외를 구성하는 다자간 문화적 현상의 변화, 스토리텔링 전략, 문화 세계화의 새로운 플랫폼 등 한국문화가 지난 20년간 집중한 핵심적인 이론과 현상 임상을 다룬다. 이 수업은 한국의 케이팝, 케이팝, 브리트로 대중문학과의 현상의 틀 내에서 학습하게 될 것이다. 이 수업은 한국의 케이팝, 케이팝, 브리트로 대중문학과의 현상의 틀 내에서 학습하게 될 것이다.
사회과학대학(College of Social Sciences)

∴ 언론정보학과(Department of Communication)

에서는 매스 미디어, 소셜 미디어, 모바일 미디어 등은 물론이고 의료 전문가 및 일반인들과의 대화가 각 개인들의 건강에 미치는 영향을 커뮤니케이션, 건강심리학, 의료사회학, 공중보건학, 예방의학 등에서 개발되고 이용되고 있는 이론들과 연구들을 활용하여 탐구하고자 한다. 보다 구체적으로, 우선 커뮤니케이션이 건강 관련 인지, 감정, 및 행동에 미치는 영향을 알아보고, 더 나아가 건강에 도움을 주는 환경 및 사회구조를 조성하기 위해 커뮤니케이션을 어떻게 활용할 수 있을 것인지에 대해 함께 생각해보고자 한다.

Both media use and interpersonal communication are important to our physical and mental health outcomes. This class aims to provide students with an overview of health communication using various theories and research in the disciplines of not only communication but also health psychology, medical sociology, public health, and preventive medicine. To be more specific, the former section of the class is devoted to examining the effects of communication on health-related cognitions, emotions, and behaviors. Then, in the latter section of the class, we explore the ways in which we utilize communication in order to promote pro-health environments.

M1312.003400 한류와 한국의 미디어문화 3-3-0

Hallyu and Korean Mediarculture

한류를 통해서 드러나고 있는 한국 미디어문화의 발전과 성공에 대한 입문적 수업이다. 수업의 전반부에서는 50년대-90년대에 이르는 한국 대중문화 형성에 대한 사적 고찰에 이어 한류현상의 형성과 동아시아 내부에서의 수용현상을 다룬다. 이 기간 한국사회의 민주화, 동아시아 미디어와 콘텐츠산업의 특성적인 발전, 디지털 문화와 같은 구조적 원인과 환경의 조상에 초점을 맞춘다.

후반부는 초국적 한국 미디어문화의 핵심적 콘텐츠인 드라마, 캐릭터, 그리고 BTS현상에 집중한다. 초국적 수용, 글로벌 콘텐츠, 혼동성, 한류를 구성하는 디지털 문화형식과 실제, 스토리텔링 전략, 문화 세계화의 새로운 플랫폼 등 한류연구가 지난 20년간 집중한 핵심적인 이론과 현상 이슈를 다룬다. 이 수업을 통해서 케냐, 인종, 세대의 차원이 어떻게 국내적/지역적/세계적 차원과 상호교차하며 정체성을 형성하는지 이해할 수 있을 것이다.

This is an introductory course on Korean Mediarculture, underlining its recent development as a global pop culture and performances by the name of Hallyu, the Korean Wave.

The first part introduces a short history of the making of Korean Mediarculture from the 50’s to the 90’s, and explains the phenomenon of Hallyu in East Asia followed by its propagation beyond the region. Structural causes of Hallyu as democratization, East Asian Crossmedia and entertainment industry, and the development of digital culture will be treated as the core contextual elements of Hallyu.

The second part will concentrate on the case of K-drama, K-pop and BTS. Students will learn basic concepts and theories relating to Hallyu Studies : transnational reception, fan culture, hybridity, emerging digital cultural forms and practices, new platforms of globalization and culture, etc.

Through these theoretical and practical process, students will acquire a comprehensive understanding of the process of a transnational cultural propagation and reception, as well as the way gender, race, generation, and the national/regional/global intersect in the contemporary global culture especially in terms of identity formation.
Programming Usable Interfaces

Diverse learning opportunities to enable an understanding of new styles and forms of communication have been developed in the context of the new media. This course introduces students to the fundamentals of interactive design and the advanced technologies required to build usable user interfaces. The focus is on the exploration of various forms of user interfaces, from traditional dialog boxes to advanced multi-touch interaction. In this course, students will learn to design usable user interfaces for various applications, including video game development, web design, and mobile applications.

Introduction to Information-Culture Technology

This course is compulsory for students in this major. It will introduce students to the fundamentals of information and culture technology, including the history of computing, the development of the internet, and the principles of media technology. In addition, students will learn the basic tools and techniques used in the creation of virtual reality environments.

Understanding Game

This course provides the basic understanding of video game design and development. Students will learn about the different types of games and the various tools and techniques used in game design. In addition, students will also learn about the basic principles of game theory and the psychological aspects of game design.

Introduction to Virtual Reality

This course is designed to introduce students to the fundamentals of virtual reality technology. Students will learn about the basic principles of virtual reality and the various tools and techniques used in the creation of virtual reality environments. In addition, students will also learn about the basic principles of game theory and the psychological aspects of game design.
Visualization

Visualization is a class that explores the fundamentals of visual text. The explicit focus of the class is to experience non-verbal communication of message and its conversion on various media. Throughout the semester students will experiment with visualization and exercises with data and text. Their interaction will be the theme of the final project. Students are expected to work in general presentation program and basic Flash technology, although non-technological solutions may also exist. A workshop for applying Flash is provided in the early stage of the class.
language and ontology construction.

2114.413A  
Digital Video Workshop 2

This course is an advanced course of Digital Video Workshop 1 and explores in-depth level of making moving pictures. Students will learn the process of video contents creation and the presentation techniques throughout the course by dealing with various digital media.

2114.414  
Serious Games

Serious Games

This course introduces the fundamental of digital acoustics, including sound production and related cognition processes. Students will also acquire the roles and effects of digital acoustics creations of sound and related cognition processes. Students will learn basic programming media and the foundation technologies that enable interactive media prototyping. In this course, various prototyping tools such as Processing, Arduino or Lego Mindstorms will be used to create prototypes.

2114.417  
Interactive Media

Interactive Media

This course provides the overall understanding of digital media and the foundation technologies that enable interactive digital media creation. Students will learn basic programming fundamentals and electronics and apply the technologies to develop interactive media prototyping. In this course, various prototyping tools such as Processing, Arduino or Lego Mindstorm will be used to create prototypes.

2114.419  
User-Centered Design

User-Centered Design

User-centered design is a new design approach. Unlike feature-centered design, it focuses on the user’s needs and the context of user where a system is being used. In this type to make interactive media to accommodate and sound to follow "serious game" and to change the landscape of game thinking.
course, students will learn methods to understand users, and then define user interfaces and their interaction. Prototyping technique and evaluation methods will also be provided.

Seminar in Information-Culture Technology

This course offers undergraduate-level seminar on special topics related to information science. Potential topics may include digital contents and media, HCI methods, and information technologies, for example.

Advanced Interface Programming

This course introduces concept of data structure and algorithms use to develop effective programming. In this course, students will learn abstract data type concepts and the implementation methods of data structures. Recursive function, algorithm efficiency, sorting and search will be discussed. Students will be exposed to linear data structures such as linked lists, stack and queue.

Introduction to Web Programming

Internet evolution caused by World Wide Web(WWW) was possible through various web technology advances. In this course, students will first discuss the history of WWW evolution and how WWW have changed our daily lives. Then students will learn the basic web programming skills such as HTML/CSS and then learn programming skill to build web applications.

Digital Ethnography

This course is designed to help students understand the current environment of digital technology at universities and other institutions. It aims to equip students with the skills necessary to design and implement digital technologies that meet the needs of their target audience.

Information Structure

This course will provide discussions from the communication, information and culture theories to develop student’s ability of thinking that supports problem solving in the information-culture technology domain.

Introduction to Web Programming

Web development (WWW: World Wide Web) is a powerful tool for building dynamic content and user interfaces on the web. Students will learn the basics of HTML, CSS, and JavaScript, as well as more advanced topics such as database connectivity and server-side scripting.

M1317.000400 고급 인터페이스 프로그래밍 3-3-0

Advanced Interface Programming

This course will provide discussions from the communication, information and culture theories to develop student’s ability of thinking that supports problem solving in the information-culture technology domain.

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M1313.000700 정보기술 실습 3-3-0

Practice in Information Science

This course aims to provide basic knowledge in ethnography and qualitative approaches in general, with specific emphasis on digital technology uses. Students will learn to approach users’ everyday lives and analyze their culturally and socially embedded experiences.

M1313.000800 디지털 에쓰노그래피 3-3-0

Digital Ethnography

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M1313.000100 정보구조 3-3-0

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Web development (WWW: World Wide Web) is a powerful tool for building dynamic content and user interfaces on the web. Students will learn the basics of HTML, CSS, and JavaScript, as well as more advanced topics such as database connectivity and server-side scripting.

M1313.000200 웹프로그래밍 개론 3-3-0

Introduction to Web Programming

Web development (WWW: World Wide Web) is a powerful tool for building dynamic content and user interfaces on the web. Students will learn the basics of HTML, CSS, and JavaScript, as well as more advanced topics such as database connectivity and server-side scripting.

M1313.000000 웹프로그래밍 개론 3-3-0

Introduction to Web Programming

Web development (WWW: World Wide Web) is a powerful tool for building dynamic content and user interfaces on the web. Students will learn the basics of HTML, CSS, and JavaScript, as well as more advanced topics such as database connectivity and server-side scripting.

M1313.000600 디지털 에쓰노그래피 3-3-0

Digital Ethnography

This course is designed to help students understand the current environment of digital technology at universities and other institutions. It aims to equip students with the skills necessary to design and implement digital technologies that meet the needs of their target audience.

Information Structure

This course will provide discussions from the communication, information and culture theories to develop student’s ability of thinking that supports problem solving in the information-culture technology domain.

Introduction to Web Programming

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M1313.000100 정보구조 3-3-0

Information Structure

This course will provide discussions from the communication, information and culture theories to develop student’s ability of thinking that supports problem solving in the information-culture technology domain.

Introduction to Web Programming

Web development (WWW: World Wide Web) is a powerful tool for building dynamic content and user interfaces on the web. Students will learn the basics of HTML, CSS, and JavaScript, as well as more advanced topics such as database connectivity and server-side scripting.

M1313.000200 웹프로그래밍 개론 3-3-0

Introduction to Web Programming

Web development (WWW: World Wide Web) is a powerful tool for building dynamic content and user interfaces on the web. Students will learn the basics of HTML, CSS, and JavaScript, as well as more advanced topics such as database connectivity and server-side scripting.
solving ability for application development. Students of this class will learn developing iOS app using Swift language. After learn basic skills including build view structure, archive and communicate via network, each student will implement the prototype from ‘Interface Programming’ class. One can prepare full stack development and grasp the new programming paradigm through the open source functional language, Swift.

M1317.000500 HCI와 디지털 패브리케이션 3-3-0
Digital Fabrication Techniques for HCI

Recent advancement in digital fabrication are facilitating the realization of ideas for independent makers as well as manufacturing prototypes and validating them in creative ways for entrepreneurs. This course considers how digital fabrication techniques (i.e., 3D printing, laser cutting, CNC machining) and related computer controlled technologies can be applied to problems in Human-Computer Interaction. This course will be hands-on and skills-oriented, with the goal of teaching students the skills necessary to operate these technologies and apply them to HCI-related problems such as rapid prototyping for new device concepts.

M1317.000600 디자인 사고와 커뮤니케이션 3-2-2
Design Thinking and Communication

In this course, students will explore conceptual and visual solutions, and on the creative process of organizing, visualizing and communicating information. Specifically, this course emphasizes the use of various design tools and computational media to organize and communicate complex data in forms such as infographics, animated visualizations, large-scale displays in public spaces. In addition to studio-based projects, this course will include discussions of readings and projects from the fields of art, design, human-computer interaction, and science and technology studies.
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<th>Course Code</th>
<th>Course Title</th>
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<th>Lecture Hours</th>
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<td>2021.301</td>
<td>Introduction to European Studies 1</td>
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<tr>
<td>2021.401</td>
<td>Regional Integration in Europe</td>
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This course surveys both theoretical and policy perspectives in approaching Europe and its multifarious dimensions.

This course first examines theories and historical development of regional integration in Europe, and then discusses its applicability beyond Europe.
Globalization and Culture

As an introductory course for ‘Globalization and Culture’ major, this course examines diverse perspectives on globalization and key global issues. Team teaching by faculty members with different disciplinary background.
뇌-마음-행동 연계전공의 필수 과목으로서, 세분화된 학문 체계에 따라 다를 수 없는 통합적인 인간 이해에 대한 소개를 제공하는 곳이다. 신경과학에서 이루어지는 뇌의 이해, 인지과학에서 이루어지는 마음의 이해, 심리학에서 이루어지는 행동의 이해와 이들간의 관계를 포함하여 인간의 이해에 대한 다양한 주제의 소개를 함여 교수 및 외부 초빙 연사들의 연계강의로 이루어진다.

이 과목은 뇌를 연구하는데 필요한 수학적 및 계산학적 도구를 제공한다. 정보처리 관점에서 뇌를 이해하기 위한 정보이론과 신경계산 모델에 대하여 공부한다. 뇌의 기억 구조와 학습 원리를 모방한 새로운 정보처리 구조와 알고리즘을 소개하고 이를 이용하여 인간과 동물 및 기계의 지각, 인지, 행동을 모델링하는 응용 사례를 살펴본다.

이 과목은 뇌를 연구하는데 필요한 수학적 및 계산학적 도구를 제공한다. 정보처리 관점에서 뇌를 이해하기 위한 정보이론과 신경계산 모델에 대하여 공부한다. 뇌의 기억 구조와 학습 원리를 모방한 새로운 정보처리 구조와 알고리즘을 소개하고 이를 이용하여 인간과 동물 및 기계의 지각, 인지, 행동을 모델링하는 응용 사례를 살펴본다.

"학점구조는 "학점수-주당 강의시간-주당 실습시간"을 표시함. 한 학기는 15주로 구성됨. (The first number means "credits"; the second number means "lecture hours" per week; and the final number means "laboratory hours" per week. 15 week make one semester.)"
자연과학대학

College of Natural Sciences
300.302 과학과 근대사회 3-3-0

Science and Modern Society

과학혁명 이후의 근대과학분야들의 발전, 이에 대한 사상적, 사회적, 제도적 요소들의 영향을 다룬다. 주된 내용으로 과학 사회 형성에 있어서 과학의 역할, 과학단체와 과학의 전문직업화, 과학과 기술, 과학과 종교, 현대과학문화의 출현, 현대과학의 구활동의 출현, 과학과 현대 사회 등을 포함하며, 과학이 현대사회에서 중요한 요소가 되게 된 과정을 특히 주목한다.

이 과정은 현재 사회에서 점점 더 흔해지고 있는 과학기술과 법의 실질적이고 상호작용에 대해서 다룬다. 과학기술과 법의 상호 작용에 대해서 이해하는 것은 과학기술 전공을 수강하는 학생들에게 현대 사회 속에서 과학기술의 역할을 더 잘 이해할 수 있게 한다. 수업은 주제는 과학과 사상, 과학과 사회, 과학과 종교, 과학과 통신기술, 과학과 경제, 과학과 법률, 과학과 관련 주제를 포함한다. 몇 가지 주제에 대해서는 법학전문대학원의 교수들이 초빙해 강의를 운영한다. 이 수업은 과학기술을 통해서 이해하고 싶은 학생들을 초청강연을 통해 개최한다. 이 수업은 관계학과, 법률학과, 생명과학과, 통신과학과 법학과 과목에서 학점을 수여한다.

300.306 테크노사이언스의 역사와 철학 3-3-0

History and Philosophy of Technoscience

이 수업은 과학자에서 20세기에 이르는 기술 및 공학의 역사 및 그와 관련된 철학적 논점을 살펴본다. 현대 사회에서 과학 및 기술의 역할에 대해 다루며, 그 역할이 사회의 발전과 과학의 발전에 어떤 영향을 미치는지에 대한 논점을 지향한다. 과학은 인간의 지식 및 사고를 형성하는 데 기여하며, 이는 과학학의 발전에 중요한 역할을 한다. 과학은 현대 사회에서 주요한 역할을 하고 있으며, 그 역할은 과학과 기술의 발전에 기여한다. 이 수업은 과학기술과 사회, 과학기술과 문화, 과학기술과 관련된 현대 문화의 발전에 대한 이해를 높이기 위해 설계되었다.

이 수업은 과학과 기술, 과학과 근대사회, 과학과 현대 사회 및 과학과 문화를 다루며, 과학과 기술의 역할을 통해 현대사회의 발전에 어떻게 기여하였는지에 대해 논한다. 과학은 현대 사회에서 중요한 역할을 하고 있으며, 그 역할은 과학기술의 발전에 기여한다. 이 수업은 과학과 기술, 과학과 사회의 역할을 이해함으로써 현대 사회에서 과학과의 역할을 바탕으로 한 사회의 발전에 기여할 수 있다.

300.307 과학기술과 법 3-3-0

Science, Technology and Law

이 과목은 현대 사회에 있어서 과학기술과 법률의 상호작용에 대한 이해를 목표로 한다. 과학기술과 법률의 상호작용에 대해서 이해하는 것은 현대 사회에서 과학기술의 역할을 더 잘 이해할 수 있게 한다. 수업은 주제는 과학과 사상, 과학과 사회, 과학과 종교, 과학과 통신기술, 과학과 경제, 과학과 법률, 과학과 관련 주제를 포함한다. 몇 가지 주제에 대해서는 법학전문대학원의 교수들이 초빙해 강의를 운영한다. 이 수업은 관련 학과의 학생들에게 적합하다. 이 수업은 과학기술과 문화, 과학기술과 법률, 과학기술과 관련 주제에서 학점을 수여한다.
300.310

Genetics

The study of genes and their role in development and inheritance. This course covers the basics of genetics, including the structure and function of genes, gene expression, and genetic variation. It also introduces the use of genetics in modern agricultural and biomedical research.

300.311

Biochemistry 1

This course covers the fundamentals of biochemistry, including the structure and function of macromolecules such as proteins, nucleic acids, and lipids. It also introduces the basic principles of enzyme catalysis and the regulation of biological processes.

300.312

Biochemistry 2

This course continues the study of gene expression, metabolism, and regulation of biological processes. It also covers the advanced level of molecular biology, including the structure and function of DNA, RNA, and proteins.

300.313

Molecular Biology

This course covers the molecular basis of biological processes, including gene expression, metabolism, and regulation. It also introduces the use of molecular biology in modern agricultural and biomedical research.

300.314

Biochemistry Laboratory

This course provides hands-on experience with the techniques and tools of biochemistry, including enzyme assays, molecular biology techniques, and mass spectrometry.

300.317

Biophysics

This course covers the principles of biophysics, including the structure and function of biological macromolecules, the principles of molecular biology, and the regulation of biological systems.

300.319

Molecular Genetics

This course covers the principles of molecular genetics, including gene structure, gene function, and the regulation of gene expression. It also introduces the use of molecular genetics in modern agricultural and biomedical research.

300.203A

Linear Algebra 1

This course covers the fundamentals of linear algebra, including the properties of matrices, determinants, and eigenvalues. It also introduces the use of linear algebra in modern scientific and engineering applications.

This is a basic course in experimental biochemistry. Students learn how to handle carbohydrates, proteins, nucleic acids, and lipids, purification of protein enzymes, cloning of genes, recombinant DNA technology, analysis of carbohydrates, lipids, and nucleic acids.
understand 2-dimensional and 3-dimensional orthogonal groups and their structures. Meanwhile, we introduce quotient spaces to utilize the induction on dimension.

Differential Equations

We study the basic methods of solving fundamental differential equations. Therefore, studying solutions of various differential equations is very important to almost all sciences. It covers from the structure and evolution of our galaxy to various issues on normal galaxies, active galactic nuclei including quasars, the large scale structure of the universe, the expansion and age of the universe, cosmic microwave background radiation and cosmology. Gravitational lenses and dark matter are also covered.

Analytical Chemistry 1

Analytical Chemistry is very important to almost all sciences. Therefore, studying solutions of various differential equations is very important to almost all sciences. It covers from the structure and evolution of our galaxy to various issues on normal galaxies, active galactic nuclei including quasars, the large scale structure of the universe, the expansion and age of the universe, cosmic microwave background radiation and cosmology. Gravitational lenses and dark matter are also covered.

Exploration of the Sea

This course will examine the future applications, the range of usage and the limitations of fluid mechanics and establish an understanding of the fundamental concepts of the area. Topics include mass continuity, momentum conservation, and energy conservation. From the conservation

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Analytical Chemistry 1

Analytical Chemistry 1

Elementary Fluid Mechanics

Elementary Fluid Mechanics

Analytical Chemistry 1

Exploration of the Sea

Elementary Fluid Mechanics

Analytical Chemistry 1

Exploration of the Sea

Elementary Fluid Mechanics
equations we will derive the governing equations for fluid-motion. We will then apply these equations to the ideal fluid and the buoyancy driven fluid, and work out solutions based on the methods studied in this course.

300.235 지구시스템진화 3-3-0

Evolution of the Earth System

The Earth is composed of the atmosphere, hydrosphere, biosphere and solid earth, which have been studied separately in different disciplines in the past. In this course, we closely follow the textbook “Understanding Earth” by Frank Press and Raymond Siever (2000 edition) and investigate the core elements of the terrestrial planet Earth, which has been evolving for the last 4 billion years as Earth system.

300.236A 판구조론 및 실험 3-2-2

Plate Tectonics & Lab.

Plate tectonics has provided a new paradigm for investigating the planet Earth since late sixties, and is one of the key ingredients of earth system sciences for understanding the solid earth on a global scale. This course introduces not only historic background and scientific establishment of plate tectonics but also its recent development. Major topics of the course include Earth’s interior, mantle geochemistry and mineral physics, principles of plate tectonics and plume tectonics, vector analyses of plate motions, etc. In addition, major issues in tectonic evolution of the Korean Peninsula, including the Quaternary volcanoes and active faults as well as the Mesozoic continental collision, will be introduced from the tectonics viewpoint. Laboratory work deals with brief introductions to Earth materials, principles of stereo-net analyses, first motions of earthquakes, etc. When needed, one-day field trip is planned to explore one of representative areas for continental collision in Korea.

300.253 기후학개론 3-3-0

Introduction to Climatology

In this course we will study the climatology and the possible changes to it. Topics such as global energy equilibrium, radiative transfer in the atmosphere, energy budget at the ground surface, climate related with ocean circulation, heat transport by water and atmosphere, and the climatological history will be discussed.

300.254 대기열역학 3-3-0

Atmospheric Thermodynamics

In this course we will apply the basic laws of thermodynamics to understand the meteorological phenomenon. We will go over the basic concepts of thermodynamics and discuss the equation of state, the thermodynamic equilibrium and the 1st and 2nd principles of thermodynamics. Using thermodynamic diagrams, we will study the water-air system and the thermodynamic process in the atmosphere.
Introduction to Marine Drugs and Lab.

The course deals with a topic of growing importance in marine biotechnology, especially innovative marine drugs. This course will focus on the entire process of drug discovery and development which necessitates expertises of many disciplines such as marine natural product chemistry, biology, organic and medicinal chemistry, pharmacology, pharmacokinetics, toxicology, and basic and clinical medicine. In addition basic skills in the discovery of marine drug hits will be practiced in the lab. The course is designed to provide a summary overview of the field of marine drug discovery and development. The course will be designed to meet the needs of oceanographers, biologists and chemists interested in this topic.

300.402 지구과학계산과 프로그래밍 3-2-2
Scientific Computing & Programming in Earth Sciences

This course deals with a topic of growing importance in marine biotechnology, especially innovative marine drugs. This course will focus on the entire process of drug discovery and development which necessitates expertises of many disciplines such as marine natural product chemistry, biology, organic and medicinal chemistry, pharmacology, pharmacokinetics, toxicology, and basic and clinical medicine. In addition basic skills in the discovery of marine drug hits will be practiced in the lab. The course is designed to provide a summary overview of the field of marine drug discovery and development. The course will be designed to meet the needs of oceanographers, biologists and chemists interested in this topic.

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Natural Science in the 21st century faces great challenges as the boundaries between different scientific disciplines blur in the nano region at the frontiers of research. This lecture covers physics, astronomy, and earth and environment science from the perspective of a convergent and integrated science. The new approach is not from the traditional non-integrated science but from a unified and interdisciplinary approach of science so that students who wish to pursue carriers in science can get insight into a much deeper understanding of nature. Understanding Integrated Science I mainly deals with physics, astronomy, earth and environmental science issues although it will touch examples from chemistry and biology.
오늘날의 자연과학은 우주와 생명의 역사를 포괄적으로 조망할 수 있는 단계에 이르렀다. 이 강의에서는 DNA 구조를 출발점으로 하여 생명에 관한 인과와 생명과학의 주요 원리를 융합적으로 다룬다. 아울러 방사수, 원소의 생성, 원자 구조 등 물리 원리의 내용을 다루어 생명의 물리적 기반을 공부하도록 한다. 옛고적 크릭의 DNA 이중나선 구조 발견 논문, 원소의 기원에 관한 팜자이스의 노벨 트레이, 압도적이 함축에 관한 하버의 노벨 트레이 등 원리를 활용하여 현대 과학의 핵심 내용들을 심도 있게 다룬다. 자연과학은 자연과학자에게 생명과학과 생명과학에서 토론해 보도록 한다. 이론적 및 실제적인 논쟁적 이론들은 제시하였지만 핵심적인 주제이며, 그런 이론들이 어떠한 개념적, 철학적 영향을 담고 있는지를 논의할 것이다. 다른 한편으로는 현대 생명과학이 인간의 마음과 행동을 이해하는 데에 어떠한 새로운 함의를 주는지를 논의할 것이다.

Integrated Science 2

Natural Science today achieved a bird’s-eye view of the history of life in the universe. This course covers chemical and biological principles behind life in an integrative approach using the DNA structure as a launch pad. Such topics as the big bang cosmology, nucleosynthesis of elements, and atomic structure will be introduced to emphasize the physical basis of life. Original texts including Watson and Crick’s paper on the DNA double helix, Penzias’ Nobel Lecture on the origin of elements, and Haber’s Nobel Lecture on the synthesis of ammonia will be used to engage students in in-depth study of modern science. The unique features of life such as metabolism, heredity, and response to stimuli will be discussed. Finally the variety of species in the ecosystem as a result of biological evolution will be covered.

Humanities Issues in Biological Sciences

The aim of this course is to introduce to undergraduate students majoring in or interested in biological sciences, what humanities issues in biological sciences are, and what challenges and implications biological sciences has to the contemporary humanities. To this end, we will focus on what kinds of controversial theories of evolutionary biology, neuroscience, genetics, developmental biology, and ecology have given genes, brains, humans, and society, and what kind of conceptual and philosophical issues they contain. On the other hand, we will discuss how the development of science and understanding of human nature are connected by exploring the new implications of biological sciences in understanding human minds and behaviors.
881.301 현대대수학 1 3-3-0

Modern Algebra 1

본 과목은 Euclid 공간, 균열주행광, 회전주행광, 공간의 상, 영역, 점관과 점상, 균열의 깊이, 점근, 균열, 접촉주행, 균열반경, 균열벡터, 단환 균열과 회전주행, 동등부등식, 비정상량, Frenet-Serret 공식 등이다.

Course covers study of curves in Euclidean spaces, Euclidean space, rigid motions, reflections, orientations, cross product, tangent spaces and tangent maps, length of curves, tangent line, curvature, osculating circle, radius of curvature, curvature vector, rotation index, isoperimetric inequality, torsion, and the Frenet-Serret formula.

881.302 현대대수학 2 3-3-0

Modern Algebra 2

This course follows "Modern Algebra 1" and includes important theorems on groups, rings, modules and fields, their sub-structures, quotient-structures, and homomorphisms. Students are introduced to important theorems and applications.

881.303 미분기하학개론 1 3-3-0

Introduction to Differential Geometry 1

이언수록과목으로, 그, 완, 가군 및 그에 관한 중요한 정리(Jordan-Hoelder정리, Sylow정리, Galois정리 등)들을 증명하고 다양한 응용을 배운다.

This course follows "Introduction to Differential Geometry 1" and deals with definitions and examples of groups, rings, modules and fields, their sub-structures, quotient-structures, and homomorphisms. Students are introduced to important theorems and applications.

881.304 미분기하학개론 2 3-3-0

Introduction to Differential Geometry 2

이언수록과목으로서 다양한 주제를 다룬다. 주요 내용은 접평면, 정규공간, 접공간과 접상, 기면과 접상, 균열의 깊이, 점근, 균열, 접촉주행, 균열반경, 균열벡터, 단환 균열과 회전주행, 동등부등식, 비정상량, Frenet-Serret 공식 등이다.

This course follows "Introduction to Differential Geometry 1" and deals with surfaces in 3-dimensional Euclidean space. Topics covered are: Tangent planes, normal vector fields, helicoid, surfaces of revolution, area of surfaces, surface integrals, the first fundamental form, geodesics, the second fundamental form, principal curvatures, Gaussian curvature, mean curvature, structure equations, Hilbert theorem, Gauss-Bonnet theorem, vector fields and Hopf's theorem.

881.313 집합론과 수리논리 2-2-0

Sets and Mathematical Logic

세계, 집합론, 수의 체계, 선택공리, 기수와 서수, 문장의 진위성, 증명의 방법론 등을 선택적으로 학습한다.

This course exposes students to several topics such as elementary set theory, construction of natural numbers, integers, rational numbers and real numbers, axiom of choice, cardinals, and ordinals, and methods of proofs.

881.319 수치선형대수 3-3-0

Numerical Linear Algebra

Gauss소거법, Cholesky분해, Householder와 Gram-Schmidt 해법, 데이터셋, 비선형최소자승법, 심플렉스 해법, 행렬의 분할, Jacob와 Seidel 반복법, 이원해법, 유한차분법, ADI해법, 페 레 그래디언트 해법 등을 다룬다.

This course covers Gauss elimination, Cholesky decomposition, Householder and Gram-Schmidt methods, data fitting, nonlinear least squares problems, simplex methods, decomposition of matrices, Jacobi and Seidel iteration, relaxation methods, finite differences, ADI method, and conjugate gradient methods.

881.320 수치해석개론 3-3-0

Introduction to Numerical Analysis

로더분석, 다항식에 의한 보간법, Newton보간공식, 분수함수와 삼각함수에 의한 보간법, 빠른 Fourier변환, 스플라인에 의한 보간 법, 수치적분법, Peano의 오차표현, Euler-Maclaurin 공식, Gauss 적분공식, Newton 및 유사-Newton해법, 다항식의 해법 등을 다룬다.

Students study topics such as error analysis, polynomial interpolation, Newton divided difference, rational approximation, trigonometric interpolation, fast Fourier transform, spline, numerical integration, Peano error representation, Euler-Maclaurin formula, Gauss quadrature, Newton and quasi-Newton methods, and numerical methods for finding zeros of polynomials.

881.401 위상수학개론 1 3-3-0

Introduction to Topology 1

위상공간의 기본적 성질, Tietze 연장 정리, 거리화정리, Hausdorff 공간과 분리성, 푸리에공간 등을 배운다.

In this course, students are trained in the basic properties of topological spaces, Tietze extension theorem, metrizability, Hausdorff space and separability, and compact spaces.

881.402 위상수학개론 2 3-3-0

Introduction to Topology 2

위상공간의 기본적 성질, Tietze 연장 정리, 거리화정리, Hausdorff 공간과 분리성, 푸리에공간 등을 다룬다.

As the continuation of "Introduction to Topology 1", this course trains students in topology on manifolds, first fundamental groups, and covering spaces.

881.410 대수기하학개론 3-3-0

Introduction to Algebraic Geometry

학부과정 대수학 등을 수강한 학생을 대상으로 한 대수기하학 입문강의이다. 주로: 주요 주제는 다음과 같다. 다양체공간과 이론공간, 외연적 성질, 차원정리, 차원정리의 외연적 성질, 대수곡선의 Riemann-Roch정리, 대수곡선의 특이점 해소.

This course is for students who have mastered the basics of undergraduate abstract algebra. As an easy introductory
course in algebraic geometry, it covers the following topics: affine and projective space; projective geometry on the plane; projective Nullstellensatz and dimension theorem; extrinsic properties of projective varieties; Riemann-Roch theorem for algebraic curves; and resolution of singularities of projective algebraic curves.

881.423 Partial Differential Equations

Partial Differential Equations

In this course, students are introduced to the basic theories of partial differential equations. In addition, first order quasilinear PDE, local existence, uniqueness, Cauchy-Kovalevsky theorem, Laplace equation, maximum principle, Harnack’s inequality, Hilbert space methods, and variational principle are discussed.

881.424 Applications of Partial Differential Equations

Applications of Partial Differential Equations

This class will study the classical theories of the Fourier transform, the fast Fourier transform, wavelet and the multiresolution analysis, as well as the wavelet and the Fourier transform, the process of signals as well as the images and applications to the inverse problems.

881.433A Introduction to Cryptography

Introduction to Cryptography

This course will begin with an Introduction to the essential number theory. Afterwards, we will go on to learn about the various cryptographic and depriphage algorithms. In addition, various crypted systems, their complexity, security, and overall advantages as well as disadvantages will be discussed.

881.436 Discrete Mathematics

Discrete Mathematics

Discrete Mathematics

In this course, we will study discrete phenomena in computer sciences, operation research, and practice solving problems on discrete structures. Starting from the basic mathematical tools such as set, logic, functions, and probability, we will go on to mathematical reasoning and counting methods using permutations, combinations, graph and tree. This course also deals with Boolean functions, turing machines, algorithms and complexity that form the basis of computer science.

881.431 Fourier Analysis and Applications

Fourier Analysis and Applications

This course introduces Fourier series and Fourier integrals. It includes also the classical Fourier series and the Fast Fourier Transform. Additionally, this course covers the theory of Fourier transform and wavelet analysis, and the multiresolution analysis, as well as the wavelet and the Fourier transform, the process of signals as well as the images and applications to the inverse problems.
Homological Algebra

호몰로지 대수의 기본 개념을 배운다. 모듈, 사영 모듈, 단사 모듈의 정의 및 예와 탐사 결과를 전반적으로 배운다. 체인 복합체와 호몰로지와 완전열에 관하여 배운다. Ext와 Tor의 정의 및 성질을 배운다.

We learn basic concepts of homological algebra. We begin with the definitions and examples of modules, projective modules, injective modules, and tensor products. We learn chain complexes and its homology, and exact sequences. We also learn the definitions and properties of Ext and Tor.

3341.201 해석개론 1 3-3-0

Introduction to Mathematical Analysis 1

완비성 공리를 바탕으로 수열의 기본 성질과 수열의 극한, 상극한과 하극한, 수렴공간의 초보적인 위상적 성질, 코시수열, 컴팩트 공간과 연결성, 함수의 극한과 연속의 임의한 정의 및 성질, 고른 연속함수, 단단함수의 성질, 리만적분 및 리만- 스텔체스 적분, 유계변등함수의 성질, 미적분의 기본정리 등을 공부한다.

Basic properties of real number field including completeness axiom, limits of sequences, elementary topological properties of coordinate spaces, Cauchy sequences, compact and connected sets, precise definitions of limit and continuity, uniformly continuous functions, properties of monotone functions, Riemann integral, Riemann-Stieltjes integral, properties of fundamental theorem of calculus are studied.

3341.202 해석개론 2 3-3-0

Introduction to Mathematical Analysis 2

<해석개론 1>의 연속강의로서 함수열의 고른 수렴, 함수열의 아인슈타인, 적분법, 적분가능함수의 성질, 상대적 정수계수의 미분방정식, Fubini 정리, 제품공간의 적분, 적분과 대응의 성질 등을 공부한다.

As a sequel to Mathematical Analysis 1, uniform convergence of sequence of functions, differentiation and integration of sequence of functions, power series and analytic functions, trigonometric series, Weierstrass approximation theorem, Arzela- Ascoli theorem, space of sequences, improper integral, functions defined by integrals, gamma function, integral transforms, basic properties of Fourier series, Fourier series of continuous and differentiable functions, Lebesgue integral and Fourier series are studied.

3341.211 정수론 3-3-0

Number Theory

기초정수론은 정수론 입문 과목으로 소수, 합성수, 이차수, 제곱수의 합, 공차수열, 오토그룹, 복소매듭집합 등 정수론의 다양한 주제 들과 연관된 응용을 다룬다. 이 과목에서는 정수론의 심화적 방법론에 따른 여러 핵심적 방법론에도 소개한 것이다.

This is an introductory course for Number Theory. The course covers various subjects of number theory including prime numbers, congruence equations, sums of squares, multiplicative functions and Diophantine equations, to name a few, and some applications. The course will introduce not only arithmetic methods but also analytic methods of number theory.
The methods of applied mathematics are necessary to understand the Scientific Computing. So, in this course, we introduce the Hilbert space and Sobolev space to understand the applied mathematics and analysis the integral-differential equations on the those spaces using a mathematical theory. Courses include Functional space, integral-differential equation, Fredholm Alternative, Variational principle, Fourier and Laplace Transforms and asymptotic analysis.

3341.362 Efficient Programming and Practice

The course is intended for students without any previous programming experience, and will emphasize the efficiency of the written program. The course will start as a basic programming language course and will lead into skills for writing programs that are memory efficient and of high speed.

3341.445 Topics in Mathematics 1

In recent years, mathematics is undergoing exciting new developments. The barriers between fields are being broken; many new unexpected applications are continually found; and out of this cross-fertilization, new kinds of mathematics are born. The objective of this course to introduce this exciting new developments to advanced mathematics undergraduate students in a timely manner. The current possibilities include but not confined to the following topics: various new advances of pure mathematics and logic; computational science and numerical analysis; fluid mechanics and geophysics; wavelets and signal processing; cryptography; quantum computation; mathematical biology including bio-informatics, proteomics and neuroscience; intelligence science; financial mathematics and mathematical economics; probability theory with various applications. But ultimately, the topic to be covered will vary depending on the instructor and the circumstances.

3341.446 Topics in Mathematics 2

In recent years, mathematics is undergoing exciting new developments. The barriers between fields are being broken; many new unexpected applications are continually found; and out of this cross-fertilization, new kinds of mathematics are born. The objective of this course to introduce this exciting new developments to advanced mathematics undergraduate students in a timely manner. The current possibilities include but not confined to the following topics: various new advances of pure mathematics and logic; computational science and numerical analysis; fluid mechanics and geophysics; wavelets and signal processing; cryptography; quantum computation; mathematical biology including bio-informatics, proteomics and neuroscience; intelligence science; financial mathematics and mathematical economics; probability theory with various applications. But ultimately, the topic to be covered will vary depending on the instructor and the circumstances.
대학원 수학과의 한 강의 순서와 주요 내용을 나타낸 단락입니다. 주요 내용은 종속성, 귀한성, 연속성, 단조함수의 성질, 사극수, 바이어슈트라스의 근정리, 아르펠트, 이토 정리, 수렴공간, 조건부 정리, 정리된 함수, 감마함수, 특이함수, 특이함수의 해, 그리고 수학적 분석과를 연구하고 있습니다.

수학과의 한 강의 정리와 연습 1과 2에 대한 내용을 나타낸 단락입니다. 주요 내용은 실수체, 연속함수의 극한과 연속성, 코시 수열, 귀한성, 유한함수와 무한함수의 개념, 그 외에 수학적 분석과를 연구하고 있습니다.

물리학과의 한 강의 정리와 연습 1과 2에 대한 내용을 나타낸 단락입니다. 주요 내용은 물리학과의 한 강의 정리와 연습 1과 2에 대한 내용을 나타낸 단락입니다. 주요 내용은 실수체, 연속함수의 극한과 연속성, 코시 수열, 귀한성, 유한함수와 무한함수의 개념, 그 외에 수학적 분석과를 연구하고 있습니다.
pertti-Doss Sussmann 방법, 1차원 확률 미분방정식과 국소 시간, 선형 미분방정식, 브라우 운동과 포텐셜 이론, 더미클래 문제와 포아송 문제, 리커린스와 트랜지션스, 경계의 정규성, 포아송 방정식과 관련 함수, 샘플 경로의 self-intersection.

General theory of stochastic differential equations and its applications are treated. This course covers the following topics.

- Stochastic integration : Ito integrals, square integrable martingales, local martingales and semimartingale
- Ito formula, Ito representation theorem, Girsanov theorem
- Markov processes, strong Markov processes, diffusion processes, infinitesimal generators
- Stochastic differential equations : existence and uniqueness, strong and weak solutions, Feynman-Kac formula, Markov property of solutions
- Other related topics will be covered at the instructor’s discretion : martingale problems and weak solutions, the method of Lamperti-Doss Sussmann, one-dimensional SDEs and local time, Brownian motion and potential theory, Dirichlet problem and Poisson problem, recurrence/transience, regularity of boundary points, Poisson equation and Green function, self-intersection of paths.

Mathematical Foundations of Deep Neural Networks

심층신경망은 현대의 인공지능 핵심의 중심이 되어 있으며, 과학, 과학, 그리고 응용과학에 널리 활용되고 있다. 이 과목은 심층신경망의 수학적 기반 이론을 배운다. 최적화의 기초, stochastic gradient descent, 오류 기 준, 계산의 핵심, 제스메트 공간, multilayer perceptron, 자동 미분법, 콘볼루션 신경망, 기계 네트워크, regularization, 데이터 중심, universal approximation theorem, 생성 모델을 다룬다.

Deep neural networks have been at the center of the modern machine learning revolution and have found broad applications in engineering, science, and applied mathematics. The course studies the mathematical foundations of deep neural networks. We will cover the basics of optimization, convergence analysis of stochastic gradient descent, reproducing kernel Hilbert spaces, multilayer perceptron, automatic differentiation, convolutional networks, residual networks, regularization, data augmentation, universal approximation theorem, and generative models.

Applied Mathematics 1

일제미분방정식, 선형미분방정식, 미분방정식의 극한해법, Sturm-Liouville 정리, Laplace 변환, 벡터공간, 적분 법 등을 배운다.

First order ODE, Linear ODE, power series solution of ODE, Sturm-Liouville theorem, Laplace transform, vector calculus are studied.

Differential Equations

선미분방정식의 기본적인 해법, 급수해법, Laplace 변환에 의한 해법, 해의 존재 정리 및 해의 유일성에 관한 정리를 배운다.

Methods of solving ordinary differential equations, series methods, Laplace transform methods, Theorems on existence and uniqueness theorems are discussed.

Complex Variables

Cauchy-Riemann 방정식, 해석함수, 조화함수, Taylor급수, Moebius 변환, 선형분, Cauchy적분공식, 최대최소제로렌, Laurent 급수, 실속분, 통합좌표, Poisson적분공식, Dirichlet경계 문제, Riemann 제타함수 등을 다룬다.

The following topics will be covered: Cauchy-Riemann equations, Harmonic functions, Taylor series, Moebius transforms, Line integrals, Cauchy integral formula, maximum principle, Laurent series, real integrals by means of residue calculus, conformal mapping, Poisson integral formula, Dirichlet problem, Riemann’s zeta function, etc.

Mathematical Analysis

연속함수 및 미분가능한 함수의 극한, 함수열의 고른 수렴, Arzela-Ascoli 정리, Weierstrass 정리, 미분계, 해석함수, 삼각급수, Fourier 급수 등을 배운다.

Sequence of continuous and differentiable functions, uniform convergence, Arzela-Ascoli theorem, Weierstrass theorem, power series, analytic functions, trigonometric series, Fourier series are studied.

Modern Algebra

대수학(추상대수학)의 기본 개념을 배운다. 군, 환, 가군, 체의 정의와 간단한 보기에 대해서 시작하여, 이들의 부분군과 힐(quotient)-구조를 배운다. 또한 이들의 준동형사상과 동형사상정리를 다루고, 이를 이용해 Sylow정리, 아이디얼 이론, 대수학의 확장, 유한체와 Galois이론을 학습한다. 마지막으로 이러한 추상적 인 개념들이 '3차 작도불능 문제와 '5차방정식의 근의 공식 없음'과 같은 고전적인 문제를 해결하는데 중요한 도구가 되는 것을 보인다.
We learn basic concepts of abstract algebra. Beginning with definitions and examples of groups, rings, modules and fields, we study their substructures and quotient structures. We also deal with their homomorphisms and isomorphism theorems. Using these concepts, we learn Sylow theorem, ideal theory, polynomial rings, field extensions, finite fields and Galois theory. Moreover, we show this abstract language plays an important role, when we solve some classical problems such as ‘construction by ruler and compass’ and ‘insolvability of the quintic’.
### 326.211* Sampling Design and Survey Practice

#### Concepts and Applications in Probability

The course introduces basic probability concepts, theories, and their applications to related fields such as natural science, engineering, and social science.

This course is designed to introduce basic probability concepts, theories, and their applications to related fields such as natural science, engineering, and social science.

#### 326.313* Regression Analysis and Lab.

This advanced course provides a deeper understanding of limit distributions, including the central limit theorem, statistical estimation, testing statistical hypotheses, nonparametric tests, sufficient statistics, statistical inferences and normal theory. This course has a prerequisite of 3-2-1.

This course deals with both the theory and application of regression analysis covering simple, multiple, and nonlinear regression analysis, dummy variables, response surface analysis, selection of variables and diagnostics. Students will be required to perform statistical analysis using SAS.

#### 326.314* Discrete Data Analysis and Lab.

This course introduces categorical data analysis based on log-linear model, selection of models, goodness-of-fit test, maximum likelihood estimation of expected frequencies in the contingency table, analysis of incomplete contingency tables, logit models, and linear logistic regression models.

#### 326.315* Experimental Design and Lab.

This course introduces Latin and Graeco-Latin square, factorial and block design, mixed models, fractional replication and complete randomization of one factor. Regression analysis and Lab are prerequisites to this course.

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한국의 요인(factor)에 대한 관찰확률모델, 랜덤변량(Latin squares), 기하-라틴(Graeco-Latin)표, 요인매치법, 블록계획(block design), 혼합모델, 랜덤변량과 요인매치법의 혼합, 일부 식별법(fractional replication) 등의 이론을 소개하고 각 계획법에 대한 분산분석 및 회귀분석의 비교를 다룬다. 선수과목으로는 수리통계 2와 실험계획 및 실습 3-2-2이 요구된다.

This course introduces Latin and Graeco-Latin square, factorial and block design, mixed models, fractional replication and complete randomization of one factor. Regression analysis and Lab are prerequisites to this course.

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The first number means "credits"; the second number means "lecture hours" per week; and the final number means "laboratory hours" per week. 15 week make one semester.)

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학점구조는 "학점수-주당 강의시간-주당 실습시간"을 표시함. 한 학기는 15주로 구성됨. (The first number means "credits"; the second number means "lecture hours" per week; and the final number means "laboratory hours" per week. 15 week make one semester.)
326.316  
다변량자료분석 및 실습 3-2-2  
Multivariate Data Analysis and Lab.

다변량의 평균에 관한 추정과 검정, 주성분 분석, 요인분석, 관
범분석, 군집분석 등을 다루며 선수목록으로는 <수리통계 1・2>  
와 <선형대수>가 요구된다.

The focal point of this course is on multivariate data and its  
analysis. The class will estimate and test the means  
of multivariate data, perform principal component analysis along  
with factor analysis and cluster as well as discriminant  
analysis. This course has prerequisites of <Mathematical sta-

326.411  
베이즈통계 및 실습 3-2-2  
Bayesian Statistics and Lab.

주관적 확률, 선도모의 정량화, 베이지안 결정이론, 공액정분포  
, 극한 사후분포, 베이지안 추정과 검정, 이차결정이론 등을 다  
른다.

This course deals with subjective probability, preferences  
quantification, Bayesian decision theory, conjugate prior dis-

326.412  
생존자료분석 및 실습 3-2-2  
Survival Data Analysis and Lab.

생존시간(survival time)에 관한 추정과 검정을 하거나 생존시  
간에 관한 회귀모형을 사용하여 생존시간에 영향을 미치는 위험인  
자를 찾아내는 통계기법을 공부한다. 개개가 생존할 확률을 나타  
내는 생존함수(survival function)를 추정하기 위한 생명표(life ta-

326.413  
데이터마이닝방법 및 실습 3-3-0  
Data Mining Methods and Lab.

데이터마이닝의 기초 개념 및 방법들을 다양한 응용사례를 중  
심으로 배운다. 대용량자료의 분석을 위한 자료의 전처리과정  
해석, 자료의 선택등을 배우고 회귀분석을 시작으로 하여  
로지스틱회귀, 의사결정나무, 신경망모형, 군집분석, 연관성분석 등  
에 대한 개념 및 컴퓨터를 이용한 모형구축 방법에 대하여 배운  
다. 코스 종반에 팀을 구성하여 실제 자료를 분석하여 결과를 발  
표한다. R, SPSS, SAS 등의 다양한 통계프로그램을 이용한다.

This course covers basic concepts and methodologies of  
data mining on various real problems. Preprocessing procedures  
during including categorization, sampling, and etc are taught  
and association are covered. Also, evaluation methods such as  
and prediction errors are taught. Finally, as a term  
project, students are participated in one real project. In this  
course, various statistical packages such as R, SPSS, SAS  
are extensively used.

326.414  
비모수통계 및 실습 3-2-2  
Nonparametric Statistics and Lab.

비모수적 방법과 분포무관 통계량의 기초 이론으로서의 순서통  
계량과 순위통계량의 분포를 다룬다. 비모수적 신뢰구간 추정정  
법을 다루며 비모수적 방법과 비교하여, 확률분포에서의 위험수준의  
추정정법, 분포문제에서의 각각이후모수의 추정정법, 모형문제에서의 원치도모수의  
추정정법을 다룬다. 이동평균법에 대한 비모수적 검추정법 제안  
값을 다룬다.

This elementary course introduces basic nonparametric  
methods and distribution-free statistics. It also deals with distri-

326.415  
시계열분석 및 실습 3-2-2  
Time Series Analysis and Lab.

시계열자료의 분석법 및 여러 가지 종류의 시계열자료 분석용  
포커스자의 사용법에 대해 설명한다. 주로 다루어지는 내용은 예측  
기법으로 많이 이용되는 이동평균법, 지수평활법 및 ARIMA 모형  
에 의한 분석법 등이며 X-11 등과 같은 분해에 기초한 계절조정  
법과 기법을 도입한다.

This course introduces the different laws and uses of vari-

326.416  
통계적 품질관리 및 실습 3-2-2  
Statistical Quality Control and Lab.

통계학과 선수과목으로는 <통계학 및 실습>, <수리통계 1・2>에  
관한 생활모용으로는 <통계학 및 실습>, <수리통계 1・2>의  
등과 비교하여 다양한 분석을 다룬다. 선수과목으로는 <통계학 및  
실습>, <수리통계 1・2> 등이 요구된다.

This course deals with theory of statistical quality control,  
covering normal plot, control chart, sampling inspection,  
probability theory, and single sampling of measurement. The  
courses <Statistics and Laboratory>, <Mathematical Statistics  
1・2>, and <Sampling Design and Survey Practice> are pre-

326.418  
함수추정의 응용 및 실습 3-2-2  
Applications of Function Estimation and Lab.

여러 가지 통계 모형에서 나타나는 함수에 대하여 비모수적 추  
정방법을 배우며, 이론적 미리보는 주로 방법론 및 그 응용  
에 초점을 맞춘다. 비모수방법으로서 커널추정법, 국소대합적합법,  
웨이블릿추정법, 스포트라이추정법 및 스케일 추정법 등을 다룬다. R, SPSS, SAS 등의 다양한 통계프로그램을 이용한다.
This course deals with nonparametric estimation methods for functions in various statistical models and is mainly focused on methodologies and applications rather than on theories. Topics that we will examine in this course include the following: nonparametric estimation methods such as Kernel estimation, local polynomial method, wavelet estimation and spline estimation; estimation methods of density function, regression function, survival function and quantile function. We will also observe the ways in which these methods can be applied to classification and discriminant analysis, generalized linear model, censored regression model, and proportional hazard model.
물리학전공(Physics Program)

3342.201A 현대물리학의 기초 3-3-0

Foundation of Modern Physics

현대 물리학이 추구하는 지표로 자연을 미시적인 관점에서부터 이해하는 것을 말할 수 있다. 이것은 20세기에 들어와 양자 및 상대론의 개념이 정립되면서 생동할 수 있게 된 것이다. 이 과목은 현대물리학의 구체적인 내용을 겸 đậm게 배우기 전에 그 주요 내용을 정립적으로 먼저 이해할 수 있게 한다. 간단한 원 및 동체물리의 내용과 차수 구조 분석, 기소론적인 양자 개념, 특수상대성이론, 그리고 전물리학의 보존 법칙 등을 이용하여 물질의 상태와 그것들의 미시적 구성 요소, 또 이와 관련해서 나아가는 놀라운 물리 현상을 음미해 볼 수로써 현대물리학의 관점과 지향점이 어디에 있는지 알게 한다. (※ 수강을 원하는 학생은 <물리학 1, 2>의 내용에 대한 사전 지식이 필요하다.)

Understanding Nature from a microscopic picture, which constitutes the main theme of modern physics, is an enterprise that began only after the development of relativity and quantum concepts in the early 20th century. This course takes an approach to modern physics in a somewhat qualitative manner, as a preliminary course prior to more systematic studies at later stages. Based on simple thermodynamics and a little bit of statistical mechanics, order-of-magnitude analysis, elementary quantum notions, special relativity, and basic conservation laws, we will seek an explanation on the possible states of matter, their microscopic constituents, and related conspicuous physical phenomena. This course is expected to help students know about major concerns and future directions of modern physics. (※ Prior knowledge of physics on the level of <Physics 1, 2> is required.)

300.211* 역학 1 3-3-0

Mechanics 1

이 과목은 <물리학 1, 2> 및 <물리학실험 1, 2>를 이수한 학생들을 대상으로 하여 교과목의 주요 내용을 중심적으로 다루는 과목이다. 주요 내용으로는 벡터, 뉴턴의 운동법칙, 보존법칙과 위치에너지, 단조 운동, 비선형 근사, 중심력에 의한 운동(카바디의 문제, 라디아드 불안한 포함), 다체계의 동역학 등이 있다.

This is the standard course on undergraduate classical mechanics for students who have taken <Physics 1, 2> and <Physics Lab 1, 2>. Major topics to be discussed are: Vectors, Newton’s laws of motion, conservative force and potential energy, simple harmonic motion, nonlinear oscillations, central force motion (including the Kepler problem and Rutherford scattering), and dynamics of many particle systems.

300.212 역학 2 3-3-0

Mechanics 2

이 과목은 <물리학 2> 과목에서 배운 내용의 이해를 증진시키고 학생들의 운동능력을 배양하기 위해 <역학 1>에 관련된 구체적 문제들에 대해 그 풀이과정을 공부하는 것을 목적으로 한다.

For the purpose of boosting the understanding of materials taught in <300.214 Electricity and Magnetism> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Mechanics 1>.

3348.215* 역학 1 연습 3-3-0

Exercises in Mechanics 1

이 과목은 <물리학 1, 2> 과목에서 배운 내용의 이해를증진시키고 학생들의 운동능력을 배양하기 위해 <역학 1>을 이용한 구체적 문제들에 대해 그 풀이과정을 공부하는 것을 목적으로 한다.

For the purpose of boosting the understanding of materials taught in <300.212 Mechanics 2> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Mechanics 2>.

3348.216 역학 2 연습 3-3-0

Exercises in Mechanics 2

이 과목은 <물리학 1, 2> 과목에서 배운 내용의 이해를증진시키고 학생들의 운동능력을 배양하기 위해 <역학 2>을 이용한 구체적 문제들에 대해 그 풀이과정을 공부하는 것을 목적으로 한다.

For the purpose of boosting the understanding of materials taught in <300.212 Mechanics 2> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Mechanics 2>.

300.214* 전기와 자기 3-3-0

Electricity and Magnetism

이 과목은 <물리학 1, 2> 및 <물리학실험 1, 2>을 이수한 학생들을 대상으로 하여 전기와 자기의 기본이 되는 내용(전기와 자기현상에 대한 실험적 사실로부터 나오는 여러 법칙들에서부터 맥스웰 방정식의 유도까지)을 강의한다. 특히 맥스웰 방정식을 이용하여 정량적인 물리현상을 계산할 수 있는 능력을 배양시키기로 하며 주요 내용으로는 벽터학, 전기장학, 전기장의 방정식 및 라디아드 방정식의 볼어, 유전체에서의 전기장, 투명성, 전기장에 의한 자기장, 전기와 자기 유도, 자기장에너지, 맥스웰방정식 등이 있다.

The pre-requisites for this course are Physics 1.2 and Physics Lab 1.2. It covers from basic subjects in electromagnetism (several laws which are based on experimental facts in electromagnetic phenomena, to the derivation of Maxwell equations). The ability to calculate physical quantities using vector calculus will be promoted. The major topics are vector calculus, electrostatics, the solution of Poisson equations and Laplace equations, the electric field in dielectric medium, polarization, electrostatic energy, magnetic field by a steady current, electromagnetic induction, magnetic energy, and Maxwell’s equations.
Fundamental Experiments in Modern Physics

This course, intended for students who have taken <884.301 Electromagnetic Waves and Optics> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Electromagnetic Waves and Optics>.

For the purpose of boosting the understanding of materials taught in <884.301 Electromagnetic Waves and Optics> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Electromagnetic Waves and Optics>.

Thermal and Statistical Physics

<884.302* 열과 통계물리 3-3-0>

For the purpose of boosting the understanding of materials taught in <884.301 Electromagnetic Waves and Optics> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Electromagnetic Waves and Optics>.
## 884.303* 양자물리 1 3-3-0

**Quantum Physics 1**

현대물리의 이해에 필수적인 양자역학의 기본개념과 그 이론적 체계를 다루며 <300.211 역학 1(또는 300.209C 단학기 역학>-과 <300.214 전기과 자기(또는 3342.002A 단학기 전기기학)>를 수강한 학생을 대상으로 한다. 주요내용은 고전물리와 그 한계, 파동역학의 시각과 불확정성 원리, 양자역학의 기본가설 및 슈뢰딩거 방정식, 양자역학에 필요한 수학의 도구(선사리, 행렬 표현 등), 입자원 문제가 포함된다.

This course will cover the basic principles and theoretical structures of quantum mechanics, which are requisite for understanding modern physics. Topics will include classical mechanics and its limitations, the birth of wave mechanics and the uncertainty principle, the basic assumptions of quantum mechanics, Schrödinger equation, one-dimensional problem, and mathematical methods (operator and matrix representation). The courses Mechanics1 (300.211)/Mechanics: Short Course(300.209C) and Electricity and Magnetism (300.214)/Electromagnetism: Short Course (3342.002A) are requisite.

## 3348.310* 양자물리 1 연습 3-3-0

**Exercises in Quantum Physics 1**

이 과목은 <884.303 양자물리 1> 과목에서 배운 내용의 이해를 증진시키고 학생들의 수학능력을 배양하기 위해 <양자물리 1>에 관련된 구체적 문제들에 대해 그 풀이과정을 공부하는 것을 목적으로 한다.

For the purpose of boosting the understanding of materials taught in <884.303 Quantum Physics 1> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Quantum Physics 1>.

## 884.304* 양자물리 2 3-3-0

**Quantum Physics 2**

<양자물리 1>의 이론적 구조와 양자역학의 주요 용용과 이론적 방법들을 다룬다. 주요 내용은 측정의 정량화, 원리의 방정식, 전자기학, 전기와 자기에 관한 내용으로 구성된다. 이러한 내용은 <884.303 Quantum Physics 1> 과정에서 얻어진 발견을 과학저널에 실리는 논문 형태로 제출하는 것을 목적으로 한다.

This continuation of the course <Quantum Physics 1> will cover applications of quantum mechanics and approximation methods. Topics will include rotational symmetry, angular momentum, 3-dimensional problem, hydrogen atom, spin and Pauli’s principle, perturbation theory, approximation method, and scattering theory.

## 3348.311* 양자물리 2 연습 3-3-0

**Exercises in Quantum Physics 2**

이 과목은 <884.304 양자물리 2> 과목에서 배운 내용의 이해를 증진시키고 학생들의 수학능력을 배양하기 위해 <양자물리 2>에 관련된 구체적 문제들에 대해 그 풀이과정을 공부하는 것을 목적으로 한다.

For the purpose of boosting the understanding of materials taught in <884.304 Quantum Physics 2> and also the student’s ability to apply involved concepts, training instructions are given toward finding solutions to some explicit problems pertaining to <Quantum Physics 2>.

## 884.306 물리수학 3-3-0

**Mathematical Methods of Physics**

이 과목은 물리현상을 기술하는 언어로 사용되는 수학적 도구 중에 중요한 수학적 수식을 배우고, 그것이 물리현상을 설명하는 방법론을 수학적으로 탐구하고자 한다. 여기서 다루는 주요 수학적 도구는 스칼라형의 미적분, 해석학, 함수공간, 선형함수공간, 적분변환, 편미분방정식 등과 관련된 수학적 도구이다.

In this course, students will study some useful mathematical tools in analyzing physical problems at the intermediate-to-advanced level and learn the methodology accompanied with training. Topics include Sturm-Liouville theory, special functions, function space, linear operators, integral transforms, basic group theory, theory of analytic functions, and partial differential equations related to physical problems. (※ Prior knowledge of mathematics on the level of <Calculus 1, 2> and <Rudimentary Mathematical Methods of Physics> is required.)

## 884.307A* 중급물리실험 1 3-0-6

**Intermediate Physics Laboratory 1**

이 과목은 광학, 전기학, 전자기학, 양자역학 등을 포괄한 현대물리학의 주요 수학을 전문적으로 쉽게 접근하게 하는 것을 목적으로 한다. 투명한 실험의 개념과 관련 바탕의 알고리즘을 배우며, 실험 결과를 분석하고, 그 결과를 동료 학생들과 토론하고 대화할 수 있는 실험 있으며, 일부 실험에 사용되는 장비와 진단기들의 기본소양을 기르는데 중점을 둔다. (※ 수강을 원하는 학생은 <전자학 및 계측론>을 먼저 수강하였거나 아니면 과목 담당교수의 허락을 받을 것)

The course will introduce various intermediate topics in modern experimental physics (including optics, thermal physics, electromagnetism, and quantum physics) with an emphasis on a hands-on experience. The course will introduce concepts in experimental design as well as instrumentation in physics. The emphasis will be on developing students’ ability to test and demonstrate various concepts in physics. Also important in this course is to learn how to analyze the experimental results and to communicate such results to their peers. (※ Prerequisite: 3342.202 <Electronics and Measurement Techniques for Science and Engineering Students> or a permission from the instructor)

## 884.308A* 중급물리실험 2 3-0-6

**Intermediate Physics Laboratory 2**

이 과목은 자연과학과 공학전공자들에게 물리실험에 널리 쓰이는 기초 전자학 및 측정기술을 소개한다. 학생들은 자신만의 실험을 설계하고 개발하며, 실험 결과를 분석하며, 그 결과를 동료 학생들과 토론하고 대화할 수 있는 실험의 기본소양을 기르는데 중점을 둔다. (※ 수강을 원하는 학생은 <전자학 및 계측론>을 먼저 수강하였거나 아니면 과목 담당교수의 허락을 받을 것)

이 과목은 자연과학과 공학전공자들에게 물리실험에 널리 쓰이는 기초 전자학 및 측정기술을 소개한다. 학생들은 저항, 전류, 전압원, 전자기, 양자역학 등을 포함한 현대물리학과 관련된 중급 수학의 실험을 학생 스스로 직접 경험하고, 실험 결과를 분석하며, 그 결과를 동료 학생들과 토론하고 대화할 수 있는 실험의 기본소양을 기르는데 중점을 둔다. (※ 수강을 원하는 학생은 <전자학 및 계측론>을 먼저 수강하였거나 아니면 과목 담당교수의 허락을 받을 것)

This course is to introduce basic electronics and fundamentals of measurement techniques widely used in physics.
experiments to science and engineering students. The students are expected to program a computer-based multifunctional instrument to function as custom oscilloscope, current/voltage source, voltmeter, and logic analyzer to automate experiments to study linear and nonlinear electronic components including resistors, diodes, transistors, op-amps, and PROM/FPGA. The students are encouraged to design and develop their experiments as well as are expected to communicate their findings suitable for scientific presentation or publication. This course consists of one hour lecture and 4 hour laboratory work per week and is offered to both undergraduate and graduate students.

884.310 Computational Physics

While the analysis is performed using the computer system, which is the ability to be used to the computer for physics research. Topics include basic numerical analysis, Monte-Carlo method, elementary methods of data analysis, parallel processing, neural network methods, and basic concepts of computer devices.

884.401A Relativity and Spacetime

This course will cover the basics of Special Relativity and its applications, gravitation and space-time geometry as understood by General Relativity, and related physical consequences. Topics include space-time in Special Relativity (Lorentz transformations, Minkowski space, etc.), relativistic mechanics and covariant electrodynamics, historical backgrounds of General Relativity, curved space-time, geodesic equations and Einstein’s gravitational field equations, and some major consequences of General Relativity.

884.402 Nuclei and Particles

Theoretical and practical aspects of basic nuclear events, and their interaction, symmetry, and symmetry breaking. Topics will include the basic language of nuclear and particle physics, experimental apparatus, nuclear models and nuclear interactions, interactions of leptons and hadrons, and central issues in unification theories.

884.403 Properties of Solids

This course will cover the various properties of phenomena of solids such as conductors, insulators, and semiconductors on the basis of quantum and statistical mechanics. Based on the free electron model and the energy band theory, it will deal with the lattice structure of solids, lattice vibrations, semiconductors, electromagnetic and optical properties of solids, surface phenomena, and superconducting phenomena.

884.404 Fluid Mechanics

This course will cover modern optics and its applications, such as Fourier optics, statistical optics, the interaction between light and matter, and the basic principles of laser.

884.405A Advanced Optics

This course will cover modern optics and its applications, such as Fourier optics, statistical optics, the interaction between light and matter, and the basic principles of laser. Knowledges on Electricity and Magnetism, Electromagnetic Waves and Optics, and Quantum Physics I are required.
물리학의 각적 특성, 마이크로 전자학, 초전도체, 자성체, 반도체 및 윤체, 스핀트로닉스, 표면 물리, 보즈-아인슈타인 응축체, 탄소나노튜브, 표면 전단 기술 등에 관한 학습 및 응용적 측면을 논의할 수 있다.

이 과목은 <과제의 성과>를 수강한 학생들에 “단단한 (hard)” 또는 “무른 (soft)” 응용물질에 대한 이해를 제공하는 것으로 목적으로 한다. 응용물질의 집단현상에 대한 개념을 중심으로 다루는 이 과목의 주요 주제는 상전이, 재규격화, 임계현상, 두 전사이, 초전도, 양자상전이, 강장상전이, 자체 조작 등을 포함한다. (* 수강을 원하는 학생은 <양자전도 1, 2>, <열 및 통계물리> 및 <과제의 성과>에 대한 사전 지식이 필요하다.)

이는 전자학에 집중한 수업으로 지원하고 학사학위 논문을 작성한다. 물리학으로 학사학위를 받을 예정인 학생이 수강한다.

1. 이 과목은 전자공학과 학생들에 대해 상전이, 임계상전, 양자상전이, 강장상전, 자기조작 등을 포함한다. (* 수강을 원하는 학생은 <양자전도 1, 2>, <열 및 통계물리> 및 <과제의 성과>에 대한 사전 지식이 필요하다.)

2. 이 과목은 전자학에 집중한 수업으로 지원하고 학사학위 논문을 작성한다. 물리학으로 학사학위를 받을 예정인 학생이 수강하다.
emerged as foundation technology for the future high-tech industry. In this course, it is introduced to the students how physics knowledge learned in the class room is actually utilized in the field of high-tech industry. The students then visit high-tech companies and experience themselves how physical concepts are utilized in the field by performing project teams. In addition, the students will be led to propose their own ideas to improve the present technology through team discussions.

M1419.000300  

Magnetic Resonance 3  3-3-0  

Independent Study 3  

This course is for students who are expected to get a bachelor’s degree in physics. Each student chooses a special topic in theoretical physics, study intensively, and prepare a thesis for the degree under the supervision of an adviser.

M1419.000400  

Magnetic Resonance 4  3-3-0  

Independent Study 4  

This course is for students who are expected to get a bachelor’s degree in physics. Each student chooses a special topic in theoretical physics, study intensively, and prepare a thesis for the degree under the supervision of an adviser.

M1419.000500  

Mechanics : Short Course  

This one-semester course covers main concepts and applications of classical mechanics. Topics to be dealt with include vectors, laws of motion, harmonic oscillation, conservation laws, central force, many particle systems, rigid body motion, Lagrange’s equations with some simple applications.

M1419.000600  

Quantum Physics : Short Course  

This one-semester course introduces basic concepts of quantum physics and its applications. Topics include the uncertainty principle, 1-D harmonic oscillator, hydrogen atom, angular momentum and spin, basics of the perturbation theory, and applications to simple physical system.

Astronomical Observation and Lab. 1  

This one-semester course introduces basic concepts of quantum physics and its applications. Topics include the uncertainty principle, 1-D harmonic oscillator, hydrogen atom, angular momentum and spin, basics of the perturbation theory, and applications to simple physical system.

3342.305A Quantum Physics : Short Course  

This course is for students who are expected to get a bachelor’s degree in physics. Each student chooses a special topic in theoretical physics, study intensively, and prepare a thesis for the degree under the supervision of an adviser.

3342.302A Electromagnetism : Short Course  

This course covers basic subjects in electromagnetism (several laws which are based on experimental facts in electromagnetic phenomena, to the derivation of Maxwell equations). The ability to calculate physical quantities using vector calculus will be promoted. The major topics are vector calculus, electrostatics, the solution of Poisson equations and Laplace equations, the electric field in dielectric medium, polarization, electrostatic energy, magnetic field by a steady current, electromagnetic induction, magnetic energy, and Maxwell’s equations.

Astronomical Observation and Lab. 2  

This one-semester course introduces basic concepts of quantum physics and its applications. Topics include the uncertainty principle, 1-D harmonic oscillator, hydrogen atom, angular momentum and spin, basics of the perturbation theory, and applications to simple physical system.

This course is for students who are expected to get a bachelor’s degree in physics. Each student chooses a special topic in theoretical physics, study intensively, and prepare a thesis for the degree under the supervision of an adviser.

Astronomical Observation and Lab. 2  

This one-semester course introduces basic concepts of quantum physics and its applications. Topics include the uncertainty principle, 1-D harmonic oscillator, hydrogen atom, angular momentum and spin, basics of the perturbation theory, and applications to simple physical system.

This course is for students who are expected to get a bachelor’s degree in physics. Each student chooses a special topic in theoretical physics, study intensively, and prepare a thesis for the degree under the supervision of an adviser.

This one-semester course introduces basic concepts of quantum physics and its applications. Topics include the uncertainty principle, 1-D harmonic oscillator, hydrogen atom, angular momentum and spin, basics of the perturbation theory, and applications to simple physical system.

This one-semester course introduces basic concepts of quantum physics and its applications. Topics include the uncertainty principle, 1-D harmonic oscillator, hydrogen atom, angular momentum and spin, basics of the perturbation theory, and applications to simple physical system.
태양계천문학 및 실험 3-2-2

Solar System Astronomy and Lab.

행성, 위성, 소행성, 혜성, 카이퍼대 천체, 행성 고리, 유성체, 행성 간 입자, 혜성핵 구름을 포함하는 태양계 구성원들의 물리·화학적 성질, 그들의 방출 빛 및 자외광 등의 특성을 학습한다. 동물 특성은 태양광과 양성성 관계에서 고찰하여 태양계의 온난화에 관한 흥미에 허용한다. 현재까지 행성체의 최근 탐사결과를 나누어 행성계의 기원 문제를 다룬다. 실험에서는 컴퓨터를 이용한 수치적모형으로 태양계에서 볼 수 있는 몇몇 현상을 발생 원리를 이해한다.

This course will examine the solar system as the only known planetary system. The observed properties of planets, satellites, asteroids, comets, Kuiper Belt objects, planetary rings, meteorites, interplanetary dusts, and Oort's comet clouds will be surveyed first and interpreted in terms of their physics, chemistry, and dynamics. The observed properties of extra-solar system planets will be compared with those in our solar system. Finally, the history of the solar system will be traced back to its formative stage. In the laboratory, students will make numerical simulations for selected phenomena of solar system dynamics.

천체물리학개론 1 3-3-0

Introduction to Astrophysics 1

다양한 철크현상을 이해하기 위해서 필요한 천문기체역학과 복사론에 관한 기본적인 지식을 학습한다. 천문기체역학 강의는 기체역학의 기본방정식, 성상원리고, 표중속률의 특성, 열역학적 불안정과 열적 불안정, 자주기체역학 등의 주제로 구성되며, 수치실험을 병행한다. 복사론 강의는 복사의 기본설명, 복사와 물질간의 상호작용과 관련한 현상학적 기술, 스펙트럼의 형성 등의 주제로 구성된다.

This course will cover the basics of gas dynamics and radiation theory. In terms of gas dynamics, the basic equations, laminar flow, supersonic flow, hydrodynamic instability, and magnetohydrodynamics will be studied. In terms of the radiation theory, the basic concepts, interaction between radiation and matter, and the formation of spectral lines will be studied.

개인천문연구 3-3-0

Supervised Reading and Research on Astronomy

천문학분야에서 연구주제를 자유로이 정해 연구를 수행한다. 교과서적 지식을 공부하는 것에서 벗어나 특장적인 연구주제를 선정해 담당교수의 지도하에 연구를 수행하여 천문학적 연구성과를 내는 것을 목표로 한다.

This is a research practice course on astronomy for undergraduate students. Any topic may be selected for astronomical research. It is expected to conduct research together with the supervisor and to obtain new astronomical results.

천체물리학개론 2 3-3-0

Introduction to Astrophysics 2

성단, 은하계, 은하단 등과 같은 행성계에서 별과 은하의 규모, 행성계의 형성과 안정성, 역학적 진화에 대한 이론을 소개한다. 또한 일반 상대론을 간단히 하고, 우주 공간의 진화 및 형성을 공학에 서 응해, 응한단, 초은하단, 우주기구조 등과 같은 거대 천체들의 생성과 진화, 우주왜곡복사 등과 전하우주의 천체 문제를 다룬다.

This course introduces the gravitational evolution of stars and galaxies in the clusters of stars and galaxies, the basics of modern cosmology, the basics of general relativity and cosmological principles, and the concepts of homogeneous space, expansion of space, and space time.

항성대기개론 3-3-0

Introduction to Stellar Atmosphere

열역학적 평형 상태에 있는 항성대기에서 별 및 인속 복사전달 과정에 관한 기초적 이론을 학습하고 복사장 안에서 이들이 하는 질 수와 방출 과정의 물리적 개념을 이해한다. 이미 발표된 모형 대기의 특성과 관측 사실을 비교 민석하여 모형 대기로부터 항성의 운도, 압력, 화학조성 등의 기본 물리량을 도출하는 방법을 학습한다.

In this course, students will learn the basics of line and continuum processes in stellar atmospheres under local thermodynamic equilibrium and understand the physical concept of absorption and emission processes of the radiation field. They will also learn to derive basic stellar parameters such as temperature, pressure, and heavy element abundances by comparing the observed spectra with those from model atmospheres.

현대우주론 3-3-0

Modern Cosmology

현대우주의에 관한 핵심 내용을 소개한다. 우주론 이해에 필요한 개념을 학습하고 이론과 관측 양면에서 최근에 밝혀진 우주의 연구 결과를 학습한다. 주요 주제는 우주의 구조와 역학적 상태, 우주의 구조 성분, 거대 구조의 형성 과정, 은하의 형성과 진화, 우주왜곡복사의 특성 등을 다룬다.

Core topics of modern cosmology will be introduced. Students will study the basic concepts needed for understanding the cosmology, and will learn about recent results of cosmology obtained through theoretical and observational approaches. Major topics include the structure and dynamics of the universe, the components of the universe, formation of the large scale structures, evolution and formation of galaxies, and the properties of cosmic microwave background radiation.

전산천문학 3-2-2

Computational Astronomy

과학에서 컴퓨터를 이용한 문제해결 방법이 보편화되고 있다. 이 과목에서는 수학적 기법을 이용한 천문학 연구를 하기 위해 필요한 기본적인 컴퓨터기법들을 소개한다. 이를 위해 컴퓨터 언어 및 Unix 환경에서의 프로그래밍 방법을 익히고, 문제해결, 복사론, 비선형 방정식, Monte Carlo 방법, 복사론 복사론 등을 수치적으로 다루는 기법들을 배운다. 이들은 천문데이터 처리, 기체역학, N체-문제, 복사성냥 등의 문제에 적용할 수 있다.

Numerical approach is popular in solving scientific problems. This course is offered to students who want to learn basic numerical methodology for the astronomical research. The course first introduces computer languages and programming technique in Unix/Linux environments. The techniques are used to treat differential equations, integrations, non-line-
ar systems of equations, Monte Carlo methods, and Fourier analyses. They are applied to several astronomical problems like modelling of astronomical data, hydrodynamics, N-body simulations, and radiative transfer.

**3348.456 천문기기개론  3-2-2**

**Introduction to Astronomical Instrumentation**

오늘날 천문학 발전은 새로운 개념과 기술에 기반한 혁신적 천문 기기에 크게 의존한다. 본 과목은 학부생에게 천문기기의 기본 지식을 제공하고, 실습을 통해 천문기기에 대한 흥미를 갖게 하는 것이 목표이다. 천문학적 시상과 적외광학, 망원경(장학-적외선/전자우주)과 후초점기기, 검출기 등의 원리를 간략하게 다룬 후 담당 교수의 전문성을 살린 프로젝트 중심으로 실습과 수업을 진행 한다.

Core topics of modern cosmology will be introduced. Students will study first the basic concepts needed for understanding the cosmology, and will learn about recent results of cosmology obtained through theoretical and observational approaches. Major topics include the structure and dynamics of the universe, the components of the universe, formation of the large scale structures, formation and evolution of galaxies, and the properties of cosmic microwave background radiation.

**3348.457 우주환경  3-3-0**

**Space Environment**

전자, 통신, 우주 기술의 발달로 근접 우주 환경은 점점 더 인간 생활에 중요해지고 있다. 이에 따라 학생들에게 태양의 자기 활동 현상 및 이 활동이 우주 환경에 미치는 영향을 소개한다. 구체적으로는 플라스마/ 자기유체역학의 기본 이론, 태양 자기 활동의 관측과 해석, 태양풍과 지구 자기권의 상호 작용, 자기 폭풍의 위험, 지구의 기후 변화에 미치는 태양 활동의 영향을 다룬다.

Near-earth space environment is getting more and more important for life of mankind as the electronic, communication, and space technologies progress. The objective of this course is to introduce students to the solar magnetic activity and its influence on the space environment. Specifically, the course covers the basic theories of plasma and magnetohydrodynamics, the observation and interpretation of solar magnetic activity, the interaction between the solar wind and the Earth’s magnetosphere, the danger of magnetic storms and the effect of solar magnetic activity on the Earth’s climate.

**M1420.000400 졸업논문  3-3-0**

**Thesis Research and Writing**

천문학 전공 졸업논문 연구 및 논문작성을 수행한다. 교과 지식 공부를 넘어 독창적인 연구 주제를 선정해 담당 교수의 지도하에 연구를 수행하며 졸업논문을 작성하여 천문학적 연구 성과를 내는 것을 목표로 한다.

This course provides an introduction to undergraduate students on the thesis research and writing. Based on the selected topic, each student is expected to carry out astronomical research and submit a thesis.
Introduction to Chemical Biology

In this course, students will learn the fundamentals of the chemical bond, stereochemistry, reactions, and synthesis of organic compounds. Organic chemistry, including both natural and synthetic compounds, plays a vital role in the development of new crops, drug discovery, and protein engineering. Moreover, the variety of the functional properties of macromolecules, such as polymers, is determined by the chemical structures of (or polymers) prepared by man or nature, essential to life and commerce, is determined by the chemical structures of (or polymers) prepared by man or nature, essential to life and commerce. A student's knowledge of various topics related to the structure and function of proteins, nucleic acids as the storage molecules of genetic information, will be essential to life and commerce. Therefore, you need to be familiar with the basic concepts, properties, and reactions of proteins, nucleic acids, and polymers before you can understand the chemical structures of organic compounds, organic reaction mechanisms, spectroscopy for structural determinations along with the interpretation of the spectra. Nomenclatures, properties, and reactions of each functional group and synthesis of small and relatively simple molecules are covered in this course.

Organic Chemistry 2

This course provides an introduction to quantum chemistry and molecular spectroscopy. We first cover basic principles of quantum chemistry which allows us to understand atomic and molecular properties through their electronic structures. Then, we move on to study molecular spectroscopy through which the structures and properties of molecules are investigated using the interaction of light and molecules.
3343.304 

Polymer Synthesis

This course is intended as an introductory class for synthesis of organic polymers at the advanced undergraduate level. The course deals with the preparation of various polymer molecules through radical polymerization, condensation polymerization and other synthetic methods. This course will also cover the relationship between molecular structures and functions as electro-optical and biochemical materials.

3343.306 

Inorganic Chemistry 1

An introductory survey of the structure and bonding in inorganic compounds will be given. Principles of various reactions of inorganic compounds (acid-base, oxidation-reaction, substitution reactions) will be introduced.

3343.307 

Physical Chemistry 3

This course is intended for students who have taken Physical Chemistry 1 and 2. The course aims to understand the basic principles of statistical thermodynamics, chemical kinetics, reaction dynamics, and surface chemistry. To understand fundamental principles of chemical reactions occurring in the gas and liquid phases and on the solid surfaces, theoretical methods based upon quantum and statistical mechanics as well as modern experimental techniques in physical chemistry will be introduced.

3343.308 

Introduction to Physical Organic Chemistry

This course is primarily intended for senior undergraduates and postgraduates in organic chemistry. The course deals with basic concepts of structure, reactivity, and reaction mechanisms of organic compounds. The course provides a deeper understanding of physical tools used for studies on structures, reactivity, and properties of organic compounds, various types of organic reaction mechanism, effects of structural changes on reaction mechanism and reactivity, etc.

3343.309 

Inorganic Chemistry 2

This class will cover the following topics: (1) the bonding, optical property, magnetic property, structure, reaction, and mechanism of coordination complexes and (2) organometallic chemistry. Coordination compounds are perceived as classical complexes and the chemistry behind these complexes are also considered classical, but the world of chemistry is based on this so-called classical knowledge. The chemistry of coordination compounds offers fundamental backgrounds for solid-state chemistry, bioinorganic chemistry, materials science, etc. 2/3 of the course will be dedicated to explaining the chemistry of coordination compounds. The level of organometallic chemistry taught in the class will only be elementary. An organometallic compound is a compound that has a bond between a carbon and a metal. However, compounds having bonds of boron-metal and phosphorus-metal can also be considered a part of organometallic chemistry. 1/3 of the course will deal with organometallic compounds, their reactions and utility (i.e., catalysis). Organometallic chemistry provides essential background knowledge for catalysis, organic synthesis, medicinal chemistry, material chemistry, bioorganic organometallic chemistry, etc. Inorganic Chemistry 2 should be one of the essential courses for an undergraduate to attend if he or she wishes to enroll in the graduate program in chemistry, regardless of the major field of study.

3343.310 

Fundamental Biochemistry

This course deals with the basic concepts of structure, reactivity, and reaction mechanisms of organic compounds. The course provides a deeper understanding of physical tools used for studies on structures, reactivity, and properties of organic compounds, various types of organic reaction mechanism, effects of structural changes on reaction mechanism and reactivity, etc.
Biochemistry is a research field which explores life phenomena at the molecular level. It tries to understand and characterize the diversity of chemical changes and functions using chemical approaches. Students learn about biological macromolecules such as proteins and nucleic acids, the structure and catalytic mechanism of enzymes, the mechanism of the flow of genetic information, and biosynthesis and degradation of various biomolecules. By providing the basic principles of biochemistry, this course helps students apply their knowledge to such practical issues as nutrition, the environment, health, etc.

3343.311 대사생화학 3-3-0

Metabolic Biochemistry

The objective of this course is to provide students with fundamental understanding of concepts, principles, and phenomena related to the physical and analytical chemistry. Training in how to measure fundamental quantities with high accuracy/precision and observing various chemical phenomena. We also study gene rearrangement, protein synthesis, RNA processing, and DNA expression, regulation of prokaryotes and eukaryotes, protein lipids, amino acids, and carbohydrates. We also study gene expression, regulation of prokaryotes and eukaryotes, protein lipids, amino acids, and carbohydrates. As the second part of Fundamental Biochemistry, Metabolic Biochemistry covers chemical reactions in biology on the basis of the molecular system. We study the metabolism of lipids, amino acids, and carbohydrates; the anabolism of lipids, amino acids, and carbohydrates. We also study gene expression, regulation of prokaryotes and eukaryotes, protein lipids, amino acids, and carbohydrates.

3343.312* 물리분석실험 3-0-6

Physical-Analytical Chemistry

The objective of this course is to provide students with fundamental understanding of concepts, principles, and phenomena related to the physical and analytical chemistry. Training in how to measure fundamental quantities with high accuracy/precision and observing various chemical phenomena lead students to accomplish deeper understanding of chemical reactions in view of thermodynamics, electrochemistry, chemical kinetics, and quantum mechanics at an undergraduate level. Furthermore, a few analytical experiments offer practical applications based on the principles of physical and analytical chemistry.

3343.313* 유기무기실험 3-0-6

Organic-Inorganic Chemistry

The objective of this course is to provide students with the theoretical and experimental understanding of organic and inorganic chemistry. The lab course contains the synthesis, separation, and spectroscopic analysis of organic compounds to accomplish the better understanding of organic reactions in the molecular level. In addition, this lab course offers the synthesis of inorganic compounds, metal complex, nanoparticles and practical applications based on the principles of organic and inorganic chemistry.

3343.402A 나노소재화학 3-3-0

Nanomaterials Chemistry

Nanomaterials Chemistry is the synthesis and the characterization of nanometer (nm, 10^-9m) size materials as well as the useful applications of them. In order to make these expectations come true, however, not only the synthesis of new nanomaterials but also the arrangement of them as an ordered structure are very important. In this course, many novel synthetic methods and optical, electrical, and magnetic properties of nanomaterials will be introduced, and the prospective applications will also be discussed.

M1409.001300 분석화학 2 3-3-0

Analytical Chemistry 2

Analytical Chemistry 2 is a course which introduces the analytical methods of mass spectrometry and separation science, which are not dealt with in Analytical Chemistry 1. In addition, the fundamentals of instrumental analysis are covered.

3343.406 화학연구실험 3-0-6

Undergraduate Research in Chemistry

The objective of this course is to provide students with the theoretical and experimental understanding of organic and inorganic chemistry. The lab course contains the synthesis, separation, and spectroscopic analysis of organic compounds to accomplish the better understanding of organic reactions in the molecular level. In addition, this lab course offers the synthesis of inorganic compounds, metal complex, nanoparticles and practical applications based on the principles of organic and inorganic chemistry.
The course provides the opportunity for carrying out a basic research project by joining a particular laboratory of student’s choice for a period of six months. This course can be taken repetitively for three times in at least two laboratories.

Molecular Biochemistry

Molecular Biochemistry is an introduction to various topics in biochemistry, including biosynthesis of amino acids and nucleotides, genetic information processes, sensory systems, immune systems and drug development.

Quantum Chemistry

Quantum chemistry allows one to understand atomic and molecular properties through their electronic structures. Starting from the postulates of quantum mechanics, we learn the fundamental principles of quantum chemistry and its application to various chemical problems. Students will also learn how to perform actual calculations on chemically interesting systems using computer software.

Molecular Design and Synthesis

This course emphasizes the most important reactions used in organic synthesis. This course introduces various synthetic methods which are illustrated by a number of examples of syntheses of a variety of organic compounds. This course deals with the following reactions: Alkylation of nucleophilic carbon; Reactions of carbon nucleophiles with carbonyl groups; Functional group interconversion by nucleophilic substitution; Electrophilic additions to carbon-carbon multiple bonds; Reduction; Cycloadditions; Rearrangements; Organometallic compounds of Group I and II metals; Reactions involving transition metals; Carbon-carbon bond-forming reactions of compounds of Boron, Silicon, and Tin; Oxidation.

Basic Organic Chemistry Laboratory

Basic Organic Chemistry Laboratory is designed to provide students with basic principles and practical applications of computational chemistry. After a brief coverage of electronic structure calculations of simple molecular systems, we learn the molecular simulation methods based on statistical mechanics. Topics may include systems from chemistry, materials sciences, nanosciences and biophysics.

Seminar in Contemporary Chemistry

The seminar course will take place weekly. Prominent scientists including faculty members in Department of Chemistry will be invited as seminar speakers. They will introduce their results and information on the cutting edge of their fields in contemporary chemistry.

Courses for Non-major Students

This one-semester course will cover the basic concepts of organic chemistry for students majoring in life science. To help students’ understanding of biologically important organic compounds, the course will provide the fundamental aspects of biogenic and organic chemistry.

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생명과학전공실습 1  2-0-4

Biological Sciences Laboratory Major 1

현대생물학의 기초가 되는 연구 방법들에 대해 소개 및 실험을 행한다. 본 실습(1)에서는 생물학적 샘플 생성, 생물학적 모델을 통해 이해하고자 한다. 생물학 분야에는 환경에 대한 주요 내용을 수집하고 이해하기 위한 실험이 진행된다. 생물학 분야에는 조류주요 유전형, 곡면 유전형 조절, 동물세포형질표현, 세포막형질표현, 클램바건 분리 및 재 조합 단백질 생산등의 실험이 진행된다. 생물학 분야에서는 미생물 배양과 성장 분석법, 미생물류생산, 생물학자 발생, 호르몬 측정 등의 실험이 진행된다.

Fundamental research tools used in modern biology will be introduced and practiced. This course(I) is offer to undergraduates majoring in biological sciences. The main theme of the course is to understand major topics in biochemistry and plant/animal physiology through experiments. For the biochemistry, experiments such as preparation of buffer, determination of pH, determination of pl and pKa of amino acids. UV/VIS spectrophotometric analysis will be practiced. For the physiology, experiments such as determination of resting/action potentiais of neurons, determination of photosynthesis, effect of IAA on growth of the cell will be carried out.

생명과학전공실습 2  2-0-4

Biological Sciences Laboratory Major 2

현대생물학의 기초가 되는 연구 방법들에 대해 소개 및 실험을 행한다. 본 실습(2)에서는 유전학 및 생물학(동물, 미생물) 강화의 주요 내용을 실험을 통해 이해하기 위해 개설된다. 유전학 분야에는 조류주요 유전형, 곡면 유전형 조절, 동물세포형질표현, 세포막형질표현, 클램바건 분리 및 재 조합 단백질 생산등의 실험이 진행된다. 생물학 분야에서는 미생물 배양과 성장 분석법, 미생물류생산, 생물학자 발생, 호르몬 측정 등의 실험이 진행된다.

Fundamental research tools used in modern biology will be introduced and practiced. This course (II) is offer to undergraduates majoring in biological sciences. The main theme of the course is to understand major topics in genetics and animal/microbe physiology through experiments. For genetics, experiments such as genetics of fruit fly, genetic regulations of flower development, isolation of plasmids, production of recombinant protein will be carried out. For the physiology, experiments such as culture/growth analysis of microbes, microbial photobiology, determination of hormones, development of mouse embryo will be practiced.

Field Studies in Biology

생물학야외실습 2  2-0-4

생물학야외실습 2  2-0-4

Field Studies in Biology

시립 동물 - 미생물을 포함하는 생물계의 다양성을 실험 및 관찰을 통해 이해하고, 주요 종을 인식하기 위한 강화이다. 본 강화에서는 주요 생물군들의 분류법, 표본제작법을 숙히하며 이들을 분류, 동정하는 능력을 기른다. 또한 동물의 형태학을 파악하여 식별할 수 있는 종을 정리하고, 이들을 유전관계에 따라 계통적으로 정리하여 생물계를 이해하는 것이다.

This course is designed to acquaint the student with diversity of living organisms, concentrating on collecting methods, identification and classification of major groups of living organisms.

Introduction to Genetic Engineering

생물학야외실습 2  2-0-4

생물학야외실습 2  2-0-4

Introduction to Genetic Engineering

본 과목은 미생물의 전반적인 기본지식을 강화한다. 분자생물학과 유전학의 핵심인 유전공학을 일반생물학 수준의 지식을 가진 학생들에게 소개하는 과목이다. 본 과목은 유전학과 유전공학의 기본 개념을 이해하고, 훈련된 실험실 기술을 가지고 실험을 수행할 수 있는 능력을 기르는 것을 목표로 한다.

This course is designed to increase students’ appreciation for the diversity of living organisms on Earth, with attention to the interaction between organisms and their environment. The course also offers a broad introduction to characteristics of diverse groups of organisms, including plants, animals, and microorganisms.

유전공학개론 3-3-0

Introduction to Genetic Engineering

生물학야외실습 2  2-0-4

Field Studies in Biology

생물학야외실습 2  2-0-4

Field Studies in Biology

본 과목은 미생물과의 복잡한의 핵심인 유전공학을 일반생물학 수준의 지식을 가진 학생들에게 소개하는 과목이다. 본 과목은 유전학과 유전공학의 기본 개념을 이해하고, 훈련된 실험실 기술을 가지고 실험을 수행할 수 있는 능력을 기르는 것을 목표로 한다.

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Introduction to Genetic Engineering

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서론 3-3-0

Introduction to Genetic Engineering

생물학야외실습 2  2-0-4

Field Studies in Biology

생물학야외실습 2  2-0-4

Field Studies in Biology

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서론 3-3-0

Introduction to Genetic Engineering

생물학야외실습 2  2-0-4

Field Studies in Biology

생물학야외실습 2  2-0-4

Field Studies in Biology

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This course is designed to increase students’ appreciation for the diversity of living organisms on Earth, with attention to the interaction between organisms and their environment. The course also offers a broad introduction to characteristics of diverse groups of organisms, including plants, animals, and microorganisms.
for microbiology will be given. The lecture includes morphology, cellular microbiology, culture methods, control of growth, genetics, genetic manipulation, mutation and evolutionary mechanism, virology, and biotechnology.

3346.208A 究義細胞学 3-3-0

Histology and Cell Biology

Cells in a single organism share an identical genome but look different one another. Such diversity in cellular structure and functions is critical for diverse cellular functions that have to be performed in an organism. Such cellular diversity stems from tissue specific gene expression. In this class, we study structure and functions of diverse tissue cells in the organism. The goal of this class is to have a view to understand biological functions as a whole organism. This course surveys the histories and current trends of all important subdisciplines of modern biology. Starting with the concept of evolution, this team-taught course covers a variety of topics ranging from genetics and bioinformatics, biochemistry, molecular biology and genetic engineering, virology, and biotechnology.

3346.210B 異生植物学の流れ 1 2-2-0

Understanding Modern Biology 1

기본적으로 일반생물학을 수강한 학생들에게 현대 생물학의 최근 흐름을 파악하게 하고 그 실험적 방법론을 익히는 21세기 최첨단 생명과학의 학문적, 산업적, 그리고 사회정치적 중요성을 이해하도록 하는 강의이다. 또한 전공탐색과목인 만큼 미시적인 분야와 거시적인 분야 모두를 포괄하게 소개할 예정이다.

The 21st century is often called the Age of Biology. This course surveys the histories and current trends of all important subdisciplines of modern biology. Starting with the concepts of evolution, this team-taught course covers a variety of topics ranging from genetics and bioinformatics, biochemistry and biophysics, developmental biology, and neurobiology to behavior and ecology.

3346.211 現代植物学 3-3-0

Modern Plant Biology

세포수준에서 볼 때 식물의 생활은 여타의 다른 생명체와 매우 유사한 과정을 갖고 있지만 그 실험적 방법론을 익혀 21세기 최첨단 생명과학의 학문적, 산업적, 그리고 사회정치적 중요성을 이해하도록 하는 강의이다. 또한 전공탐색과목인 만큼 미시적인 분야와 거시적인 분야 모두를 포괄하게 소개할 예정이다.

The origins of the modern plant sciences can be traced back to the 19th century, with the development of methods for studying plant morphology, physiology, and genetics. This course aims to provide a comprehensive understanding of modern plant biology, covering topics such as plant anatomy, physiology, genetics, and ecology. By the end of this course, students will be able to understand the basic principles of plant biology and apply them to solve real-world problems.
생명과학부 3346.328

생명과학특수연구 1 1-0-2

Special Research in Biological Sciences 1

본 과목은 생물학을 전공하는 학부생을 대상으로, 학생들의 전산학적 능력을 향상시키기 위한 인원수치 1명 이상의 연구실을 제공하여 실습을 진행 돕습니다. 이 과목은 전산학에 대한 기본적인 이해와, 리서치를 위한 기본적인 기술을 교육하는 역할을 합니다.

Research Practice in Biological Sciences 2

이 과목에서는 다음과 같은 주제를 다룹니다.

1. 생물학적 연구실습
   - 3346.324 (Research Practice in Biological Sciences 1)
   - 3346.325A (Research Practice in Biological Sciences 3)
   - 3346.325A (Research Practice in Biological Sciences 3)

2. 생물학적 연구실습
   - 3346.329A (Research Practice in Biological Sciences 4)

3. 컴퓨터 과학
   - 3346.330 (Introduction to Computer Science for Biologists)

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Research Practice in Biological Sciences 3

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3346.401 진화생물학 3-3-0

Evolutionary Biology

생물의 진화에 관한 학문발전의 역사와 고전적인 진화이론을 소개하고 학부 수준에서의 생물학 전반의 지식을 수용하며, 현대적인 진화의 이론을 학습한다. 특히 분자수준에서의 진화학의 개발과 이론의 분화, 속 이상의 상위분류군의 진화를 제동적으로 설명하고, 화석생물과 현존생물의 계통적인 유연관계를 밝혀서 생명이 진화해온 것을 체계적으로 해석할 수 있도록 유도한다.

This course introduces development history and classic theories of studies on the evolution of organisms, covers comprehensive knowledge on biology in general at undergraduate level, and explains modern concepts on evolution. Researches on evolution at molecular level, speciation mechanism, and evolution of higher taxa above the genus rank are taught in terms of phylogenies and students are systematically trained to interpret the evolutionary pathways based on phylogenetic relationships of fossils and present organisms.

3346.402 발생생물학 3-3-0

Developmental Biology

발생생물학 강좌에서는 다양한 생명체에서 발생유전학적 프로그램, 세포분화 조정기, 세포골드 및 발생과정에서의 형성기구, 기관 형성과정에서 세포간의 상호작용 등의 지문들을 중심으로 세포, 분자발생학적 수준에서 강의한다. 또한 분자발생학 관련 Special Topics를 중심으로 수강생의 논문리뷰 발표 및 논의로 진행한다.

The objective of this course is to understand several aspects of development in various organisms at cellular and molecular levels. It includes developmental genetic program, control mechanisms of cell differentiation, axis specification and cell fate, and cellular interaction during organogenesis. As well, student are required to review and discuss papers on the special topics related to molecular biology.

3346.403 면역학 3-3-0

Immunology

본 과목은 면역학상의 기본적인 이해를 습득하는 것을 목표로 한다. 비특이적 면역반응, 특이적 면역반응의 체계적 반응과 세포로 반응의 특성을 이해하는 것이 주 내용이다. 항원의 특성과 이에 대한 면역반응에 관련된 여러 가지 주요 유전자 및 단백질, 세포, 조직 및 조직의 구조와 기능을 유전학적, 생화학적, 분자생물학적 측면에서 분석하여 이해하고자 한다.

This course aims at gaining basic concepts of immune response to infectious agents. Non-specific and specific immunity including humoral and cellular branches of immune response will be studied. Characteristics of invading antigens, and genetic, biochemical, and molecular and cell biological informations on structural and functional aspects of genes, proteins, cells, and tissues playing critical roles during immune responses will be major topics of this course.

3346.404 신경생물학 3-3-0

Neurobiology

본 과목에서는 신경계의 구조와 기능도 다루며 대학원과정에서 공부할 신경과학 자식의 기초를 담는다. 최후, 신경계를 구성하는 뉴런의 구조와 기능을 먼저 살펴보고 뉴런들이 시냅스를 통하여 어떻게 신호를 전달하는지를 분석한다. 뒷부, 감각과 운동을 조절하는 시스템들의 구조와 기능을 알아본다. 뒷부, 신경계를 통하여 나타나는 감각, 언어, 수신, 사고 등과 같은 고등한 인지적 기능들에 대해 탐구한다. 뒷부, 신경계의 구조가 학습 및 주변환경에 의해 변화하는 과정을 탐구한다.

The theme of the lecture is the organization and function of the nervous system. The lecture is divided into four parts: (1) The structure and function of individual neurons and how they communicate chemically through synapses. (2) The structure and function of the systems that serve the senses and command movements. (3) The complex cognitive behaviors including motivation, mood, emotion, sleep, language, attention, and consciousness. (4) How the environment modifies the nervous system in learning and memory.

3346.407 바이러스학 3-3-0

Virology

이 과목은 학부생들이 바이러스에 대한 기초 지식을 습득하는 것을 목표로 한다. 강의 1부에서는 바이러스의 생활사를 생화학적, 분자생물학적 수준에서 이해하는데 필요한 주제를 다룬다. 특히 바이러스 입자와 구조, 세포의 전입(일정), 적응(genome)의 구조와 복제, 전염성, 바이러스 생산과 방출(assembly and release) 등에 대한 설명이 있음. 2부에서는 실제 생활과 바이러스와 관련된 부분을 강의할 계획이다. 이에는 바이러스의 생령, 백신의 개념, 산업적 응용 등에 대한 소개가 포함될 것이다.

The goal of this class is to introduce viruses to students as research subjects and tools. During the first half of the class, basic virology will be taught. Subjects covered will include virus particle and structure, viral entry to the cell, genome structure and replication, gene expression and viral assembly. The second half of the class will focus on viruses in the “real world”. Topics covered will include viruses and diseases with an emphasis on human diseases, vaccine concepts and industrial application of virological information.

3346.408 생물공학 3-3-0

Biotechnology

생물공학은 분자생물학의 토대로 생명공학을 향상시키는 기술의 원리와 실제를 다루는 과목으로, 비즈니스 프로세스를 통해 유용한 산물을 생산하는 개념을 강조한다. 이 과목은 학생들이 바이러스에 대한 기초 지식을 습득하는 것을 목표로 한다. 강의 1부에서는 바이러스의 생활사를 생화학적, 분자생물학적 수준에서 이해하는데 필요한 주제를 다룬다. 특히 바이러스 입자와 구조, 세포의 전입(일정), 적응(genome)의 구조와 복제, 전염성, 바이러스 생산과 방출(assembly and release) 등에 대한 설명이 있음. 2부에서는 실제 생활과 바이러스와 관련된 부분을 강의할 계획이다. 이에는 바이러스의 생령, 백신의 개념, 산업적 응용 등에 대한 소개가 포함될 것이다.

The goal of this class is to introduce viruses to students as research subjects and tools. During the first half of the class, basic virology will be taught. Subjects covered will include virus particle and structure, viral entry to the cell, genome structure and replication, gene expression and viral assembly. The second half of the class will focus on viruses in the “real world”. Topics covered will include viruses and diseases with an emphasis on human diseases, vaccine concepts and industrial application of virological information.
동물행동학은 활한 연구가 진행 중인 과학 분야로서 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 중론에는 행동과 관련된 대부분의 연구가 심리학에서 동물의 학습 능력에 관한 형태로 이루어져 왔다. 그 대조적으로, 40년 전 노벨상을 수상하며 부각되기 시작한 “행동학”은 자연상태의 동물에 관한 것으로, 그 이후로 괄목할만한 성장을 하며 생태학, 진화학, 생리학, 심리학, 내분비학, 유전학, 분자생물학 및 심지어 컴퓨터공학과 제어계학까지를 포괄하게 되었다. 이 교과목은 (1) 동물행동학의 기본 개념, (2) 동물 행동의 다양성, (3) 동물이 어떻게 진화했는가를 소개하는 개요가 될 것이다. 우리는 “이형제” 그리고 “왜” 동물이 그렇게 행동하는지 질문한다. 우리는 동물들이 어떻게 교육하고, 새로운 둘로, 먹이를 찾고, 이동하고, 한류를 피하고, 협력하고, 사회적 관계를 구축하고, 관용을 행하고, 문화를 전수하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다. 우리는 동물이 어떻게 어려움에 대처하고, 동물의 학습 능력에 관하여 어떤 연구가 해석하게 되었다. 이 교과목은 동물과 인간 행동의 기저를 이루는 생물학 기반을 연구한다. 우리는 동물의 학습 능력을 탐구함으로써, 동물이 어떻게 학습하는지, 동물이 어떻게 행동하는지, 동물이 어떻게 조건을 받는지, 동물이 어떻게 진화했는지, 동물이 어떻게 행동하는지에 대해 알아본다. 우리는 동물이 행동과 학습 행동, 및 몇 동물의 능력을 탐구한다.
In Systems Neuroscience, the function of neural circuits and systems will be studied (for example, there are auditory, visual motor and reward systems etc.). In addition, this course will also provide tips on how one can be a “friendly” colleague to others. To maximize the teaching effect, the actual communication practice will be given.

This course, Taxonomy, is designed for undergraduate students and provides an introduction to taxonomy of animals, plants, and microbes and their morphological, life cycle-wise, and molecular biological characteristics. In addition, it aims at familiarizing students to the state-of-the-art taxonomic classification system and providing a hands-on experience in species identification. Specifically, it covers 1) systematics and diversity of animals/plants/microbes taxonomic groups, 2) classification system for each taxonomic groups, 3) taxonomic identification using morphological key characters, 4) examples of species belonging to each taxonomic groups, as well as a hands-on practice in morphological description and species identification of various species specimen. By doing so, students will understand key characteristics of diverse taxa and be able to perform taxonomic identification.

Cellular and Molecular Biology

This course is an introduction course for the students who took the general biology course in the freshman year and will deal with the major issues of the modern cell biology. Main theme of the course is how the individual cells can maintain the lifeness and reproduce for the next generations. For that end, the course will deal with the subjects of cellular physiology, basic genetic mechanisms, differentiation and development of multicellular organisms as well as inborn genetic diseases. It is hoped that this course will provide the pre-med or dental students the ability to continue on the upper class courses such as biochemistry, molecular biology, gross anatomy and human physiology.

Introduction to Microbiology

This course offers a broad introduction to the living organisms that are not normally encountered in our daily life. It covers the basic principles of microbial growth, metabolism, and reproduction. It also introduces the various types of microorganisms and their role in the environment. The course concludes with an overview of the basic techniques used in microbiology.
해 미생물학을 소개하는 기초적인 과정이다. 진세균(eubacteria)과 고세균(archaeabacteria) 등 원핵생물과 진핵미생물(eukaryotic microorganisms)들, 그리고 바이러스들을 형태 및 구조, 생리, 유전, 생태학적인 관점에서 이해하고, 그들의 다양성과 인간생활에서의 역할 및 질병과 면역 및 치료 등을 공부한다.

This is an introductory microbiology course for those students who are not majoring in biological sciences. The lectures cover a survey of microorganisms and their activities; structure and function of microorganisms; ecology, nutrition, physiology and genetics; aspects of applied microbiology, including genetic engineering, disease, immunity, and chemotherapy.
대기역학 1 3-3-0

Atmospheric Dynamics 1

대기의 효율을 지배하는 기본 운동방정식계를 유도하고 이에 이해해도록 한다. 유체의 운동을 기술하는 방법, 즉 전방미분의 라그라장 메트릭 해석과 오일러리안 해석을 배우고, 유체에 작용하는 표면력과 동역학방정식을 배운다. 또한, 지구의 자전에 의한 원심력과 위성력에 대한 해석을 통해 최상의요계에서의 운동방정식을 유도한다. 안정성론의 (연평방법) 및 양상 해석 제1법칙(예 가 girlfriends)과 제2법칙 및 이상기체의 상대방정식을 배우고, 이 를 이용하여 유산과 열산, 지난향 및 동향, 토방정책, 연직 속도 산출법 등에 대하여 공부한다.

In this course we will study the fundamental equations of fluid dynamics, which include conservation laws of mass, momentum, and energy in both cartesian and pressure coordinates. We will also cover vorticity dynamics.

대기역학 2 3-3-0

Atmospheric Dynamics 2

대기역학 분야 중 경계층과 관련된 부분인 경계층역학과 자유 대기에 존재하는 간단한 과에 대한 파동역학을 다룬다. 경계층역학에서는 난류의 구조를 확인하고 막상의 효과를 종합적으로 토대로 한다. 파동역학 부분에서는 대기현상을 각종 과 특성으로 설명하고 파동으로 표와도 조절을 적용을 논의한다.

Two parts of atmospheric dynamics is covered; planetary boundary layer (PBL) dynamics and wave dynamics. In the first part the turbulence theory is systematically studied and the effect of friction is collectively reviewed. In the second part the atmospheric phenomena are described in terms of the characteristics of atmospheric waves and the mutual adjustment between mass field and wind field is discussed using a wave theory.

Atmospheric Physics 1

과기의 연적구조, 복사에너지, 광현상, 음향현상 등의 물리적 현상을 이해하기 위한 기본적이고 초보적인 지식을 다룬다. 세부내용으로는 복사의 원리, 대기성복사에너지와 지구복사에너지의 전달 과정, 지구의 복사방향 등과 공기입자와 대기중의 수증기와 먼지 에 의한 복사의 근본, 반사, 화원현상, 각 대기환경의 실정, 대기중 음향의 전달과정이 있다.

The Earth climate system consists of atmosphere, ocean, land surface, cryosphere, and biosphere. Most interactions in the climate system are closely related to energy and hydrologic cycles. The aim of this course is to study radiation, convection, and processes of land surface to better understand the atmospheric cycles. Also examined are the interactions among these physical processes.

Atmospheric Physics 2

과기중의 토마에 의하여 나타나는 물리적 현상들을 이해하고 대기 중에서 진기적인 현상을 이해하기 위하여 기본적이고 초보적인 지식을 다룬다. 주요내용으로는 토마의 성격, 대기 중에서의 음향과정과 강습과정, 구름의 생성과 구조, 대기에서의 전하분류, 발전현상, 지구의 전자기상과 그 요인 등을 다룬다.

This course will examine the physical processes that occur in the atmosphere related with water. The course will also study the rain, cloud, electric discharge in the atmosphere and the electromagnetic field of the earth.
형성된 당시에 만들어진 입자 구조들의 형태와 의미를 이해한다. 암석내에 힘이 가하여지면 힘의 방향과 종류에 따라서 다양한 지질구조가 만들어지며, 이들 암석 내에 함유되어 있는 변화된 물질들을 이용하여 변형력을 해석한다. 변형작용동에 형성되는 이차적 허부구조와 선구조를 학습한다. 조산운동과 관련하여 정단층, 쓰리스토단층, 주향이동단층, 슬루프 방주단층 등 간단한 특성을 학습한다. 학기 중에 이를 아외에서 학습하기 위하여 2박 3일 간의 아외실습을 한다.

The Earth has undergone several orogeny and deformations through the geological times since it was formed. Therefore, various types and styles of geological structure in the rocks are produced during orogeny and deformations. This class includes lectures and laboratory work in which students learn how these structures are formed and how to interpret them. Geological structures are variable depending on the stress fields. They includes planar and linear structures, joints, folds, faults, thrust faults and shear zones. Primary structures in sedimentary and volcanic rocks are also important when trying to recognize whether the beds are lying right way up or overturned. During the term, students will have a 3-day field trip in the Yoncheon/Yeongwol or other area where various rocks and geological structures are exposed.

3345.310 지구물리 3-3-0

Geophysics

이 과목은 지구물리학의 기초이론을 공부하는 과목으로 지구의 모양, 지구의 중력장, 지구의 자전량, 관구조적 지구 역학, 지진의 진동, 지진 전단석의 과정 등을 기초적 이론부터 공부하는 과목이다.

This course deals with the basic theories of geophysics. Topics include: seismic wave propagations in the Earth, the figure of the Earth, Earth’s gravity field, Earth’s magnetic field, dynamo theory, and electromagnetic (EM) properties and EM induction of the Earth. The ensuing discussions will be on how these basic principles can be applied to the study of the Earth’s interior and the processes of the Earth system. The course will also examine earthquakes and plate tectonic aspects of the Earth system.

3345.311 환경지구학 3-3-0

Geo-Environment

지구상에서 일어나는 자연환경변화의 원리와 과정에 대해 자원을 중심으로 공부한다. 지구의 자연환경을 체계적으로 분석하고 이해하기 위해 지구환경시스템을 여러 개의 작은 시스템으로 나누고 각 시스템의 환경적 의미와 각 시스템이 나타내는 현상의 원인에 대해 이해한다. 이러한 이해를 바탕으로 우리가 실제로 체험하거나 실생활에 중요한 것을 가져 지구환경 문제들에 대하여 그 원인과 환경오염이나 환경해를 예방하거나 대처하는 방법에 대해서도 공부한다.

The Earth systems and its processes are interconnected to the environment. This class studies individual Earth systems such as soils, surface water, groundwater, energy and exercises to predict environmental changes.

3345.312 지구화학 및 실험 3-2-2

Geochemistry and Lab.

암석 및 화물을 구성하는 원소들의 이동 및 분배현상이 자연학적 제과정(화성활동, 변성작용, 교태작용, 열수변환, 화학작용, 지하수 순환) 등을 통해 어떻게 일어나는지를 취급하며 이러한 현상을 지배하는 지구화학적 법칙을 고찰하고 아울러 환경지구학의 기본 원리를 익히게 된다. 물리화학적 변화를 받은 암석, 광물 및 지하수의 상호간 반응과 그 반응의 진행 방향은 열역학적 함수의 변화에 따라 추정하여 그 현상관계를 공부하게 된다.

This course deals with how the migration and distribution phenomena of rock- and solid-forming elements occur through all kinds of geological processes (e.g., igneous activity, metamorphism, metasomatism, hydrothermal alteration, chemical weathering, groundwater circulation, etc....). We investigate the geochemical laws that govern these phenomena, study the basic theories of environmental geochemistry. Through this course, you will study the chemical interactions between physico-hemically changed rocks, minerals and groundwater, estimation of the processing direction of the chemical interactions according to the variation of thermodynamic functions, and their equilibria.

3345.313 물리해양학 및 실험 3-2-2

Physical Oceanography and Lab.

물리해양학은 해수의 물리적인 특성과 해류, 조용, 파랑 등 해수의 운동특성에 대해 연구하는 분야이다. 이 과목은 해수의 물리적인 특성, 해류의 형성과 기본역학, 해변의 해류분포를 공부하고, 실험에서는 물리특성 자료의 분석과 mapping, 지구자연의 효과 등을 익히다.

Physical Oceanography is the study of the physical properties of sea water and its dynamical characteristics such as the ocean current, waves, tides and storm surges. This course will focus on the physical characteristics of sea water, generation and basic dynamics of ocean currents, and global distribution of surface and deep currents. Through lab experiments, students will practice the analysis and mapping of physical oceanographic data, and investigate the Coriolis effect on ocean currents.

3345.314 조석과 파랑 3-3-0

Tides and Waves

이 강의의 목표는 해양의 조석과 파랑 현상을 이해하는데 제반 원리의 이해를 하는 것이다. 이를 위해 수학적 기반, 신천 천해파 이론, 파랑 스펙트럼, 기조력, 동역학적 조석전선, 분조, 내부파/내부조석의 주요 개념들을 이해하고, 실제 해양에서 관찰된 파랑과 조석을 분석하는 방법들을 소개한다.

The goal of this course is to understand basic principles of waves and tides in the ocean. We will examine the concepts of fundamental hydrodynamics, linear shallow-water equation, wave spectra, tide-producing forces, dynamic theory of tides, tidal constituents, and internal waves/tides. This course will also cover basic techniques for analyzing waves and tides observed in the real ocean.

3345.315 생물해양학 및 실험 3-2-2

Biological Oceanography and Lab.

해양생물의 종류, 형태를 이해하고, 환경에 어떻게 반응하는지를 이해하는 것을 목적으로 한다. 강의는 해양환경과 생물, 해양생태계에서 생물과 환경의 상호작용, 해양의 부분생태계, 해양생물자원과 환경오염 등에 대한 내용을 다룬다. 현장실습을 포함하여 해양 생물의 채집, 시료의 취급, 동정 및 분류 등의 생물 구조에 대한
A fundamental understanding of biological oceanography in terms of ecosystem structure and function in marine environment, topics include marine environment and organism, ecosystem interaction, benthic-pelagic ecosystem, and marine resources and pollution. Field activities followed by laboratory exercises focusing on classification of various marine organisms will be highlighted.

The aim of this course is to understand the ocean in terms of chemistry. This course will examine the form of distribution of elements dissolved in the sea water and clarify the biological and chemical processes in the ocean. We will also cover the principles of applying these chemical compounds to circulation process in the ocean and the principles of tracing the water mass. Finally, we will do experiments to practice the basic methods of analyzing the various nutrients, dissolved oxygen, PH, and alkalinity in sea water.

The objective of this course is to understand the dynamic, chemical, and physical processes that determine the climate of the globe. This course will cover various dynamical and physical processes that determine the climate system. Topics to be discussed include: the energy equilibrium of the global climate system; surface energy balance; climate phenomena associated with ocean circulation; global climate variability such as the El Nino and global warming.

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지연과학대학 (College of Natural Sciences)  
..: 지구환경과학부 (Dept. of Earth and Environmental Sciences)

3345.406  압축학 및 실험  3-2-2

Petroleum and Lab.

화성암과 변성암을 이해하는데 필수적인 물리화학적 개념들에 대해 다루며, 압축의 진행과정을 이해하는데 요구되는 각종 방법론을 소개한다. 주요 항목으로는 압축성, 압축성의 연계성, 산화물 해석방법, 유리-알루미늄실리케트, 변화암 및 자유자발성 변화성화장).

3345.408  지진·지구동력학  3-3-0

Seismology and Geodynamics

지구시스템을 구성하고 있는 고체, 액체 및 기체의 매질을 전파하는 음파와 탄성파의 성질을 파악하고 이를 지질학 및 지구동력학 현상의 해석에 적용한다. 지진의 발생원인과 현상, 지진과의 형성 전파에 대해 분석하고 그 기록을 해석한다.

Propagation properties of the acoustic and elastic waves in the media of solid and liquid state in the earth are studied. The occurrence of earthquakes, the source and propagation of the seismic wave are analysed based on the properties of the acoustic and elastic waves. Geodynamical phenomena are studied through the interpretation of recorded seismograms.

3345.409A 자원지질학 및 실험  3-2-2

Resource Geology and Lab.

유용 지구자원 물질의 기원, 운반기구와 이들의 농집 과정, 조석 후의 변화에 따른 중극물의 산화성 및 화학성 산출양태, 조석을 관찰하고 분석함으로써 어떻게 특정 원소를 함유하는 유용자원이 생성되었는지 그 생성과정과 기원에 대한 지식을 습득한다. 실험을 통하여 유용광물의 육안 및 현미경에서 관찰함으로써 각 광물들을 식별하고 조석의 특성을 구별할 수 있는 능력을 배양한다.

This is a course on geologic occurrence and genesis of economic mineral deposits, including metallic and nonmetallic resources. Students are offered an introduction to mining, processing, and exploration methods. Through this course, students will learn the significance of regional and local geochemical and processes related to the exploration and production of the resources. History, economic and environmental consideration, national mineral policy, and international aspect of metallic and nonmetallic resources are discussed through the term.

3345.410  수리지구환경 및 실험  3-2-2

Geohydrological Environment and Lab.

지구상의 물과 관련된 물리-화학적-생물학적 현상에 대해 공부한다. 지표면 상하양에 존재하는 물의 순환과정, 지구각부의 고체와 유체사이의 동역학적 관계, 지구내부로 침투한 오염물질의 이동과 관련된 물리-화학적 분석, 물속에서 일어나는 산화-환산반응의 종류, 물과 지구구조물질의 반응과 이에 수반된 수질의 변화, 자연적, 인위적 오염물질의 종류 및 이들의 영향 등을 대하여 다양하게 공부한다.

Geological processes and their relation to water are to be studied. Physical, chemical and biological processes in surface and groundwater system are the main topics of this class. The transport of contaminants in the water system are to be studied.

3345.413A 연안해양역학  3-3-0

Coastal Dynamics

연안 해수 운동을 이해하는 기 본 역학적 방정식을 유도한 후, 이를 적용하여 연안 역학과정을 이해한다. 주요 내용은 연안 바구니의 역학, 연안 풍성류, 만모ayment, 해수교환, 체류시간, 안반도 주변의 연안 특성 등이다.

In this course we will work out basic dynamical equations which govern the water movement in the coast. Applying these equations, we will understand the coastal process. Topics to be covered are: Dynamics in the bay and the estuary, wind and density driven currents, water exchange and residence time, coastal phenomena around the Korean Peninsula.

3345.414A 미생물 해양학 및 실험  3-2-2

Microbiological Oceanography and Lab.

해양환경에 서식하는 중요한 미생물들(바이러스, 박테리아, 자속조류 미소조류, 해양호랑이)의 다양성 및 분포, 그리고 다양한 해양환경(의상, 산화, 열수구, 고임 환경, 극변지 등)에서 해양 미생물들의 작용 방식과 성장에 대하여 공부하고 실험을 통하여 해양 미생물들을 연구하는 기법을 익힌다. 또한 해양 미생물들이 다양한 환경조건에 테스트로 하여 생태적 특성에 대해 배운다. 그리고 해양 미생물들을 이용하여 어떻게 해양환경을 보호하고, biotechnology에 이용하는지를 배운다.

Students will learn the diversity and distribution of important marine microbes (viruses, bacteria, heterotrophic nanoflagellates, and ciliates) in diverse marine environments (open ocean, deep sea, hydrothermal vents, hypersaline environments, and polar seas). They also learn how marine microbes adapt and grow in their habitats and basic techniques in the laboratory. Further, students will understand the significant contribution of marine microbes in material cycling and energy flow in the sea. Finally, they will learn how marine microbes are used in environmental monitoring and biotechnology.

3345.416A 해양유기화학 및 실험  3-2-2

Marine Organic Chemistry and Lab.

해양환경에서 다양한 유기물의 생태적 기능은 그 중요성을 낭 로 증가하고 있다. 본 교 과목에서는 유기화학 기본 개념에 대해 공부하고, 이를 바탕으로 해양 환경 내에서 존재하는 다양한 유기 물질과 이들의 생태적 기능 및 생물학적 역할에 대해 다루고자
This course intends to provide students with oceanographic experiences of planning an oceanographic survey, shipboard observations. They will join an actual oceanographic training, and data analysis. Students will join a class discussion for the planning and preparation of oceanographic data and observations. The class mainly comprises indoor exercises, but also includes outdoor activities, on the Campus of SNU, and during some Saturdays in the mountains around Seoul.

This course will cover diverse aspects of geological oceanography and marine geology including coastal processes, formation of sedimentary basins, geological processes at continental shelf and at deep oceans. It will focus on the geological and geophysical processes at plate boundaries and the structure of crust and upper mantle.

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This course will deal with sedimentary, igneous and ore-forming processes on the seafloor with special focus on their geochemistry. First, students will learn the components and chemical compositions of marine sediments and their implications for paleo oceanography and paleoclimate. Second, they will learn the geochemical features and petrogenesis of marine igneous rocks from mid ocean ridge, island arc, back arc basin and oceanic intraplate settings. This will allow the students to understand the formation and evolution history of oceanic crust and Earth’s mantle. Third, student will also learn the ore-forming processes of VMS-SEDEX deposits and polymetallic oxide deposits.

M1411.001200 지구생물학 및 실험 3-2-2

Geobiology and Lab.

This course will examine the evolution of life and Earth's history. We will focus on the role of microorganisms as a geological agent, and how their activity has shaped Earth over the past four billion years. We will also study the role of microorganisms in the formation and evolution of Earth's crust and mantle. This will allow the students to understand the formation and evolution history of marine igneous rocks from mid ocean ridge, island arc, and back arc basin. We will also study the ore-forming processes of VMS-SEDEX deposits and polymetallic oxide deposits.

The objectives of this course are to understand the abiotic environmental components of pelagic systems in the aquatic environment and to examine the biological processes that interact with these environmental components. Because the biological processes of the aquatic environments depend on the upward transfer of organic material and energy of the primary producers, studying the classification and distribution of planktonic community, the nutrient dynamics, the interaction between plankton and microzooplankton is the basis of understanding the overall ecology of the pelagic environments.
외장에서 발생하는 여러 가지 대기현상의 컴퓨터를 이용하여 수치적으로 모의하는 기법적인 방법들에 대해서 소개한다. 실습시 간에는 대기과학 연구에 필수적으로 필요가는 프로그래밍 언어인 포트란을 배우고, 이를 이용하여 거기 대기 플라즈마의 현상을 수치적으로 모의하고, 이를 자바리어드 연습을 실시한다.

This course provides introductory methods to obtain numerical solutions for various atmospheric phenomena observed in nature. During the practice, the students will have a chance to learn and practice the basic programming language for the atmospheric sciences, Fortran and other visualization tools, such as Matlab or Grads.

외장지질학 및 실습 3-2-2

Sedimentary Geology and Lab.

이 수업은 지구를 비롯한 행성 표면에 존재하는 퇴적물이 얻어지는 생성 과 운반, 퇴적작용을 이해하고자 한다. 퇴적물은 퇴적지질학의 기제, 분류, 해석을 통해 과거 퇴적환경의 특성을 밝히는 것을 연습한다. 극적으로 이 수업의 수강생들이 지질학의 기초로 이에 보존된 고생물, 지화학적인 정보를 종합적으로 활용하여 퇴적기록을 수지로 재현하는 것을 목표로 한다.

This course aims at understanding formation, transport, and deposition of sediment on the surface of planets including the earth. It also aims at training observation and description, classification, and interpretation of sedimentary records (sedimentary deposits and rocks) in order to reconstruct depositional environments of the past. The ultimate goal of the course is for the students to have basic knowledge and skills to utilize sedimentary records including fossils and geochemical data in order to answer questions on the past environments of planets through geological history.

미기상학 개론 및 실습 3-2-2

Introduction to Micrometeorology and Practice

대기 경계층은 대기의 중간 구조 중 중간 대기 현상이 지배적인 자연계와의 해양 및 지면이 존재하는 지표면 사이에 위치한 대기층을 지칭한다. 미기상학개론 수업은 이 대기 경계층에서 해양 및 지면의 마찰을 통해 발생하는 대기 운동 및 난류 현상에 대한 특성을 이해한다. 또한, 대기 경계층 난류 운동지 표면 및 자연계와 어떻게 상호작용하게 되며, 이로 인해 운동량, 열량, 습도 및 오염 물질들이 어떻게 전달될 수 있는지 수치 실험 및 관측자료 분석을 통해 살펴본다.

Planetary Boundary Layer (PBL) is a layer between the earth surface (i.e., ocean and land) and free atmosphere where synoptic-scale weather system is dominant. The goal of this class is to understand the dynamics of air motion and turbulence, happened in the PBL due to the frictions and diurnal variations in the earth surface. This will finally provide you an idea of how PBL can interact with various environments (urban, mountain, ocean, etc) and atmospheric systems (synoptic high/low, mesoscale convections, etc). Therefore, we will learn how PBL can transport momentum, heat, moisture, and pollutants in atmosphere by using numerical simulations and observation data.
Understanding Computational Sciences

This course is designed to provide the beginners general backgrounds and techniques by solving diverse topics relevant to computational sciences. Computational science is broadly used to compute immense calculations and/or numerical solutions arising from natural sciences, engineering and social sciences using computer and mathematics. The contents include 1) several methods to find analytic and numerical solutions of differential equations, 2) transformation and inverse transform of acquired data, 3) visualization of data and calculations, and 4) MPI (Message Passing Interface) for supercomputing.

Prerequisite courses: calculus or similar mathematics

Theory and Practice in Computational Sciences

This course introduces basic skills for numerical analysis with Python programming language. In order to learn the fundamentals of programming and computer sciences, this lecture provides basic usage of Python, data-structures (such as list, tuple, and dictionary), exception handling, and file I/O for numerical data. Also, in order to implement numerical algorithms more effectively, students will learn about object-oriented programming and module-based development. By implementing simple form of numerical methods, such as Newton iteration and finite difference method, students will practice how to solve computational problems using computer programming.

Theory and Practice in Computational Sciences

This course aims to understand in-depth theory on numerical programming for computational sciences, and high-level programming skill using Python will be introduced. Students will learn program design principles, such as analysis, optimization, and design patterns. In order to achieve it, integration technique for Python and C will be introduced by practice. Also, extension modules of Python will be introduced to implement and visualize what students have learned.

Data-oriented Programming

This course offers the topics arising in recent computational sciences and technology and applications. As a result, students should complete their reports for what they have done.

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Capstone Research in Computational Sciences

This course aims to understand in-depth theory on numerical programming for computational sciences, and high-level programming skill using Python will be introduced. Students will learn program design principles, such as analysis, optimization, and design patterns. In order to achieve it, integration technique for Python and C will be introduced by practice. Also, extension modules of Python will be introduced to implement and visualize what students have learned.

Topical Research in Computational Sciences

This course offers the topics arising in recent computational sciences and technology, which arises in real phenomena such as industries and laboratories; designs a method of computational solutions; proceeds to attain it's solutions. Like the course title, this course aims to understand in-depth theory on numerical programming for computational sciences, and high-level programming skill using Python will be introduced. Students will learn program design principles, such as analysis, optimization, and design patterns. In order to achieve it, integration technique for Python and C will be introduced by practice. Also, extension modules of Python will be introduced to implement and visualize what students have learned.

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This course offers the topics arising in recent computational sciences and technology, which arises in real phenomena such as industries and laboratories; designs a method of computational solutions; proceeds to attain it's solutions. Like the course title, this course aims to understand in-depth theory on numerical programming for computational sciences, and high-level programming skill using Python will be introduced. Students will learn program design principles, such as analysis, optimization, and design patterns. In order to achieve it, integration technique for Python and C will be introduced by practice. Also, extension modules of Python will be introduced to implement and visualize what students have learned.

Topical Research in Computational Sciences

This course offers the topics arising in recent computational sciences and technology, which arises in real phenomena such as industries and laboratories; designs a method of computational solutions; proceeds to attain it's solutions. Like the course title, this course aims to understand in-depth theory on numerical programming for computational sciences, and high-level programming skill using Python will be introduced. Students will learn program design principles, such as analysis, optimization, and design patterns. In order to achieve it, integration technique for Python and C will be introduced by practice. Also, extension modules of Python will be introduced to implement and visualize what students have learned.
계산과학의 중요한 두 축은 미분적분을 바탕으로 한 수치해석과 통계와 데이터를 바탕으로 한 인공지능분야(기계학습, 심층학습)이다. 본 과목에서는 여기에 필요한 원리를 이해하고 수학적인 기초를 다지는 것을 이루고자 한다. Euler 방법에서부터 FDM, FEM까지 공부하고 또 인공지능 이해와 응용에 필요한 최적화, 선형대수, 통계 등을 다룬다. 실제 응용사례를 통해 학습에 대한 이해도를 높이고자 한다.

In modern mathematics of computation, the two important axes are: 1. Numerical Analysis which begins by approximating integral and differential equations, and 2. so-called Artificial Intelligence (Machine Learning and Deep Learning).

In this course we build the mathematical foundation of these two areas. The Numerical Analysis part begins by looking at Euler method and proceeds to FDM/FEM. The latter part involves studying important principles of optimization, linear algebra and other statistical issues. The course will look at various applications of the modern techniques for better understanding.
Science, Technology and Policy

This course is designed to examine and analyze issues related to science, technology and gender in a way which methods and practices of science and technology have been shaped with/ by three aspects of ‘gender’ - gender identity, gender structure, and gender symbol. The course aims to draw a dynamic and multifaceted picture of the interaction between science & technology and gender, rather than a deterministic one. Case studies include gender issues related to education, consumption, popular literatures, and the field of science and technology in Korea. For critical understandings of ‘science and technology society’ related to gender, special topics cover biomedical technologies, communication technologies, and ‘sustainable’ technologies.

Communication of Science & Technology

This course is designed to examine and analyze issues related to science, technology and gender in a way which methods and practices of science and technology have been shaped with/ by three aspects of ‘gender’ - gender identity, gender structure, and gender symbol. The course aims to draw a dynamic and multifaceted picture of the interaction between science & technology and gender, rather than a deterministic one. Case studies include gender issues related to education, consumption, popular literatures, and the field of science and technology in Korea. For critical understandings of ‘science and technology society’ related to gender, special topics cover biomedical technologies, communication technologies, and ‘sustainable’ technologies.

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difference. We will examine the characteristics of science communication, and the methods of study of science communication. We will also look at the effective communication of knowledge about science and technology, especially via new media forms of the 21st century and the characteristics of technology. We will study the nature of science news (what science news is), journalists who specialize in science news (who a journalist specializing in science news), and what makes a science journalist differ from a general journalist. We will end by practicing subject selection and composition.

M2888.000500 과학기술과 연구윤리 3-3-0
Science, Technology and Research Ethics

In this class, it is expected from students to achieve the following: First, students are expected to understand the characteristics of research ethics in science and technology by acquiring the proper knowledge on the history of research ethics. Second, students are expected to develop proper knowledge on the criteria of FFP (fabrication, falsification, plagiarism) which are considered as the clear research misconduct. Third, students are expected to develop proper characteristics of research ethics in science and technology by acquiring the knowledge on the history of research ethics. Fourth, research misconducts in the field of humanities and social sciences as well as in the natural science and engineering fields are possible. Students are expected to understand this by examining case studies.

M2888.0000600 한국현대과학기술발전사 3-3-0
History of Science and Technology in Modern Korea

Recent series of research misconduct have been in the focus of worldwide media. Research ethics is the basis of good research practice for both students and researchers. This class aims to understand the major achievements and issues of science and technology studies(STS). Topics covered in this class are: the social construction of science and technology, technoscientific networks, technology determinism and the technological system, representation in science, science and feminism, the public understanding of science and technology, science and democracy, leadership in science, GMO, climate change, energy and nuclear issues, and citizen participation in science and technology. This course is designed for students in interdepartmental majors in science and technology studies, but students who major in humanities and social sciences of natural sciences are also encouraged to take it.

M2888.000800 미래에너지시스템과 과학정책 3-3-0
Energy system transition and science policy

This course aims to survey the history of science and technology in modern Korea. The former part is composed of historical topics, where there is one week’s class about North Korean science and technology. The historical topics will include: Rhee’s science and technology policy; the revival of science in the 1960s; the heavy and chemical industry and new technologies; the scientificization of the all nation movement; semiconductors and CDMA, and the emergence of new biotechnology. Examining specific historical issues of each period and historical topics, the students would have better understanding about history of science and technology in modern Korea as well as the relationship between S&T and political system.

M2888.000700 과학기술학의 이해 3-3-0
Understanding Science and Technology Studies

이 수업은 과학기술학의 주요 성과와 관점에 대해 이해하는 것을 목적으로 한다. 이 수업에서 다루는 주제들은 과학과 기술의 사회적 구성, 기술과학의 네트워크, 기술 결정론과 기술 시스템, 과학에서의 리더십, 과학기술과 민주주의, 과학과의 이슈, 불가능한 이해, 과학기술의 도덕적 감수성과 분별력, 논리적 추론능력을 향상한다. 학생들은 과학과 기술에 관한 연구를 통해 과학기술의 발전과 발표에 이르는 과정에 대해 학습할 수 있다.

This course is designed for students in interdepartmental majors in science and technology studies, but students who major in humanities and social sciences of natural sciences are also encouraged to take it.

This course deals with the energy system transformation for sustainable future, beginning with an emphasis of the limitation of fossil-fuel based energy system. In this course, we will overlook characteristics and requirements of sustainable energy systems, and look into science and technology policy for the system transformation. The course will provide...
students with cutting-edge trends of STI policy studies and information on possible alternatives like hydrogen, renewalables, and sustainable road transportation. The aim of the course is to stimulate students to think and act as future intellectuals by crossing the frontiers of science, STS, and science policy on energy systems.

M2888.000900 생명과학과 사회 2-2-0

Biology and Society

본 강좌는 현대 생명과학의 발전과 사회와의 상호작용을 다루는 것을 그 목표로 한다. 특히 20세기 후반 생명과학에서 나타난 “분자혁명”(molecular revolution)에 초점을 두고 유전학, 분자생물학, 생화학, 세포생물학, 발생생물학, 면역학, 신경과학 등과 같은 분야에서의 나타난 혁명적 변화들과 그 사회적 함의들을 다룹니다. 이 과정에서 현대 생명과학의 문화적, 사회적, 정책적 이슈들을 다룹니다. 생명의 상업화와 사유화, 생명윤리와 같은 법적, 정책적 이슈를 포함하여 변화하는 생명과학자, 생명학자의 정체성과 그 역할 또한 다룹니다. 강의에서는 참석 생명과학과 의학의 최전선에 있는 외부 강연자들을 초청하여 생명과학과 사회의 관련에 대한 강연과 토론 시간도 가집니다. 이 강의는 자연과학 전공자뿐만 아니라 생명과학, 생명의학의 사회적 역할과 영향에 대해 관심있는 학부생들을 대상으로 한다.

This course explores the changing relationships between the recent life sciences and society, addressing broader cultural, moral, and policy-related issues, such as science and gender, commodification and digitalization of life, science policy and bioethics, local networks and trans-national exchanges, and changing identity of life scientists. We will pay particular attention to how the “molecular revolution” in the recent life sciences has transformed our representations of life and disease, behavior and destiny, race and identity. This course, by inviting scientists and medical doctors, covers some of the seminal developments in the history of the recent life sciences, exploring the transformation in conceptual tools and research practices.
간호대학
College of Nursing
This course is designed to enable students to obtain theoretical knowledge of human development, and physical/psychosocial aspects of each developmental stage. Students explore the concepts of health and illness and strategies of health promotion for each developmental stage.
811.220* 병원미생물학 2-2-0

Microbiology in Nursing

병원성 미생물에 대한 전반적인 지식을 습득하여 임상에 종사할 때 활용할 수 있는 식구지식을 습득하게 한다.

이 과목은 재활을 요하는 건강문제에 직면하고 있는 만성질환자와 비전염성질환자, 생활방식 및 건강요구에 중요한 특성을 이해하는 데 도움이 된다.

This course introduces students to the study of the basic concepts and current knowledge of medical microbiology. Its aim is to provide students with an understanding of the basic and clinical aspects of medical microbiology so that they can put this knowledge to practical use in their professional lives.

811.221* 약물기전과 효과 2-2-0

Pharmacology in Nursing

질환 및 환자의 특성에 따른 약물치료의 기전 및 원리를 이해하고 각 약물 투여시 간호의 책임을 습득한다. 약물에 따라 투여 전제, 용량과 다른 약물과의 상호작용에 대한 원리를 이해하는 데 그 목적이 있다.

This course will provide students with the theoretical basis of the physiologic actions, expected therapeutic effects, major side effects, and implications of drugs used in nursing.

811.222* 의사소통/인간관계 및 실습 3-2-2

Communication/Interpersonal Relationship & Lab.

본 과목은 간호사-환자 관계 수립과 유지에 근간이 되는 인간 이해에 대한 기본 이론 학습을 통하여 학생이 자립 및 간호 대상자에 대한 이해를 도모하고, 의료의 인간관계 및 의사소통술에 관한 지식을 함양함과 동시에 모의상황을 통한 치료적 인간관계 및 의사소통 실습의 기회를 갖게 하여 그 능력을 배양한다. 또한 학생으로 하여금 집단 및 간호조직에서의 의사소통에 대한 이론과 실제를 익히게 하는 과목이다.

This course provides students with the basic concepts of therapeutic communication and interpersonal relationships as the fundamental tools in nursing. The topics studied include: principles of self-understanding; therapeutic communication; and therapeutic interpersonal relationships.

811.320* 지역사회간호학 2 2-2-0

Community Health Nursing 2

이 과목은 지역사회간호학 1에 이어서 지역사회에서 건강요구가 높은 영유아집단, 모성집단, 전염성질환자와 비전염성 질환자 집단을 사례단위로 하여 임상보건의학에 초점을 두어 간호과정을 적용할 수 있는 이론과 간호실무를 제시한다. 또한 지역사회 안전성 행성 집단과 환경에 대한 이해와 환경, 연구집단의 건강과의 관계를 파악한다.

Utilizing the principles of health promotion, environmental health, and epidemiology, this course provides students with comprehensive knowledge of primary health care. Through the course, students will come to apply the nursing process to various groups and settings including maternal and child groups, chronic disease groups, and school and industrial populations.

811.322* 재활간호학 및 실습 3-2-3

Rehabilitation Nursing and Practicum

본 과목은 재활을 요하는 건강문제에 직접하고 있는 반성질환자와 장애인을 이해하고 간호과정을 적용할 수 있는 능력을 기르기 위한 과목이다. 과목 내용은 재활의 이론적 배경과 재활대상자 현황 및 관리상태를 파악하고 재활대상자의 요구에 맞는 적절한 간호수단의 적용방법으로 구성되어 있다.

This course is intended to help students to understand the needs of rehabilitation nursing and to apply the rehabilitation process to patients with clinical illnesses and disabilities. The main topics studied include rehabilitation and common rehailitation disorders. Students will participate in clinical experiences at rehabilitation centers.

811.323* 간호정보학 및 실습 2-1-2

Nursing Informatics & Practicum

본 과목에서는 컴퓨터와 인터넷의 구성요소, 간호정보학의 개념, 간호정보시스템, 간호교육, 간호연구, 간호실무, 간호행정에서의 정보기술 활용에 대해 다루고 있다. 또한 본 과목에서는 컴퓨터의 조직과 복잡한 안전성 및 인터넷의 활용방법을 취해 간호정보학이 가르치는 정보의 표준화 문제와 사생활 보호 및 자료보안에 대해 다룬다.

In this course, students will be introduced to the terms and concepts basic to nursing informatics as well as the Internet. In addition, an overview of the nursing uses of information systems will be provided. The course covers the most common applications of nursing informatics to clinical nursing practice, nursing education, nursing administration, and nursing research. It will also provide students with an insight into the practical aspects of the infrastructure elements of the informatics environment.

811.324* 성인건강간호학 1 4-4-0

Adult Health Nursing 1

이 과목에서는 성인의 건강유지 및 질병복복과 관련된 간호문제의 위험요인, 관련 질병 및 상태를 이해하고 그에 대한 간호과정을 설계한다. 학생들은 강의를 통하여 종양, 위장관련, 간담관계, 순환관계, 내분비관계, 피부질환과 같은 대상자의 신체적, 사회적, 심리적 문제들을 파악하여 전인적인 간호를 수행할 수 있는 지식을 습득한다.

In this course, students will examine the risk factors, related diseases, and theoretical bases of adults’ health and nursing problems so as to provide holistic nursing care. The physical, psychological, and social aspects of patients with oncological, gastrointestinal, cardiovascular, endocrine, or dermatologic diseases are the main areas of study. In addition, nursing diagnoses and nursing interventions in the nursing process will be emphasized.
811.326* 성인건강간호학 2 3-3-0

Adult Health Nursing 2

본 과목은 성인의 산소교환장애, 소변배설장애, 감각 및 신경조절 장애, 활동장애와 관련된 간호문제 해결하기 위한 간호과정을 적용할 수 있는 학생의 능력을 함양하기 위한 것이다. 본 과목의 내용은 발병이래를 위한 이론적 배경 및 질병예방, 질병회복 및 건강증진을 목적으로 하는 성인간호학습의 이론과 실제를 다룬다.

In this course, students will learn to apply the nursing process to patients who have problems with oxygenation, urinary elimination, sensory regulation, or locomotion. The course consists of the theoretical basis for understanding the diseases related to above-mentioned health problems and the theories and practice of holistic nursing approaches for the individual, family, and community.

811.327* 성인건강간호학실습 2 3-0-9

Adult Health Nursing Practicum 2

본 과목은 영상배설장애, 감각 및 신경조절장애, 활동장애와 관련된 외과적 간호문제를 가진 환자의 간호과정을 적용할 수 있는 임상적 지식과 테도와 기술을 함양하기 위한 과목이다. 임상실습은 종합병원의 일반외과병동, 신경외과병동, 정형외과병동 및 수술 장이다.

This clinical practicum course will focus on the development of students’ clinical knowledge, skills, and attitude needed to take care of adult patients who have surgical problems with nutritional-eliminatory, sensory, neuro-regulatory, or locomotive functions. Clinical classes will be held in the gastrointestinal, nerurosurgical, and orthopedic units and the operating room of a teaching hospital.

811.328* 아동건강간호학 3-3-0

Child Health Nursing

본 과목은 아동 건강 및 간호의 이론적 기초지식으로서 건강 및 만성 환자와 그 가족의 간호과정에 관한 간호의 개념화, 조치 및 저식을 통합하는 데에 초점을 두었다. 아동과 가족의 상황 및 발달의 개념을 강조한다.

This course will focus on conceptualizing, organizing, and integrating knowledge related to the nursing process of children and families in acute and ambulatory care settings. The application of concepts of growth and development of the child and the family will be emphasized.

811.329* 아동건강간호학실습 3-0-9

Child Health Nursing Practicum

본 과목은 아동-청소년의 안속성상에 있는 아동의 간호실습환경에서 장단기 간호간호환경 속에 있는 아동에게 간호과정을 적용함에 있어 아동의 간호에 적절한 간호중재 개발에 초점을 두었다.

This clinical course will focus on developing students’ nursing intervention skills specifically for the nursing care of children in short-term and long-term health care settings. Students will practice the application of the nursing process to infants and children who are on the wellness-illness continuum.
간호대학(College of Nursing)
간호학과(Dept. of Nursing)

811.403* 간호연구개론 2-2-0
Introduction to Nursing Research
간호연구에 대한 단계적 지식을 학습함으로써 간호연구의 필요성을 이해하고 논문평가능력과 심화에 적용할 수 있는 능력을 습득하기 위한 과목이다.

In this course, students will study the process of writing basic nursing research proposals in the fields of their interest and critique studies for application to the nursing practice.

811.409* 간호관리학 3-3-0
Nursing Management
본 과목은 간호관리의 기능인 기획, 조직, 의사결정, 지휘와 지도성, 통제에 대한 이론을 모든 간호현장에 적용하여 간호업무를 관리할 수 있어야 한다.

In this course, student will study the principles and concepts of nursing management, the management process (planning, organizing, staffing, directing, and controlling), and the role of the nurse manager. In addition, they will come to understand and develop the skills of the nurse manager in the health care system.

811.410* 간호관리학실습 3-0-9
Nursing Management Practice
본 과목은 우리나라 보건의료 체계 내에서 간호과정과 간호관리과정을 통하여 간호관리자(하위, 중간, 상위계층)로서 역할을 효과적으로 수행하는데 있다.

In this course, students will study and carry out the role of the nurse manager on the first, middle, and top levels in nursing organizations. In addition, they will learn to implement the nursing process and the nursing management process in the health care system.

811.416* 간호특론 2-2-0
Advanced Nursing
간호학의 학문적 특성과 전문직으로서 사회적 책임을 의료사회적 요구, 정치, 경제, 주민건강의식 변화 및 사회 정책개발의 역동적 관계 속에서 조명하고, 간호학의 발전적 방향을 모색해 보는 과정이다.

In this course, students will examine the dynamic nature of nursing as an academic and professional discipline in national, international, political, socioeconomic, cultural, and technological terms.

811.421* 간호연구실습 1-0-2
Practice in Nursing Research
간호연구에서 학습한 내용을 기초로 실제 간호연구문제를 찾아내고, 그 문제해결방법론에서 연구내용을 추적하며 그 연구과정에 대한 연구과정과 학습하여 간호과학자의 기본자세를 이해하기 위한 과정이다.

On the basis of the knowledge and skills acquired in Introduction of Nursing Research, students will formulate research problems, search for related literature, and conduct research in groups in this course so as to train themselves as future nursing scientists.

811.422* 간호윤리세미나 1-1-0
Seminar in Nursing Ethics
보건의료, 간호현장에서 전문간호사가 경험하는 윤리적 문제를 파악하고, 이를 관리, 해결하는 윤리적 의사결정과정을 논의함으로써 간호사의 도덕적 수준을 높일 수 있는 과목이다.

In this course, students will identify and discuss the problems of and alternatives to ethical dilemmas that nurses experience in health and nursing practice. Through the course, students will be able to elevate their moral levels as future nurses.

811.423* 정신건강간호학 2 2-2-0
Psychiatric Mental Health Nursing 2
아동, 청소년, 성인 및 노인의 정신적 문제를 이해하기 위한 기초적 개념, 즉 정신의학적, 의료적, 윤리적 관계, 행동측면 등 정신간호학의 학습과 또한 가족과 지역사회 간호전달에 대한 간호요원의 학습한다. 나이가 간호대상자의 이상행동 문제해결을 위해 최근의 정신간호 과정의론에 관한 지식을 습득하여 적용한다.

In this course, students will study and apply selected theories and principles relevant to the nursing process of socio-socially deviant adolescents, children, and the elderly.

811.424* 정신건강간호학실습 3-0-9
Psychiatric Mental Health Nursing Practicum
본 과목은 치료적 의사소통술, 치료적 대인관계술, 그리고 정신간호학에 대한이론을 정신간호학자에게 적용함으로써 정신, 정서적으로 정상화도가 있는 아동, 청소년, 성인, 노인 및 가족을 대상으로 정신건강을 증진하고, 예방하여 정신건강자로 간호하는데 필요한 지식, 태도, 기술을 습득하는 임상현장학습이다.

In this course, students will clinically apply the nursing process to psychiatric mental health nursing in diverse care settings—children’s and adolescents’ psychiatric wards, adults’ psychiatric wards, and day hospitals.

811.425* 출산기가족간호학 3-3-0
Child Bearing Family Nursing
출산기 가족에서 여성의 임신, 분만, 산후로 중심으로 일어나는 정상과 비정상적인 신체적, 심리적, 사회적 변화를 이해하고, 출산기 가족중심으로 간호문제를 사정, 진단, 중재, 평가한다.

In this course, students will study the nursing process specifically for the physical and psychosocial needs of childbearing and pregnant women and their families.

811.426* 출산기가족간호학실습 3-0-9
Child Bearing Family Nursing Practicum
가족을 중심으로 여성의 생식기와 관련된 건강문제 및 임신, 분만, 산후기간과 신생아의 건강을 사정하고 간호진단하여 필요한 간호를 중재하고 평가할 수 있다.

In this course, students will clinically experience and demonstrate the role of the professional nurse for childbearing and pregnant women and their families.
811.430  School Health Nursing Theory & Practicum

This course will cover the principles and skills of being a school nurse. The students will familiarize themselves with the school health programs and nursing systems. They will then assess health issues of each school as well as conduct and evaluate nursing plans.

811.436  Critical Care Nursing and Practicum

This course focuses on practice of basic nursing skills and effective leadership skills through identifying nursing problems with critical patients and their families. It includes timely interventions as well as skills to handle high-tech medical devices.

811.437  Health Care System and Nursing Policy

This course will improve their ability to develop nursing policies and effective leadership skills through identifying and analyzing the current situations in the health industry. Special focus will be placed on issues concerning nursing such as the nursing services, its policies and health facilities. Students will thus be able to understand the relationship between power and politics in policy process.

M1991.000500  Family Health Nursing

Applying the nursing process through the use of the nursing classification system, students will focus on the theoretical frameworks of the family in this course. In addition, they will have an opportunity to take care of families with various health problems in accordance with their respective developmental stages.

M2186.000300  Introduction to Professional Nursing

The objective of this course is to provide an understanding of the nature of professional nursing in historical perspectives and considers influential historical events to the nursing profession and the philosophy of nursing.

M1991.000800*  Fundamentals of Nursing 2

This course focuses on the theoretical concepts and clinical skills required for the student who begins learning the practical nurse's role. Nursing process will be introduced as a framework for organizing the care of patients. Contents include wound care, cardiopulmonary resuscitation, enteral nutrition, elimination, oxygenation, airway management, and medication administration.

M1991.000900*  Fundamentals of Nursing Practicum 2

This course focuses on practice of basic nursing skills through performance in laboratory. Contents include clinical skills about wound care, cardiopulmonary resuscitation, enteral nutrition, elimination, oxygenation, airway management, and medication administration. Upon completion of this course, the student will be able to demonstrate beginning competence in providing care for clients who experience common health stressors.

M1991.001200*  Anatomy and Physiology in Nursing 1

In this course, students will acquire comprehensive knowledge of human structure and physiologic functions through lectures and laboratory experiments. The information obtained in the course will prepare students for courses in pathophysiology, pharmacology, and clinical nursing.
간호대학(College of Nursing)  : 간호과(Dept. of Nursing)

M1991.001300* 인체구조와 기능 2  2-2-0

Anatomy  and  Physiology  in  Nursing  2

인체구조와 기능 1에 이어 인체를 구성하는 각 기관들의 기본적인 구조와 기능에 대한 지식을 습득하며 각 기관의 고유한 생리적 기능을 이해하며 각 기관들 간의 형태학적 연관성 및 기능적 연관성을 이해하는 데 그 목적이 있다.

In this course, students will acquire comprehensive knowledge of human structure and physiologic functions through lectures and laboratory experiments. The information obtained in the course will prepare students for courses in pathophysiology, pharmacology, and clinical nursing.

M1991.001400* 병태생리학 1  2-2-0

Pathophysiology 1

학생들은 본 과목을 이수한 후 질병발생의 원인 및 발생과정에 관한 기본개념을 습득하고 질병발생 기전을 이해한다.

In this course, students will acquire a comprehensive theoretical foundation of phenomena that produce alterations in human physiologic functions, etiologies of disease, and mechanism of disease process. The information obtained in the course will prepare students for clinical nursing courses related to the diagnosis and management of the disease process.

M1991.001500* 병태생리학 2  2-2-0

Pathophysiology 2

학생들은 본 과목을 이수한 후 질병발생의 원인 및 발생과정에 관한 기본개념을 습득하고 질병발생 기전을 이해한다.

In this course, students will acquire a comprehensive theoretical foundation of phenomena that produce alterations in human physiologic functions, etiologies of disease, and mechanism of disease process. The information obtained in the course will prepare students for clinical nursing courses related to the diagnosis and management of the disease process.

M1991.001600* 기본간호학 2  2-2-0

Fundamentals of Nursing

본 교과목은 간호학 입문과목으로 간호사 역할에 필요한 기본 간호 이론과 수기에 대한 지식을 다루는 과목이다. 또한 학생들은 간호과정을 화자 간호의 틀로 활용하는 법을 배ует.

This course focuses on the theoretical concepts and clinical skills required for the student who begins learning the practical nurse's role. Nursing process will be introduced as a framework for organizing the care of patients.

M1991.001700* 기본간호실습 1  0-2-0

Fundamentals of Nursing Practicum

본 교과목은 기본간호학에서 배운 지식과 기술을 임상에 적용하기 위한 실습과목이다. 학생들은 실습실에서 기본간호실습을 연습함으로써 화자 간호에 필요한 기초적 간호역량을 함양할 수 있다. 교과의 주요내용은 간호사정, 간호진단, 상처 간호와 식도관 성립, 영양, 배설, 산소간호, 투약에 대한 기술을 실습하는 것이다.

This course focuses on practice of basic nursing skills through performance in laboratory. Contents include human needs, concepts of health assessment, clinical skills about wound care, cardiopulmonary resuscitation, enteral nutrition, elimination, oxygenation, airway management, and medication administration. Upon completion of this course, the student will be able to demonstrate beginning competence in providing care for clients who experience common health stressors.

M1991.001800* 인간관계와 의사소통 2-2-0

Interpersonal Relationship & Communication

본 교과목은 간호사-환자 관계 수립과 유지에 근간이 되는 인간 이해에 대한 기본 이론 학습을 통하여 학생 자신 및 간호 대상자에 대한 이해를 도토하고, 치료적 인간관계 및 의사소통에 관한 지식을 함양함과 동시에 모의상황을 통한 치료적 인간관계 및 의 사소통 실습의 기회를 갖게 하여 그 능력을 배양한다. 또한 학생으로 하여금 집단 및 간호조직에서의 의사소통에 대한 이론과 실제를 익히게 하는 교과목이다.

This course provides students with the basic concepts of therapeutic communication and interpersonal relationships as the fundamental tools in nursing. The topics studied include: principles of self-understanding; therapeutic communication; and therapeutic interpersonal relationships.

M1991.001900* 보건커뮤니케이션과 건강교육 2-2-0

Health Communication and Health Education

본 교과목은 간호대상자인 개인, 가족, 집단의 건강증진을 위하여 간호실습 현장에서 건강교육 및 상담하는 능력을 기르기 위한 과목이다. 특히 본 교과목은 전통적인 건강교육의 원리 및 전략에 대한 이해와 더불어, 최근 증가하고 있는 대중매체 기반 건강정보의 효과적인 전달을 위한 전반적인 보건커뮤니케이션에 대한 이해 (예: 취약계층 접근 전략, 특정 건강이슈에 대한 대중의 관심을 일으키는 전략, 다양한 세팅에서의 효과적인 커뮤니케이션 역량 강화 전략 등)를 포함한다.

This course is designed to enable the students to educate and counsel individuals, families (or groups) and community. This course primarily includes the traditional contents of health education (e.g., the theoretical backgrounds of health education, counseling, the principles of teaching and learning). In addition, with increased dominance of mass and digital media, this course covers effective health communication strategies that grows increasingly relevant (e.g., reaching vulnerable and under-served populations, engaging communities or the general public on specific health conditions, and increasing capacity for effective communication in diverse settings).

M1991.002000* 여성건강간호학 3-3-0

Women's Health Nursing

여성건강간호의 개념과 여성건강 간호 사정을 이해하고, 생식기 질환을 지난 여성, 임신과 분만, 출산 후 여성(가족 포함), 영년기 여성, 그리고 심리사회적 건강문제를 지난 여성 위한 간호과정을 학습한다.

Students will understand the concepts related to women's health and nursing assessment of the clients, and will learn the nursing process focusing on women and family during pregnancy-labor and childbirth-postpartum period, and on women with gynecological problems, climactic transition, and psychosocial needs.
Women's Health Nursing Practicum

Students will study and apply selected theories and principles relevant to the nursing process of mentally ill children, adolescents, adults, and older adults.

Community Health Nursing

This course emphasizes the theoretical background of community health nursing, health care system and health policies. Students will be able to formulate the community health nursing diagnosis as the basis for nursing interventions to maintain and promote health, prevent diseases, and evaluate the community health care with community partnership. In addition, utilizing the principles of health promotion, environmental health, and epidemiology, this course provides students with comprehensive knowledge of primary health care. Through the course, students will come to apply the nursing process to various groups and settings including maternal and child groups, chronic disease groups, and school and industrial populations.
evaluations to examine their clinical nursing competence including critical thinking, basic nursing skills, and effective communication.

M1991.002900 인간발달 3-3-0

Human Development

The objective of this course is to provide students with the understanding of the influence of various cultures on health and role of nurses in the health care system.

M1991.003000 여성의 생애주기별 건강과 간호 3-3-0

Nursing Care for Women across the Life-course

The objective of this course is to provide students with the understanding of the influence of various cultures on health and role of nurses in the health care system.

M1991.003100 생애주기별 건강증진 3-3-0

Health Promotion across the life-course

The objective of this course is to provide students with the understanding of the influence of various cultures on health and role of nurses in the health care system.

M1991.003200 다문화사회의 이해와 간호 3-3-0

Sociocultural diversity and nursing

The objective of this course is to provide students with the understanding of the influence of various cultures on health and role of nurses in the health care system.
technologies, employing high touch, and providing personalized care within a person-centered approach.

Comprehensive Nursing Practice

This course aims to help students to learn comprehensive nursing practice newly emerged and provided for individuals, families, and populations with specific needs for nursing care in health care institutions and communities, on the basis of their knowledge and experience gained from previous nursing core courses. Students will learn the roles of nurses and contributions of nursing services to the society that have been developed in response to social and demographic changes, and health care policies.

Emergency Nursing Practice

The aim of this course is for students to understand the emergency medical services system operated in accordance with the national law, become familiar with current nursing practices in the specialized area of emergency nursing care, acquire the knowledge required to examine and solve patients’ physical and psycho-social nursing problems under specific conditions, and learn the competencies and roles of emergency nurses who save patients’ lives and reduce the risk of serious sequelae by providing safe and high-quality nursing care to emergency patients.
경 영 대 학
College of Business Administration
251.101* Principles of Management

This course is designed for discussing various issues related to intermediate financial accounting, and is for students who have previously taken Principles of Accounting. The course will address various issues and problems encountered by managers who produce financial information. Upon completion of this course, the students are expected to be able to interpret financial statements and to extract information useful for decision making. Conversely, the students should be able to prepare financial statements when raw financial data are given. They are also expected to be able to express with confidence, both orally and in writing, the theories and concepts discussed in this course.

251.204A Intermediate Accounting I

This course lets students understand various factors that affect the characteristics and behavior of an organization and its employees. By doing so, students will learn the way to effectively manage individuals, groups, and the organization. Learning the concepts and methods to simultaneously increase the satisfaction of employees and the effectiveness of an organization is the purpose of this course.

251.214 Business Law

Business Law is the abstract terminology which represents general laws concerning the enterprise and there is no such law in Korea. This course is intended to provide the students with knowledge on private law and regulation concerning the business administration. The following topics will be lectured: First, the basic concepts of civil law and commercial

한국학회의 기초원리로서 회계순환과정을 이해하기 위한 기초과정으로서의 회계의 전체조건 및 회계원리와 자산, 부채, 소유주지분, 수익, 비용, 이익의 개념과 회계의 기술적 구조를 중심으로 공부할 것이다. 기업의 발생부터 재무제표를 작성하기까지 일련의 과정을 중심적으로 설명한 것이다. 이와 아울러 현금 및 현금등가자산, 단기금융상품, 유가증권, 상품, 채권 및 채무, 이자, 유형 및 무형자산 등에 관한 회계처리 및 재무제표의 작성원리 및 보고방법에 관한 설명할 것이다.

The purpose of this course is to provide students with fundamental concepts in accounting, such as accounting postulates, concepts of assets, liabilities, equities, income, expenses, etc. This course will discuss, in particular, the whole accounting cycle from recording business transactions to the preparation of financial statements.

251.207A* Management Sciences

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law which are the building block for understanding the business law; Second, the law and regulations concerning the corporation of typical company form; Third, commercial rules about the notes for money and checks which are the most important payment devices. This course does not have pre-requisites, but the courses such as “Introduction to the Law” and “General Part of Civil Law” would be helpful.

251.301* 재무관리 3-3-0

Financial Management

This course will give students the opportunity to learn the basic concepts, tools and techniques of corporate financial management. The students will learn the structural and functional aspects of financing and investment decisions of a modern corporation. Some major topics include: raising capital from money markets; the cost of capital; analysis and evaluation of investment projects; capital budgeting; management of corporate liquidity; capital structure policy; dividend policy and financing forecasting.

251.303* 인간사례 3-3-0

Human Resource Management

This course provides an overview of the management of human resources in organizations. Topics include human resource decisions dealing with staffing, training and development, performance management, compensation, and employee relations. Emphasis is on: basic theories; problem-solving and decision-making approaches; operational methods, technologies, and practices; application of relevant behavioral science theory and research; and legislation and other environmental constraints having an important bearing on the effective utilization of human resources by an enterprise.

251.305 원가계산 3-3-0

Cost Accounting

This course will deal with organization structure, one of the factors that increase the effectiveness of an organization. After the various perspectives on organizational effectiveness are covered, the meaning, components, and types of organization structure will be discussed. In doing so, the factors that affect the formation of organization structure (e.g., strategy, technology, environment, power) will be discussed in detail. Ways to increase the effectiveness of an organization by the way of designing an effective organization structure will be a major focus of the course.

251.306* 관리회계 3-3-0

Managerial Accounting

This course will deal with organization structure, one of the factors that increase the effectiveness of an organization. After the various perspectives on organizational effectiveness are covered, the meaning, components, and types of organization structure will be discussed. In doing so, the factors that affect the formation of organization structure (e.g., strategy, technology, environment, power) will be discussed in detail. Ways to increase the effectiveness of an organization by the way of designing an effective organization structure will be a major focus of the course.
and customer service. Topics include cost structure analysis, various cost concepts, design methods of various costing systems, strategic decision makings using cost information, and performance measurement systems. This course provides students with contemporary management accounting techniques including ABC, Target Costing, Quality Costing, Lifecycle Costing, Balanced Scorecard, etc. It’s important to know how accounting can contribute to management as a whole.

251.321* 마케팅관리 3-3-0

Marketing Management

Students will be exposed to underlying marketing strategy formation and component decisions of pricing, product planning, advertising, promotion, distribution, and personal selling. Students will study the major phenomena underlying functional decision making in global industries. In the first part, it will provide basic concepts and knowledge about the internationalization of corporations and the international business environment. Next, it will examine the relationship between industry environment and globalization. Furthermore, it will give students opportunities to analyze the mode of entry into foreign markets and the stages of globalization. Finally, it will give students opportunities to analyze the mode of entry and the stages of globalization. This course provides a comprehensive understanding of financial accounting and problem-solving abilities for students who have already taken Principles of Accounting and Financial Accounting. This course deals with the theory and applied problems from all areas in financial accounting.

251.322 국제경영 3-3-0

International Business Management

This course is designed for the study of corporate strategies in global industries. In the first part, it will provide basic concepts and knowledge about the internationalization of corporations and the international business environment. Next, it will give students opportunities to analyze the mode of entry into foreign markets and the stages of globalization. Furthermore, it will examine the relationship between industry environment and globalization. In the last part, it will deal with issues about functional decision-making in global industries.

251.323 기업재무론 3-3-0

Corporate Finance

This course provides a comprehensive understanding of financial management and its applications to corporate decision making. Topics include financial statements, foreign currency translation, derivatives, and so on. The course focuses on the effective use of information technology in business management. The aim is to assist the student in becoming an intelligent consumer/user of information systems. Toward this end, the specific learning objectives for this course are: 1) to understand the basic language of information systems, 2) to analyze the roles and responsibilities of a manager in the design and implementation of information systems, and 3) to discuss how information systems affect the work of an individual and the competitive strengths of an organization.

251.324A 중급회계 II 3-3-0

Intermediate Accounting II

This course provides a comprehensive understanding of financial accounting and problem-solving abilities for students who have already taken Principles of Accounting and Financial Accounting. This course deals with the theory and applied problems from all areas in financial accounting.

251.325 고급회계 3-3-0

Advanced Accounting

This course provides a comprehensive understanding of financial accounting and problem-solving abilities for students who have already taken Principles of Accounting and Financial Accounting. This course deals with the theory and applied problems from all areas in financial accounting.

251.326* 경영정보론 3-3-0

Management Information System

This course focuses on the effective use of information technology in business management. The aim is to assist the student in becoming an intelligent consumer/user of information systems. Toward this end, the specific learning objectives for this course are: 1) to understand the basic language of information systems, 2) to analyze the roles and responsibilities of a manager in the design and implementation of information systems, and 3) to discuss how information systems affect the work of an individual and the competitive strengths of an organization.

251.327 소비자행동 3-3-0

Consumer Behavior
소비자 행동 지식을 전력적으로 활용하는 방안을 모색하게 된다.

The purpose of this course is to provide knowledge about how consumers make a decision to buy products or services, and how managers make an effective marketing decision using the knowledge.

Students are required to carry out projects based on case studies and in-depth interviews, thereby learning the strategic application of this knowledge.

251.328 경영학특강 3-3-0

Special Topics in Management


The field of “management” has shown the most significant improvement both in theory and practice in the 21st century. Therefore, the experimental class “Design Management” attempts to link those two important fields, management and design, so that students can learn the strategic application of this knowledge.

251.331B 네트워크비즈니스경영 3-3-0

Managing Networked Business

이 강좌는 비즈니스 경영에 있어서 정보통신기술과 인터넷 비즈니스와 같은 네트워크효과를 보이는 해결과제에 중점을 두는 데, 네트워크 효과란 네트워크 내부에서 서로 상호작용하는 사용자들에 의해 네트워크 가치가 결정된다는 의미이다. 상호작용은 네트워크를 통해 상호작용하는 사용자들에 의해 요구되는 기반구조(Infrastructure), 표준 그리고 규칙들을 포함하는 플랫폼에 의해 조정된다.

This course focuses on management challenges in businesses that exhibit network effects such as telecommunication and internet businesses. Network effects are evident when a network’s value to any given users depends on the number of other users with whom they interact. Interactions are mediated by a platform that encompasses the infrastructure, standards, and rules required by users to interact through the network.

251.332 현대경영이론 3-3-0

Contemporary Management Theories

이 과목에서는 다양한 현대 경영이론 및 이슈들을 지식(K: Knowledge), 자원(R: Resource), 권력(P: Power)의 통합적인 관점에서 논의한다. 지식이란 기업이 당면한 문제를 진단하고 해결하며, 문제를 해결할 수 있도록 개입을 행하는 데에 유용하게 활용될 수 있는 알고 있는 것을 지칭하고, 자원이란 기업의 경영활동 중에 필요한 모든 요소를 지칭하며, 권력이란 일반적으로 어떤 특정조직이나 개인이 사회적 관계를 갖고 있는 상태권에 대해 자신의 의사결정할 수 있는 영향력의 정도를 의미한다.

This course discusses various contemporary management theories and issues from looking synthetically at K (knowledge), R (Resource), and P (Power). Knowledge is the known things which are applied to diagnose and interpret problems being faced, in order to solve problems. Resource is the elements with which businesses carry out management activities. Power is the extent of influence that one (organization; person) has in getting one’s demands to the other.

251.335 재무제표분석과 기업가치평가 3-3-0

Financial Statement Analyses and Firm Valuation

본 과목에서는 기업가치평가를 하기 위한 여러 방법론들을 공부하고, 공부한 방법론을 실제 기업의 사례에 적용하여 기업가치를 직접 해보게 된다. 재무제표를 분석하고, 재무제표 및 기업의 연차보고서에서 필요한 정보를 발전하여 기업의 가치와 현금흐름을 예측하고, 이를 이용하여 기업의 가치평가를 하는 다양한 방법학습을 한다. 전략 관리회사나 회계법인의 컨설팅이나, 증권회사 및 투자은행 등지의 애널리스트 분야에 진출할 학생들에게 적합한 과목이다.

This course studies the various ways to evaluate firm values, and how to apply the methods to real cases. First, students learn how to analyzing financial statements, find out necessary information from financial statements and annual report, and predict future earnings and cash flows by using the information. Finally, using the predicted information, students will learn how to evaluate the price of a firm.

251.336 공급사슬관리 3-3-0

Supply Chain Management

공급사슬관리의 목표는 제품이나 서비스와 관련하여 적절한 가격을 수준을 결정하고, 이를 최대화하거나 비용을 최소화하는 방법으로 공급사슬망을 구축하는 것이다. 본 과목은 국제적인 수준에서의 공급사슬 관리에 중점을 두고, 물적 유통과 다른 기능적 영역이 동일한 의사결정을 논의하며, 운영가능성을 높이기 위해 다양한 사례를 분석한다. 더 나아가 공급사슬상 기업간의 전자거래에 관하여 논의해 본다.

Supply Chain Management focuses on managing material and information outside of the factory walls including aspects of product design collaboration, demand planning and forecasting, inventory deployment, distribution system design, channel management, procurement, and logistics. The course studies classic and contemporary issues in supply chain strategy and management. Topics include the strategic role of the supply chain, methodologies for designing and planning a supply chain, and issues in the management of supply chains.

251.338 기업과 경력개발 1-0-2

Preparation for the Corporate World

본 강좌는 수강자들로 하여금 교육과정에 있어 새로운 전문성을 갖추고자 하는 학습 영역을 제공하여 이 과정에 통합하기하여 학생들이 경력개발을 준비하는데 기초를 닦을 수 있도록 도와주는 것을 목표로 한다.

1. 학생들이 보다 완성된 실무 태도와 균형 감각을 갖추어 독립적 고객서비스 수준을 결정하고, 이를 최대화하거나 비용을 최소화하는 방법으로 공급사슬망을 구축하게 된다. 본 과목은 국제적인 수준에서의 공급사슬 관리에 중점을 두고, 물적 유통과 다른 기능적 영역이 동일한 의사결정을 논의하며, 운영가능성을 높이기 위해 다양한 사례를 분석한다. 더 나아가 공급사슬상 기업간의 전자거래에 관하여 논의해 본다.

2. 비즈니스 마인드를 가진 국제적 경영감을 갖춘 준비된 학생들을 배출할 수 있도록 한다. 학생들은 최종적으로 기업 조직의 가치거는 기반 기준에 적합한 인재로 성장하게 될 것이다. 또한 학생들은 조직 내의 성장경로를 얻게 될 것이며, 경제적으로 그들의 회사나 기관에 보다 많은 기여를 하게 될 것이다.

The aim of this class is to prepare students for the development of their career in the future.

1. This class will help students to build successful career
experiences with a ready-to-work business mind in the global corporate world.
2. This class will foster business-oriented students to have extraordinary insights into international business. Consequently, students will become corporate leaders who can survive in tangled business world.

251.339 Insurance and Risk Management

Insurance and Risk Management

This course will study the fundamentals of insurance and risk management. It focuses on the efficient design of risk transfer/sharing mechanism, resolution of information problems, and the organization and functions of insurance markets.

251.340 Corporate Governance and Investment Ethics

Corporate Governance and Investment Ethics

This course is intended to provide the students with a general framework of understanding the factors that affect firm value when the interests of the management and the investors are not perfectly aligned. Thus, we are explicitly relaxing the basic assumption of no agency costs of Miller and Modigliani, and enter a world where ‘corporate control’ has a distinct value. Through the course, the students will be introduced to various internal and external mechanisms that have been designed to mitigate the conflicts of interests in large publicly traded firms and understand how effective they are in various countries around the world in terms of firm performance and investment value.

251.401 Auditing

Auditing

This purpose of this course is to systemically analyze auditing theory and enhance the students' understanding of modern auditing. Auditing is necessary not only to corporations, but also to governments, hospitals, schools, and so on. In short, auditing is essential to all organizations. This course deals mainly with auditing problems with corporations, but the basic principles apply to all organizations.

251.402 Tax Accounting

Tax Accounting

This course provides an overview of tax accounting: it examines the National Tax Basic Law, the Corporate Tax Law, Income Tax Law, and Value Added Tax Law. After taking this course, students are expected to be able to make year-end tax adjustments as well as prepare a tax plan for a company.

251.411A Marketing Research

Marketing Research

This course is designed for the study of basic structures and pricing theories for financial derivatives such as options, futures, forward, and swap contracts. Students will also discuss real-world applications of these derivatives to arbitrage transactions, and risk management. Topics include basic pricing theories for the derivatives, arbitrage vs. hedge transactions, bond pricing, duration, term structure of interest rates, interest rate derivatives, binomial option pricing model vs. Black-Scholes model, implied volatility, numerical analysis, exotic options, market risk vs. credit risk, and several cases of financial risk management.
Investments

This course is intended to provide students with the necessary background in both the theory and practice of investment decision making, which involves choosing and evaluating investment portfolios. It is designed to provide a conceptual framework with which one can view the investment decision making, which involves choosing and evaluating investment portfolios. Naturally, the course should be of most use to those who think of portfolio management, investment advisory services, and security analysis as their career opportunities.

Naturally, the course should be of most use to those who think of portfolio management, investment advisory services, and security analysis as their career opportunities.

The purpose of this course is to examine the role of advertising in business activities. It covers not only the strategic issues of advertising but also the practical issues. The course will use several teaching aids such as cases, articles, news clippings, and videos. Students will participate in a group project that involves a creative design of an ad campaign.

Industrials Relations

This course provides useful perspectives for solving many problems of employment relations in organizations, such as government status and 3) a new paradigm for industrial relations based on general accepted theories.

This course focuses on a systematic and realistic understanding of effective responses to complex and dynamic changes in global business environments.

Corporate Strategy

This course will provide fundamental concepts and frameworks of strategy formulation and implementation to create sustainable competitive advantages. Students will gain strategic insights by applying techniques taught in the classes to case analyses. By the end of the course, students are expected to know how to recognize the important factors in the external environment and understand the managerial process of establishing feasible and concrete strategies based on the resources and capabilities of firms.
경영대학 (College of Business Administration)

251.434 기업경영특강 3-3-0
Special Topics in Business Administration

제조업체의 생산과정을 이해하고 있는 학생들에게 정보화의 풀과 방법을 소개하고자 한다. 본 강의에서는 기존의 제조체계 위주로 제안적인 분석을 강조하고 기업의 가치창출능력에 영향을 미치는 다양한 요소에 대한 종합적인 분석을 강조하며, 국내외 주요 산업과 기업에 대한 사례개발 및 분석을 한다.

이 COURSE PROVIDES THE FRAMEWORK AND METHODS OF INFORMATION ANALYSIS FOR STUDENTS WHO UNDERSTAND THE PRODUCTION PROCESS OF ACCOUNTING INFORMATION. IN THIS COURSE, COMPREHENSIVE ANALYSES OF VARIOUS FACTORS AFFECTING CORPORATE VALUE-CREATING ABILITIES ARE EMPHASIZED, RATHER THAN THE MYSTIC APPROACH. THIS COURSE DEALS WITH CASE DEVELOPMENT AND ANALYSIS IN MAJOR DOMESTIC AND FOREIGN INDUSTRIES AND CORPORATIONS.

251.435 정보시스템특강 3-3-0
Topics in Information Systems

본 과목을 정보시스템의 성공적인 개발과 확산에 관련된 이론들을 다룬다. 이를 위해 기술적 동향과 제약점, 표준화, 관련된 산업 이슈들을 포함한다. 이를 통해 정보시스템의 최신 이슈에 기업에 대한 주제들에 대해서 논의할 것이다. 또한, 학생들은 정보시스템 관련 최신 이슈들 배우고, 생산성과 통신 분야의 제약과 산업의 성장에 대해서도 심도 있게 것이다. 이를 통해 기술의 도입부터 사용 및 관리에 이르기까지의 정보 기술에 대한 윤리적, 법적인 이슈들도 다룰 것이다.

The course will enumerate and discuss theories relevant to the successful deployment and diffusion of information systems. Topics will cover technological trends and limits, standardizations, and relevant industrial and organizational issues. The objectives are to develop an advanced understanding of information systems, to understand how they have evolved, and to learn about important key information technologies used by organizations today. This course is designed to explore the current issues in information systems and technologies. The course will examine latest topics in information systems, the growth of the industry and trends in productivity and communications. Additionally, the legal and ethical issues of obtaining, using and managing information technology will be addressed.

251.436 서비스운영관리 3-3-0
Service Operations Management

본 과목은 서비스경영이라는 관점에서 서비스의 개념, 서비스의 개념과 경영전략, 서비스 기업의 구조 및 긴급, 서비스 운영관리, 계약 흐로의 종합, 계약 계약의 제약, 장을 포함한 서비스 경영 전반에 걸친 문제를 제기하고 그 해결책을 논의함으로써, 또한 개발 시스템의 관점에서 서비스 운영, 기업내외의 다양한 기능 영역과의 유기적 관계형성, 서비스 생산성과 품질 향상을 위한 기술 개발, 그리고 기술 전략 계획의 강조를 통해 기업의 환경적 요구에 부응하는 새로운 관점에서의 서비스 경영을 소개한다. 이를 위해 서비스 운영관리의 다양한 이슈를 사례와 함께 공부하며 심층적 관점에서 서비스 경영에 대한 이해를 접근하고자 한다.

Services permeate everyone's daily life, every industrial economy. The importance of services in today's developed economies is an unquestionable fact. This course examines the management of services, focusing on both the strategic and operational aspects of designing new services, assessing and improving service quality, improving the efficiency and effectiveness of service processes, and how new technologies can be integrated into service operations to help achieve these objectives.

251.439 경영정보특강 1-1-0
Special Topics in Management Information System

본 과목의 목적은 경영정보론 과목에서 다루기 어려운 특정 경영정보 주제를 다루는 것이다. 즉, 본 과목에서는 경영정보의 특정 세분 분야를 심층적으로 학습하거나 특정 산업에 특화된 경영정보 개념을 학습한다.

The objective of this course is to introduce special topics in management information system (MIS). It can be an in-depth treatment of a specific area in MIS or an application of MIS to a particular industry.

251.440 국제경영특강 1-1-0
Special Topics in International Business

본 과목의 목적은 국제경영학 과목에서 다루기 어려운 특정 국제경영학 주제를 다루는 것이다. 즉, 본 과목에서는 국제경영학의 특정 세분 분야를 심층적으로 학습하거나 특정 산업에 특화된 국제경영학 개념을 학습한다.

The objective of this course is to introduce special topics in international business. It can be an in-depth treatment of a specific area in international business or an application of international business to a particular industry.

251.442 생산특강 1-1-0
Special Topics in Operation

본 과목의 목적은 생산관리 과목에서 다루기 어려운 특정 생산관리 주제를 다루는 것이다. 즉, 본 과목에서는 생산관리의 특정 세분 분야를 심층적으로 학습하거나 특정 산업에 특화된 생산관리 개념을 학습한다.

The objective of this course is to introduce special topics in operations management. It can be an in-depth treatment of a specific area in operations management or an application of operations management to a particular industry.

251.443 인사조직특강 1-1-0
Special Topics in Organization and Personnel

본 과목의 목적은 인사조직 과목에서 다루기 어려운 특정 인사조직 주제를 다루는 것이다. 즉, 본 과목에서는 인사조직의 특정 세분 분야를 심층적으로 학습하거나 특정 산업에 특화된 인사조직 개념을 학습한다.

The objective of this course is to introduce special topics in organization and personnel. It can be an in-depth treatment of a specific area in organization and personnel, or an application of organization and personnel to a particular industry.
The objective of this course is to introduce special topics in accounting. It can be an in-depth treatment of a specific area in accounting or an application of accounting to a particular industry.

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In the second half of the course, we will look at various topics relevant to practical careers. The objective is for students to acquire the special knowledge and technical skills necessary for working in business and financial accounting.

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This course deals with analytics of fixed income securities and their derivatives. Starting with a short discussion of the structure of the global fixed income securities markets, we will study various interest rates and their relationships. Important concepts such as duration and convexity will be discussed and will be applied to the immunization problem.

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The objective of this course is for students to acquire technical and strategic knowledge on electronic commerce. After this class, students are expected to know how to do...

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The objective of this course is to introduce special topics in accounting. It can be an in-depth treatment of a specific area in accounting or an application of accounting to a particular industry.
businesses using e-commerce technologies with managerial insights. For this purpose, new business models and issues such as social network services, freemium business model and growth hacking will be analyzed and discussed in class. Also, various case studies will be covered in class.

M1338.001700 재무사례연구 3-3-0

Case Studies in Finance

The key objective of this course is to provide the students with a comprehensive overview of the digital marketing and to discuss its main vehicles such as online banner advertising, search marketing, social media marketing, mobile marketing and emerging topics from both theoretical and pragmatic perspectives. As a team project for the course, students will recruit a real business, run search or social media advertising, and submit a final written report.

M1338.002100 디지털 마케팅 3-3-0

Digital Marketing

This course aims to foster global leaders who will lead the development and improvement of communities in the future by providing students with a specialized service opportunity in the business school.

M1338.002300 해외봉사Ⅱ 1-4-50

Global Community Service II

This course aims to provide the students with an in-depth understanding of the digital marketing and to discuss its main vehicles such as online banner advertising, search marketing, social media marketing, mobile marketing and emerging topics from both theoretical and pragmatic perspectives. As a team project for the course, students will recruit a real business, run search or social media advertising, and submit a final written report.

M1338.002400 경영정보연구 1-1-0

Studies in Management Information System

This course aims to foster global leaders who will lead the development and improvement of communities in the future by providing students with a specialized service opportunity in the business school.

M1338.002000 고객경험디자인과 콘텐츠 전략 3-3-0

Customer Experience Design and Content Strategy

This course aims to foster global leaders who will lead the development and improvement of communities in the future by providing students with a specialized service opportunity in the business school.

M1338.002200 해외봉사Ⅰ 1-4-50

Global Community Service I

This course aims to foster global leaders who will lead the development and improvement of communities in the future by providing students with a specialized service opportunity in the business school.
The objective of this course is to develop students' ability to conduct research on MIS for themselves. In this course, students research a specific area of MIS, an emerging technology, or specific industry change.

**M1338.002600 정교 시내나 2-2-0**

Seminar for Graduation

본 강좌는 경영학과 종업생의 전문성과 기술성, 소통 능력, 글로벌 역량, 창의성, 문제해결 능력을 보완하기 위한 수업이다. 수강생은 다음주수의 지도로 받아 학습목표 설정, 기업 프로젝트(learning), 창업 계획서 등의 다양한 형태에 따라 과업을 수행하고 최종 결과물을 발표한다. 수강생이 시 전에 글로벌 인턴십이나 사내경쟁사례에 참가한 경우 보고서나 결과물을 발표할 수도 있다.

Students of College of Business Administration are required to take this course before graduation. This course provides students with an opportunity to develop and enhance creativity, problem solving capabilities, leadership, and communication skills. Participants choose to present academic papers, action learning reports (company projects), start-up proposals, etc. Presentation of results from global internship programs or case competitions are also allowed.

**M1338.002700 펌텍 사례연구 3-3-0**

Case Studies in Fintech

Fintech is the finance (FinTech) is the financial technology, often shortened to FinTech, is the one that brings together financial services and new technologies. This course explores different related topics including intra- and inter-organizational networks, platform economy, organizational innovation, and the value of diversity. The class will involve sessions utilizing corporate case analysis, academic paper reading, network analysis software (R/Gephi), and so on for diverse topics such as R/Gephi, corporate strategy, and business operations.

**M1338.002800 재무기계학습 3-3-0**

Finance and Machine Learning

The purpose of this course is to apply machine learning, a subfield of artificial intelligence (AI), to finance research. Specifically, it begins with understanding various concepts in machine learning such as decision trees and neural networks, and then apply them to finance research.

**M1338.003000 생산서비스운영 3-3-0**

Operations Management

This course focuses on the long-term strategic nature of Operations Management, with special emphasis on the manner in which OM decisions relate to other functions of the firm including engineering, accounting, finance, and marketing. Topics addressed include quality management, supply chain management, facility design, and learning.

**M1338.003300 전략과 조직 3-3-0**

Strategy and Structure

This course will implement the organisation’s strategy? Building on the implementation process perspective of strategic management, the class will study both the official (e.g. org chart) and unofficial (e.g. culture and routine) elements of organizational structure. The course will also explore different related topics including intra- and inter-organizational networks, platform economy, organizational innovation, and the value of diversity. The class will involve sessions utilizing corporate case analysis, academic paper reading, network analysis software (R/Gephi), and social-psychological experiments.

**M2171.000400 위험과 경영 3-3-0**

A Discourse on Risk and Business

This course will develop students’ ability to conduct research on MIS for themselves. In this course, students research a specific area of MIS, an emerging technology, or specific industry change. The course begins with understanding various concepts in machine learning such as decision trees and neural networks, and then apply them to finance research.
Local Community Service & Leadership

This course is designed to provide specialized Local community service opportunities to students for establishing basic concepts and attitudes towards community service in order for them to be nurtured as global leaders who will lead to enhancement and development of the public interest. In this program, undergraduates will have the opportunities to work with a variety of non-profit organizations in their community.

M2171.000700
Accounting Information and Business Decision-making

This course is designed to provide specialized Local community service opportunities to students for establishing basic concepts and attitudes towards community service in order for them to be nurtured as global leaders who will lead to enhancement and development of the public interest. In this program, undergraduates will have the opportunities to work with a variety of non-profit organizations in their community.

M2171.001000
Capital Markets and Accounting

This course is designed to provide specialized Local community service opportunities to students for establishing basic concepts and attitudes towards community service in order for them to be nurtured as global leaders who will lead to enhancement and development of the public interest. In this program, undergraduates will have the opportunities to work with a variety of non-profit organizations in their community.

M2171.001300
Data-Driven Marketing Analytics

This course is designed to provide specialized Local community service opportunities to students for establishing basic concepts and attitudes towards community service in order for them to be nurtured as global leaders who will lead to enhancement and development of the public interest. In this program, undergraduates will have the opportunities to work with a variety of non-profit organizations in their community.
Theory and Practice of Negotiation

Negotiation is the art and science of securing agreements between two or more parties who are interdependent and who are seeking to maximize their outcomes. The purpose of this course is to provide an understanding of the theory and processes of negotiation as it is practiced in a variety of business contexts, including cross-cultural contexts. The course aims to help students develop practical skills for decision making, in particular, in a managerial context.

Economics for Business

This course introduces the fundamentals of economic theory and practice with emphasis on business applications. The students will develop insights into the economic principles and learn quantitative skills for decision making, in particular, in a managerial context.

Strategic Brand Management

This course is intended to expose students to recent strategic issues around branding and brand management, such as
brand experience and engagement, digital and social strategies, disruptive innovations, internal branding, and cultural strategy. As such, this course provides students with managerial insight into some trendy topics about branding. The course primarily uses case discussions as well as lectures.

M1338.000200 벤처창업론 3-3-0

Entrepreneurial Problem Solving

Business Venture and Entrepreneurship

Entrepreneurship is a process of forming a new venture out of opportunities that are neglected in the current and old-fashioned economy and imagined by entrepreneurs. This course covers (1) the macro-level policy issues such as the role of entrepreneurial activities in the growth of national economy and (2) individual and organizational level antecedents of entrepreneurial activities together with detailed case study as well as in-depth understanding of relevant managerial theories. Accordingly, this course is not about running a mom and pop store but about forming and managing a high growing venture for novel opportunities.

M2836.000100 창업론 실습 I 3-3-0

Entrepreneurship Lab (1)

Active in-class learning is not suitable to the development of entrepreneurship, for whatever idea it will be obtained on-the-spot. Therefore, this course is designed to improve these skills and capabilities to identify possible threats and opportunities that arise from the technological trends and to tap into such opportunities or shield themselves against potential threats. This course is designed to improve these skills and capabilities through the state-of-the-art review of the technological trends and the application of diverse functional knowledge such as business strategy, human resources management, finance, marketing, and operations. Students will improve an integrative problem solving skill from this course.

M1338.000300 창업론 실습 II 3-3-0

Entrepreneurship Lab (2)

Entrepreneurship Lab consists of two courses: Lab 1 offered in spring semester and Lab 2 in fall semester. Every student will be a member of a team of up to 10 students to make her own business proposals, once screened positively, to run business on these proposals. As entrepreneurial activities involve the combination and joint-application of diverse functional knowledge such as business strategy, human resources management, finance, marketing, and operations, students will improve an integrative problem solving skill from this course.

M1338.000400 기술 트렌드와 사업기회 분석 3-3-0

Technology & Opportunities

Newly emerging technologies pose a fundamental threat to the success of entrepreneurial activities in the fast-changing market. It is thus important for new entrepreneurs to develop skills and capabilities to identify possible threats and opportunities that arise from the technological trends and to tap into such opportunities or shield themselves against potential threats. This course is designed to improve these skills and capabilities through the state-of-the-art review of the technical trends and the application of relevant models and methods to apply new technologies to entrepreneurial activities. An emphasis is given to actionable knowledge which is obtained from the study of real life business cases and with which students are able to address new business opportunities.

M1338.000600 사회적 기업의 창업 3-3-0

Social Entrepreneurship

Social enterprise is an alternative economic institution and...
social innovation to provide goods and services for the interests of a society in general, i.e., novel social benefits, while leveraging for-profit managerial principles. In doing so, this institution seeks to contribute to apparently conflicting two goals in a balanced manner: social responsibility and economic efficiency. Attention has been increasingly given to this alternative institution as a way of overcoming both the well-known inefficiency of the governmental spending in the social welfare domain and ever-lasting incapacity of non-for-profit organizations to allocate resources efficiently. This course is aimed at examining managerial and policy issues associated with this new economic institution as well as practical solutions to this new form of entrepreneurship.

Proof of Concept

The way that competition unfolds varies across industries. This course will cover how to plan and develop new product for new businesses. To this end, interdisciplinary approach is opted for so that diverse subject areas such as marketing, R&D, and management strategy are dealt with in the course of new product development (NPD). This course will thus address not only the general knowledge of NPD but also the real-life cases as well as actionable solutions to overcome problems associated with NPD.

Special Topics in Entrepreneurship

The importance of teaching programming languages is being emphasized centered around IT advanced countries. This is because the demand on skilled programmers is increasing with the growth of high-tech IT industry and startups. Following the global ICT trend, Korea is also experiencing a rise in startups based on IT technology/service. Hence, web programming courses are becoming an essential part for students who are looking to found startups. This course introduces students whose major is not in Information Technology to some principle concepts of web development, web service project plan and programming languages.

Expanding Opportunities in Business Venture

The wisdom and innovation of this alternative institution as a way of overcoming both the well-known inefficiency of the governmental spending in the social welfare domain and ever-lasting incapacity of non-for-profit organizations to allocate resources efficiently. This course is aimed at examining managerial and policy issues associated with this new economic institution as well as practical solutions to this new form of entrepreneurship.

Creative and Innovation

In this creativity and innovation course, it aims to differentiate firms that possess creative and innovative traits and those that do not. It will focus on the distinctive execution performed by the former firms and learn about the tools for developing creative and innovative minds. In addition, it will utilize various tools to actually apply in the business field and develop capabilities to make a profitable idea. Many of the managers make mistakes that creativity is based upon instinct. However, creativity is a subject that has been studied scientifically for a long period of time. In this course, it focuses on the theoretical mechanism of creativity. Based upon this, it is oriented towards managing creative thinking and acquire diverse tools to develop creativity. Not only these, the structural traits that the various types of innovation and innovative strategies have will be learned through the course, and strategic thinking capability that can create market leading competitive advantage will be cultivated.
guages at an introductory level. The primary goal of this course is to allow students to improve their knowledge of theoretical backgrounds in programming languages and of techniques for managing complex systems.

M2836.000300  벤처창업 웹프로그램밍 2  3-2-2

Web Programming 2 for Entrepreneurship Management

Recent IT-oriented countries stress the importance of programming education at an introductory level. The primary goal of this course is to allow students to improve their knowledge of theoretical backgrounds in programming languages and of techniques for managing complex systems.

M2836.001000  벤처경영학 특강  3-3-0

Special Topics in Venture Management

The importance of teaching programming languages is being emphasized centered around IT advanced countries. This is because the demand on skilled programmers is increasing with the growth of high-tech IT industry and startups. Following the global ICT trend, Korea is also experiencing a rise in startups based on IT technology/service. Hence, web programming courses are becoming an essential part for students who are looking to found startups.

This course introduces students whose major is not in Information Technology to some fundamental concepts of web development at an advanced level.

The primary goal of this course is:

1. To allow students to obtain knowledge that can be applied virtually in startup settings. 2. To allow students whose major is not in Information Technology to overcome any hardship when founding startups by encouraging the students to develop many ideas, to plan web services and to manage projects.

Uncertainty is unavoidable during establishing and managing startups. Most uncertainties and corresponding risks are come from incomplete nature of human activities and dynamic environments around business startups. Thus, field experiences are important as well as knowledge in managing startups. In this class, students will experience and analyze real world startup businesses to acquire abilities to manage businesses under uncertain conditions and environments.
공과대학
College of Engineering
Engineering Mathematics 3

This is an introductory course on mechanical engineering. We will study the basic concepts of Materials, Fluid Engineering, Thermodynamics, Kinematics, Machine dynamics, and Manufacturing.

Introduction to Mechanical Engineering

400.013 기계공학개론 3-3-0

Introduction to Mechanical Engineering

Engineering Mathematics 3

400.015 산업공학개론 3-3-0

Introduction to Industrial Engineering

Introduction to Materials Science and Engineering

400.018 창의공학설계 3-2-2

Creative Engineering Design

400.019A 전기.정보공학개론 3-3-0

Introduction to Electrical and Computer Engineering

400.020 재료공학개론 3-3-0

Introduction to Materials Science and Engineering

This course focuses on the fundamentals of structure, property, and processing of materials that underpin materials science and engineering. It is the introductory lecture class for sophomore students who do not major in Materials Science and Engineering. Topics include: atomic structure & interatomic bonding; structure of crystalline solids; imperfections in solids; diffusion; mechanical properties; dislocations & strengthening mechanisms; phase diagrams; electrical, thermal, magnetic & optical properties of solids; mate-
400.021  정보통신융합 3-3-0

Convergence of Information and Communications Technology

This course introduces an overview of the whole field of energy including conventional and unconventional petroleum resources, and new and renewable energies. Students will learn the definition, history, worldwide consumption structures, and prospect of energy. This course also covers the nature of oil and gas reservoirs, petroleum exploration, drilling, and production. Student will study the characteristics and prospects of new and renewable energies such as solar, hydrogen, geothermal energy as well as biomass and fuel cell.

400.022  건설환경공학개론 3-3-0

Introduction to Civil and Environmental Engineering

This course explores the historical development of architecture and urbanism in Korea. It is categorized into five themes: 1) Residential Architecture 2) Non-Residential Architecture; 3) Foreign architects in Korea, 4) Urbanism in Korea 1; and 5) Urbanism in Korea 2. While discussing architectural and urban artifacts under these five categories, the course illuminates factors that have been influential on the formation of the artifacts: modernization, westernization and colonialism. Along with these factors, the course will also illuminate the relationship among politics, tradition and cultural identity in Korean architecture and urbanism in particular during the post-war period. In addition, the course illuminates diverse trends in architecture and urbanism for the past couple of decades. In discussing the trends, the course clarifies the emergence of a new cultural paradigm in which the typical division between East Asia and the West is challenged and in which architectural and cultural legacies of both worlds are synthesized. While putting the primary focus on Korean architecture and urbanism, this course will thus focus on investigating relevant issues common to both East Asia and the West.

400.023  화학생물공학개론 3-3-0

Introduction to Chemical and Biological Engineering

This is an introductory course on chemical engineering and introduction to energy resources engineering. This course covers the basics of the ICT. Then the convergence between ICT and military technology, car industry, medical services, bio-industry, and culture industry, will be covered in the course. Then the convergence between ICT and other industrial sectors will be covered in the course. This course covers the basics of the ICT. Then the convergence between ICT and military technology, car industry, medical services, bio-industry, and culture industry, will be covered in the course. Then the convergence between ICT and other industrial sectors will be covered in the course.

400.024  에너지자원공학개론 3-3-0

Introduction to Energy Resources Engineering

This course introduces an overview of the whole field of energy including conventional and unconventional petroleum resources, and new and renewable energies. Students will learn the definition, history, worldwide consumption structures, and prospect of energy. This course also covers the nature of oil and gas reservoirs, petroleum exploration, drilling, and production. Student will study the characteristics and prospects of new and renewable energies such as solar, hydrogen, geothermal energy as well as biomass and fuel cell.

400.208  컴퓨터과학 입문 3-45-0

Introduction to Computer Science

This course explores the historical development of architecture and urbanism in Korea. It is categorized into five themes: 1) Residential Architecture 2) Non-Residential Architecture; 3) Foreign architects in Korea, 4) Urbanism in Korea 1; and 5) Urbanism in Korea 2. While discussing architectural and urban artifacts under these five categories, the course illuminates factors that have been influential on the formation of the artifacts: modernization, westernization and colonialism. Along with these factors, the course will also illuminate the relationship among politics, tradition and cultural identity in Korean architecture and urbanism in particular during the post-war period. In addition, the course illuminates diverse trends in architecture and urbanism for the past couple of decades. In discussing the trends, the course clarifies the emergence of a new cultural paradigm in which the typical division between East Asia and the West is challenged and in which architectural and cultural legacies of both worlds are synthesized. While putting the primary focus on Korean architecture and urbanism, this course will thus focus on investigating relevant issues common to both East Asia and the West.

400.212  기술과 창업 3-3-0

Technology and Entrepreneurship

This course explores the historical development of architecture and urbanism in Korea. It is categorized into five themes: 1) Residential Architecture 2) Non-Residential Architecture; 3) Foreign architects in Korea, 4) Urbanism in Korea 1; and 5) Urbanism in Korea 2. While discussing architectural and urban artifacts under these five categories, the course illuminates factors that have been influential on the formation of the artifacts: modernization, westernization and colonialism. Along with these factors, the course will also illuminate the relationship among politics, tradition and cultural identity in Korean architecture and urbanism in particular during the post-war period. In addition, the course illuminates diverse trends in architecture and urbanism for the past couple of decades. In discussing the trends, the course clarifies the emergence of a new cultural paradigm in which the typical division between East Asia and the West is challenged and in which architectural and cultural legacies of both worlds are synthesized. While putting the primary focus on Korean architecture and urbanism, this course will thus focus on investigating relevant issues common to both East Asia and the West.
This course focuses on building a strategy in technology-based start-up organizations, and entrepreneurship capability. The course will cover the following topics: start-up of technology-based ventures, formulation and evaluation of technology strategy in entrepreneurial start-ups, introduction to models of technological evolution, models of organizational dynamics and innovation, and organizational design and leadership in the context of a new and small firm. This course guides students to understand the mechanics of start-ups and to develop competencies for start-ups through case studies and discussion. Students practice the whole process of writing a business plan for new venture, from generating a new idea to presenting their business plan.

400.307 Quantum Mechanics

Introduction to Quantum Mechanics

The goal of this course is to make students understand the quantum mechanical behavior of electrons in conductors and semiconductors. After introducing the difference between quantum mechanical behavior of electrons in conductors and insulators, the electronic transport phenomena, the electronic behavior will be treated as quantum mechanical statistics representing Fermi-Dirac statistics at band theory. This course will be a prerequisite for taking the following courses: Electrical Energy and Systems, Electronic Lasers, Semiconductor Devices, and Integrated Circuits.

400.310 Engineering Technology and Society

Engineering Technology and Society

This course will cover the relation between engineering technology and the development of society. Analyzing the effects of the improvement in technology on society will give the students a sense of value in both technology and the change of society/environment. The contents of the course are as follows: engineering technology and the social system, and its organization; improvement in technology and changes in society; engineering technology and social morals; the evaluation of technical effects; engineering technology and social issues; and engineering technology and employment.

400.313 Field Applications of Engineering Knowledge

Field Applications of Engineering Knowledge

Many sectors of engineering appreciate the importance of good project management for delivering projects in accordance with predetermined objectives. The primary challenge of project management is to achieve all of the project goals while honoring the preconceived project constraints such as scope, time, and budget. Project management is the discipline of planning, organizing, and managing resources to bring about the successful completion of specific goals and objectives. This class provides a clear description of the aims of project management and discusses the theory and practice of project management, particularly in relation to multi-disciplinary engineering projects.
공과대학(College of Engineering)

- 공과대학(College of Engineering)

학부학생들이 대학원 연구실에서 한 학기 동안 인턴을 수행하며 실제적인 공학 연구에 참여하며 기회를 갖도록 한다. 이 과목을 수강하는 학생들은 일주일에 1회 이상 정기적으로 지도 교수와 연구를 면접하고 학기 중에 대학원 연구에 참여하며 학기 말에 연구 보고서를 제출하여야 한다. 연구 태도 및 연구 성과를 근거로 지도교수가 S/U 학점을 부여한다.

이 강좌는 공과대학 학생들에게 사회진출에 필요한 자질과 경영을 향후인 CEO 및 학자, 산업계, 정부 및 공공분야에서 성공한 리더들이 전부적으로 전달하고, 경영개발 사례를 제시하는 한편 학생들이 전문 경영에 필요한 지식과 주요 관리기법들을 소개하며, 사례를 통해 제품 개발부터 판매까지 전 과정의 주요요소들을 이해할 수 있도록 한다.

Engineering Research Practice 1

이 강좌는 학기당 학점과 기업경영과 환경과의 상호관계를 소개하고, 재무, 회계, 인사·조직관리, 생산, 마케팅, 경영 등에 대한 기본 지식과 용어 및 주요 관리기법들을 소개하며, 사례를 통해 제품 개발부터 판매까지 전 과정의 주요 요소들을 이해할 수 있도록 한다.

Engineering Research Practice 2

이 강좌는 학기당 학점과 기업경영과 환경과의 상호관계를 소개하고, 재무, 회계, 인사·조직관리, 생산, 마케팅, 경영 등에 대한 기본 지식과 용어 및 주요 관리기법들을 소개하며, 사례를 통해 제품 개발부터 판매까지 전 과정의 주요 요소들을 이해할 수 있도록 한다.

Management for Engineers

이 강좌는 학기당 학점과 기업경영과 환경과의 상호관계를 소개하고, 재무, 회계, 인사·조직관리, 생산, 마케팅, 경영 등에 대한 기본 지식과 용어 및 주요 관리기법들을 소개하며, 사례를 통해 제품 개발부터 판매까지 전 과정의 주요 요소들을 이해할 수 있도록 한다.

Engineering Frontiers and Leadership 1

이 강좌는 학기당 학점과 기업경영과 환경과의 상호관계를 소개하고, 재무, 회계, 인사·조직관리, 생산, 마케팅, 경영 등에 대한 기본 지식과 용어 및 주요 관리기법들을 소개하며, 사례를 통해 제품 개발부터 판매까지 전 과정의 주요 요소들을 이해할 수 있도록 한다.

이 강좌는 학기당 학점과 기업경영과 환경과의 상호관계를 소개하고, 재무, 회계, 인사·조직관리, 생산, 마케팅, 경영 등에 대한 기본 지식과 용어 및 주요 관리기법들을 소개하며, 사례를 통해 제품 개발부터 판매까지 전 과정의 주요 요소들을 이해할 수 있도록 한다.
practices, entrepreneurship and the character development to
grow into future leaders, and is also intended to have the
goal of expanding the consilience basis of the necessary en-
gineering and the humanities. In this course, from successful
leaders in government, universities, research institutes, large
companies, SMEs, start-ups, it will be provided an oppor-
tunity to hear the experiences and lessons through the dis-
cussions about career development. The students also can
learn the qualities required for potential future leaders who
can lead the future vision, technology innovation and
invention. This course is comprised of 1 hour session a
week. This course can be configured to work with external
organizations or institutions in each semester, and the invited
lecturers, the structure and the contents of the course, will
be determined by the course professor and the college dean/
vice deans. As long as total classitime is at least 15hours, in-
structor can flexibly arrange the classhours(say, every two
weeks). As for Engineering Frontier and Leadership1,2,3,
maximum 3credits will be taken as elective major course
credits&the excess will be taken as elective general course
credits.

M2177.000700 공과대학의 도전과 리더십 3 3-3-0

Engineering Frontiers and Leadership 3

...
Global Innovative Capstone Design

This course requires students to go out into our society and industry companies for seeking and defining a user-centered design problem by themselves, to develop the engineering design alternative to solve it, and then to build a critical function prototype. This type of training, as the leaders in the future, students cultivate the ability of “first movers”, who can develop a product and technology which has not existed before. This course requires to execute a design project by composing a global and interdisciplinary design team, which consists of students from various majors of the other colleges and foreign universities, as well as of the engineering college. For a semester, the design team (1) completes a customer requirement list after creating a global user-centered design problem that is required by the global society and industry companies, and then (2) finishes its optimal design solution based on the systematic design methodology, and (3) builds a critical function prototype of the design solution, and finally, (4) presents and exhibits it at the semester end. Students can visit a collaborative foreign university for team building and team working. Likewise, students of collaborative foreign universities can visit our university.
Global Engineering Internship I

This course, field applications of engineering knowledge obtained by in-class lectures are practiced. It is very important for engineering students to have both theoretical background and diverse field experiences. For this reason, several industrial examples are experienced by the field trip to check how the theories and principles in diverse subjects are applied and merged in designing, manufacturing, producing, evaluating processes. After the field practice in foreign companies, the students will also be required to participate in a term project by an interdisciplinary team, which consists of students with different majors.

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Siificant concepts are :=\left(\frac{d}{d x}\right)^2f(x)\right)\approx f(x)$$

Global Engineering Internship II

Deep Learning is an essential tool for modern machine learning and artificial intelligence systems. It involves the use of neural networks and their ability to learn and model complex relationships in data. Deep learning has revolutionized the field, enabling a wide range of applications across various domains. By understanding the fundamentals of deep learning, students will be equipped with the knowledge required to tackle real-world problems.
concepts and history of deep learning, backpropagation techniques such as stochastic gradient descent, initialization techniques, regularization techniques such as dropout, convolutional neural networks (CNN), CNN architectures, visualization of CNN, recurrent neural networks (RNN), RNN applications, and other applications including reinforced learning. In order to emphasize practical skills to implement deep learning algorithms, programming-related lectures and lab sessions will be included. The most important/ popular language is Python, which will be covered in this course. A Python math library called Numpy is also taught with lab sessions. Advanced deep learning algorithms are implemented in Tensorflow library, so it will be taught in this course, and lab sessions will be included.

This course aims to prepare the students to develop their careers (both engineering students and nonengineering students) as the global leaders and innovators of the fourth industrial revolution era. It will review how the current engineering systems and practices have evolved through the various stages of industrial revolutions and technological and social innovations based on the on-going digital convergence.

The course deals with the historical understandings & values, current issues & practices and future evolutions and prospects of engineering in global society. Especially, the course aims to prepare the students to develop their careers (both engineering students and nonengineering students) as the global leaders and innovators of the fourth industrial revolution era. It will review how the current engineering systems and practices have evolved through the various stages of industrial revolutions and technological and social innovations based on the on-going digital convergence.

This course intends to ‘show’ architecture to the students of engineering. The category of ‘truth’ defined by Immanuel Kant may apply to the structural integrity in architecture. The category of ‘goodness’ may apply to the economic applications, and other applications including reinforced learning. In order to emphasize practical skills to implement deep learning algorithms, programming-related lectures and lab sessions will be included. The most important/ popular language is Python, which will be covered in this course. A Python math library called Numpy is also taught with lab sessions. Advanced deep learning algorithms are implemented in Tensorflow library, so it will be taught in this course, and lab sessions will be included.

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Homo Architectus: Voyage around the World Excellent Architecture

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Dynamic Project Management & Control

This subject module deals with vital knowledge required for project management and control under uncertainties. As most of recent work environment in companies are project-based, university students are expected to have a good understanding and knowledge on relevant issues such as project initiation, organization, planning, and control methods. Furthermore, these days projects are getting bigger and more complex, thus it is especially useful to understand their dynamic features. In this context, the dynamic project management and control approach to be dealt with in this module provides students with a robust tool that can address all the complexity issues against increased uncertainties involved in the real project management world.

IoT · 인공지능 · 빅데이터 개론 및 실습 3-2-2

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This course is for junior-level undergraduate students who do not major in electrical and computer engineering or computer science and engineering. This course emphasizes computer-based practice and projects, and lectures are given in the flipped learning paradigm. Covered topics include (1) fundamentals of IoT (Internet of Things) and practice, (2) machine learning-based artificial intelligence (AI) and practice along with applications to computer vision and reinforcement learning, and (3) big data processing methodologies and applications. Students will use the C language for IoT programming and Python for AI and Big Data programming.

M2177.005800 머신러닝을 위한 기초 수학 및 프로그래밍 실습 3-2-2

Basic Mathematics and Programming Practice for Machine Learning

이론과 실습을 병행하여 학생들이 학습한 내용을 실습에 실천할 수 있도록 한 실습학기 교과목이다. 학생들은 실습을 통해 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경험을 얻는다. 실습은 컴퓨터의 활용을 중심으로 진행되며, 실습은 컴퓨터에 기초 수학 지식을 갖춘 학생들만 가능하다. 본 과목은 2개 학기 이상 이수한 학생들로만 가능하며, 실습은 컴퓨터에서 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경험을 얻는다. 실습은 컴퓨터의 활용을 중심으로 진행되며, 실습은 컴퓨터에 기초 수학 지식을 갖춘 학생들만 가능하다. 본 과목은 2개 학기 이상 이수한 학생들로만 가능하며, 실습은 컴퓨터에서 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경험을 얻는다. 실습은 컴퓨터의 활용을 중심으로 진행되며, 실습은 컴퓨터에 기초 수학 지식을 갖춘 학생들만 가능하다. 본 과목은 2개 학기 이상 이수한 학생들로만 가능하며, 실습은 컴퓨터에서 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경험을 얻는다. 실습은 컴퓨터의 활용을 중심으로 진행되며, 실습은 컴퓨터에 기초 수학 지식을 갖춘 학생들만 가능하다. 본 과목은 2개 학기 이상 이수한 학생들로만 가능하며, 실습은 컴퓨터에서 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경험을 얻는다. 실습은 컴퓨터의 활용을 중심으로 진행되며, 실습은 컴퓨터에 기초 수학 지식을 갖춘 학생들만 가능하다. 본 과목은 2개 학기 이상 이수한 학생들로만 가능하며, 실습은 컴퓨터에서 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경험을 얻는다. 실습은 컴퓨터의 활용을 중심으로 진행되며, 실습은 컴퓨터에 기초 수학 지식을 갖춘 학생들만 가능하다. 본 과목은 2개 학기 이상 이수한 학생들로만 가능하며, 실습은 컴퓨터에서 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경험을 얻는다. 실습은 컴퓨터의 활용을 중심으로 진행되며, 실습은 컴퓨터에 기초 수학 지식을 갖춘 학생들만 가능하다. 본 과목은 2개 학기 이상 이수한 학생들로만 가능하며, 실습은 컴퓨터에서 직접적으로 문제를 해결하고, 그 해결 방안을 설계하는 경
As digital design technology using 3D modeling, rapid prototyping technology such as 3D printing and laser cutter have become common, it has become an era where everyone can implement their own ideas. For product development, it is necessary to have engineering design ability to identify the cause of the problem to be improved and analyze it, and to find a design alternative that can fundamentally solve it. In this lecture, students will learn the engineering approach to problem solving and aim to have a basic knowledge of engineering design based on in-depth understanding of materials and manufacturing technology. In addition, they will learn how to use 3D modeling and rapid production equipment and how to design and produce creative works based on designs derived from common themes.

**Fundamentals of Heat Transfer**

| M2177.006000 | 열전달 입문 | 3-3-0 |

1. Outline the fundamental principles and laws of heat transfer. Formulate objectives of this course to include (1) understanding the fundamental principles and laws of heat transfer, (2) formulating objectives of this course include (1) understanding the fundamental principles and laws of heat transfer, (2) developing the problem-solving skills that can be applied to real-world applications. Specific topics to be covered in the course are Fourier’s law, thermal resistance model, fins, lumped capacitance model, heat exchangers, etc. Students will have the opportunity to improve their engineering design abilities to engineer heat transfer systems. These outcomes will be demonstrated through an assessment of homework assignments and exams.

**Digital Design and Manufacturing in Product Development 2**

| M2177.006100 | 제품개발을 위한 디지털 설계 및 제조 2 | 3-2-2 |

With the coming of the fourth industrial revolution, digital manufacturing technologies including 3D printing, cyber physical computing, CNC become common as the method that anyone can devise a new product and make a mock-up without any need of professional knowledge and experience. Here, students will achieve to devise the new product that can create an impression to publics, and make a mock-up with engineering design and digital manufacturing skills.

**Theory and Lab of Cyber Security and Blockchain**

| M2177.006300 | 사이버 보안과 블록체인 개론 및 실습 | 3-2-2 |

This course is for junior-to-senior level undergraduate students in any field of engineering. This course emphasizes computer-based practice and projects, and lectures are given in the flipped learning paradigm. Fundamentals of cyber security needed for the safe data management and storage in the future information technology system can be acquired. Covered topics include (1) fundamentals of computer system security (software and hardware techniques) and practice, (2) fundamentals of internet security and practice, and (3) blockchain and crypto basics and applications, which are leading technologies in the fields of the fourth industrial revolution. Students will use the C++, Solidity, web3 and Truffle languages for various programming labs. Prerequisites: Concepts of computers and practice.

**Field Application of IoT, AI, and Big Data 1**

| M2177.006400 | IoT·인공지능·빅데이터의 실무응용 1 | 2-1-2 |

In this course, field application experience of IoT, AI, and big data knowledge is obtained by in-class or self-directed learning. The course is designed to guide junior- to senior-level undergraduate students, who have taken the course of Theory and Lab of IoT, AI, and Big Data or developed equivalent coding competency, to be involved in practical projects related to IoT, AI, and big data. This course provides a variety of coding exercises by solving software problem in real industry and society. While completing projects, students are expected to perform self-oriented learning with peer groups. S/U grade will be given based on final performance and peer collaboration.
Field Application of IoT, AI, and Big Data

This course introduces 'Technology Management Economics and Policy' as a convergence study. The course consists of three main parts. The first part covers 'Technology and National Development Theory' learning from history. It consists of changes from agricultural society to industrial society due to technological changes, 'the Great Divergence' due to the failure and success of the industrial revolution, and the history of Korean industrial technology development that led to the miraculous economic growth. Through the discussion on the past, we will predict the future of the fourth industrial revolution which is currently underway and discuss what we need to do now. The second part is 'New Technology in the Future'. Introducing major emerging technologies such as information and communication, AI, new energy and bio technology, students will have a chance to think about the social context of the new technologies. The last part is 'Technological Innovation Theory'. Background theories deriving managerial, economic and policy implications of innovation will be discussed, and actual cases of application of the theories will be presented.
공과대학(College of Engineering)

M2177.007800 VR/AR의 개론 및 실습 3-1-4

Theories and Lab of VR/AR

본 강좌는 가상현실·증강현실에 대한 주요 이론을 습득하고, 다양한 활용 사례들을 배우며, 실제 실습을 통해 VR/AR 환경을 구축할 수 있도록 한다. VR/AR에 대한 기본적인 지식 습득을 위해 다양한 캐릭터 애니메이션 개론, 메타버스, 투명 한계, 컴퓨터 그래픽스 이론, 가상현실 관련 소프트웨어 프로그램 실습, 3D 기반 모션채도 등을 다룬다. 강사는 기구 교육(Fliped learning) 방식으로 이루어지며, 3D 제작 플랫폼 내장된 캐릭터 애니메이션 기본 모듈을 활용한 실습이 아니라 실제 VR/AR 기기를 활용한 프로젝트 위주로 진행된다. VR/AR 프로젝트를 바탕으로 과제를 부여하며, 수강생은 본교의 모듈과 자료를 선택하여 참여하도록 한다. 프로젝트를 주도하고 이에 따른 문제를 해결하는 과정에서 자기 주도적이고 동료 학습이 가능하도록 한다.

This course allows students to acquire major theories about virtual reality and augmented reality, learn various cases, and build VR/AR environments through actual practice. In order to acquire basic knowledge about VR/AR, it deals with virtual reality-related software program practice, and 3D-based motion capture, character animation introductions with deep learning, metaverses, human factors, computer graphics theory, etc. It will be conducted through the flipped learning method, and will focus on projects using actual VR/AR devices as well as practice using basic character animation modules built into the 3D production platform. Through projects based on VR/AR, students will participate in the project by selecting modules for each field. While completing projects based on VR/AR, students are expected to perform self-oriented learning with peer groups.

M2177.007900 대학 스타트업 플로리큐미 1-1-0

University Startup Colloquium

대학생에게 스타트업이란 극도로 불확실한 환경에서 부딪히게 되는 수많은 문제들을 극복하고 저축가능한 미래의 가치를 창출하는 기회이다. 본 교과목은 스타트업의 성공과 실패를 좌우하는 핵심 요소를 분석하고 예측가능한 리스크를 미리에 방지하면서 회사를 성공적으로 이끌어가는 역량을 키울 수 있는 데 목적으로 있다. 이와 같은 목표를 성취하기 위해 다양한 분야의 스타트업 대표를 초청, 세미나 및 토론을 통해 제품기획, 사업분석, 비즈니스모델, 투자유치 등 창업과정 전반에 대한 현장경험을 공유하고 위기관리 능력을 바탕으로 안정적인 스타트업으로 성장할 수 있는 기업가 정신을 함양한다.

Startup is the opportunity for college students to create values for a sustainable future, overcoming the obstacles encountered in extremely uncertain environments. This course aims to study the key factors that determine success or failure of startups, manage predictable risks in business, and finally achieve the ability that leads the company to success. To accomplish the course objectives, startup CEOs in different fields will be invited to have seminar and discussion to share their field experiences in the entire process of startup building, which includes product planning, market analysis, business model, investment relations and so on, to cultivate the entrepreneurship to build up a stable startup with risk management skills.

M2177.008000 융합공학도를 위한 전기전자회로 3-3-0

Electrical and Electronic Circuits for Integrated Engineers

전기 전자 공학의 기초이 되는 전기전자회로에 관한 이론을 제공하며 여러 분야의 응용 예를 제시한다. 수강생은 다음의 내용을 학습한다. (1) 기초적인 전기전자회로를 이해하고 해석하는 것, (2) 대표적인 부품인 저항, 커패시터, 인덕터, 다이오드, 트랜지스터와 인산중폭기 등의 기능과 응용을 이해하는 것, 본 교과목을 통해 결과적으로 수강생은 다음과 같은 능력을 배양하게 된다. (1) 전기전자 부품의 기능을 이해하고 (2) 전력과 전기에너지에 대해 이해하고 전력에너지가 어떻게 커패시터와 인덕터에 저장되고 배출되는지를 이해하고 (3) 다이오드의 기능과 정류기와 같은 다이오드 응용회로를 이해하고 (4) 트랜지스터의 기능과 중폭회로와 같은 트랜지스터 응용회로를 이해하고 (5) 인산중폭기의 기능과 인산중폭기 회로를 이해한다.

This course is intended to provide integrated engineers with a basic knowledge of electrical and electronic circuits. It is to educate the students to be able to (1) understand and be capable of analyzing basic electrical and electronic circuits, (2) understand the function and the use of standard components, such as resistors, capacitors, inductors, diodes, transistors, and operational amplifiers. At the end of the course, the student should be able to: Understand (1) the function of electrical and electronic components, (2) what electrical power and energy are, and how to store or extract electrical energy with capacitors and inductors, (3) what a diode is and what it can do, and be able to use diodes in the design of circuits such as power supplies, (4) what a transistor is and what it can do, and be able to use transistors in the design of circuits such as amplifiers, (5) using operational amplifiers in the design of a simple amplifier circuit.
공과대학(College of Engineering) | 건축과 겸학전공(Architecture Major, Dept. of Architecture & Architectural Engineering)
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4012.301* 건축설계스튜디오 3-1  6-3-6
Architectural Design Studio 3-1

공공건물로 범위를 넘어서 인간의 행위의 인접과 분리, 다른 요소의 개입을 통해 서로 다른 기능을 가진 용도를 결합하여 더 큰 전체를 완성할 수 있는 설계방법을 탐구한다. 면적과 기능 관계를 설계의 법규의 제약 조건을 따르면서, 동시에 이 공공건물을 이용하는 사람들의 공동체 의식을 고려한 공간의 역량 조건에 주목하면서 소규모의 공공공간을 제작한다. 학교나 도시와 같은 공공사회가 끝나 이후 이와의 적립이 행해졌으며, 공간의 배합은 역사의 경험에 대한 반영을 통해 새로운 시대에 적합한 공간의 배합을 가진 건축을 생산한다.

Analysis of Programs. Human behaviors and facilities are closely related to the times and the program analysis done by the users. In this course, students will analyze the programs especially built since the beginning of the modern era. For this, they will study how to combine different functions into one through the intervention of different elements and adjacency, and the separation of human behaviors. Later, students will think about architecture for the new era by criticizing current systems and facilities under the premise that the arrangement of space contains systems, and study how schools and libraries were interpreted from the aspect of systems in the modern era.

4012.302* 건축설계스튜디오 3-2  6-3-6
Architectural Design Studio 3-2

행위와 공간. 이 단계에서는 개별적인 개인의 행위의 집합으로 집단 행위에 대응하는 공간의 구성을 연습한다. 집중하는 행위, 행위에 대한 방해와 유동 공간-시각적 공간의 경계, 공간의 유동화처럼 공간의 개념을 순수하게 인간행동의 분포에 주목함으로써, 다양한 사건과 행위가 동시에 있는 것을 허용하고 이것이 만들어낸 공간을 설계한다. 이 과정에서 외부의 내부의 경계, 연속성, 가구, 공간의 불규칙성, 접촉 속의 인접, 시간, 공간은 공간, 사람의 집합이 만들어내는 장면 등, 다양한 건축적, 도시적 공간이 만나서 이루어내는 공간구성을 연습한다.

Behavior and Space. In this course, students will study how to organize a space corresponding to group behaviors. Students will concentrate on the pure conception of space in terms of the distributions of human behaviors and design a space made by various events and behaviors. According to this process, students will learn about the following: how to form the threshold between inside and outside; continuity; furniture; irregularity in a space; void space; time; coexisting space; scene of assemblage of people; and loose compositions of various architectural and urban spaces.

4012.304* 건축과 사회 3-3-0
Architecture and Society

인간의 사회적 행위를 담는 그릇으로서의 건축의 역할을 인식하고, 다양한 문화 속에서 개인과 사회집단이 드러내는 가치 및 관습과 환경과의 상호작용에 대해 이해한다. 물리적 환경과 인간행동의 상호관계를 이해하는 조명적, 논리적, 해학적 방법을 이용한다. 이를 통해, 공간의 분석과 분석적 비평, 사회적 서열과 기능적 분석, 인지적 건축과 건축물의 관계 등 사회적 행위가 건축설계에 미치는 영향과 이의 설계과정에서의 적용에 대해 공부하며, 기본적인 프로그래밍의 기법과 공간 및 행위의 분석, 사례연구 등의 방법을 동반한다.

This course allows students to recognize the role of architecture as a container of human social activities, and to understand the mutual relationship between the norms or customs of the human individual, group, and the physical environment. The course will cover user-need analysis, human spatial behavior and its relationship to the architectural form, programming, spatial analysis and case studies.

4012.311* 건축구조계획 3-3-0
Building Structure Planning

보, 기둥, 벽, 바닥 및 간단한 건축물의 구조적 요소를 분석하고 설계하는 방식을 제시한다. 이 과정에서는 특히 목조, 조조조, 철골조, 콘크리트조 등의 구조방식의 이해가 요구된다. 그리고 구조가 지적 가치와의 적합을 생각하는 방법과적 표현을 할 수 있다.

This course teaches students how to analyze and design structural elements of beams, columns, walls, floors and simple shell structures. The understanding of the structural configuration of wood, brick, steel and reinforced concrete buildings will be covered. The course also includes experimentation to test the mechanical characteristics of structural materials.

4012.401* 건축설계스튜디오 4-1  6-3-6
Architectural Design Studio 4-1

건축은 도시 속에서 생성되고 변화한다. 건축물은 주변의 조건에 따라 기존의 환경에 동화하기도 하고 기존의 환경을 억지하기도 한다. 이것은 조건의 물리적 환경만이 아니라, 그 환경을 물리적, 사회적, 지역적 특별한 영역에 대한 결정이다. 이 스튜디오에서는 이러한 건축물을 결정하는 여러 조건을 분석하고, 이것은 문화적 가치를 형성하는 이용자의 가치와 함께 공간을 형성하는 방식을 수용한다.

이 스튜디오는 건축은 독립된 단일 오브젝트가 아니라, 역사적 환경을 개발하고, 공간의 형성에 희생하며 도심의 행위를 강화시키는 장을 가진 공간적 존재임을 인식한다. 이를 위해 역사적식의 역사적 환경을 가진 대지에서 새로운 용도를 삼출하여 그를 희생한 문화적 환경이 새롭게 변형되는 과정을 통해 새로운 건축을 설계한다. 이것은 역사적 보존 건물과 관련한 역사적 상징, 다양한 이용자의 문화적 가치, 지속적 개별과 공간을 다룬다. 그리고 이를 위한 물성의 전이, 새로운 미디어 기술의 공간적 기여, 도시의 새로운 활동 공간을 통해 다시 활성화되는 구축의 과정을 수용한다.

This Studio requires to understand architecture in not only spatial, aesthetic, technical aspects but also cultural and social approach regarding it as relative value understood in synthetic context, and to design a new building through inventing new use in a historical site, process of surrounding context and environment being changed.

In this studio, students will understand architectural building is not only an individual object but also a spatial substance which has potentiality of revitalizing historical environment.
and urban behaviors. Also learn the procedure of urban re-
construction through transmission from historical conservation
to present, new media, spatial contribution of technology and
creation of new urban activity space.

4012.402* 건축설계스튜디오 4-2 6-3-6
Architectural Design Studio 4-2

4012.411* 건축설비계획 3-3-0
Mechanical and Electrical Systems for Building

4012.421A 도시문화와 보전 3-3-0
The City Cultures and Urban Conservation

4012.403* 한국건축 3-3-0
Korean Architecture

4012.405* 건축법과 제도 3-3-0
Building Codes and Regulations

4012.422A* 건축과 도시설계 3-3-0
Architecture and Urban Design

공과대학(College of Engineering) :: 건축학과 건축학전공(Architecture Major, Dept. of Architecture & Architectural Engineering)
Digital Design Research

Computer Simulated Image's view that may be connected with the space where the human behavior is predicted, and finally to explore the principles of form generation, to evaluate the size and arrangement of space. The objectives of this course with the help of computer-simulated images, and design the architecture are being absorbed into city, i.e. architecture contains the city, activities of urban people are overlapped in various programs. In 21st century, new method of urban architecture is explored in which articulation doesn't exist, no orders, no district. For this, design concerning main issues as following: 1) Institutions and facilities of information oriented society, 2) Change of society: flow and architecture (The purpose of building is system changing to society), 3) Portable self space and privacy, publicity (Information and architecture are separated and architectural space is put into the informational technology), 4) Exchange of institution, 5) Union (Criticism on small groups made spontaneously based on common interests), 6) Internalization of city (Live with informational network and urban space with no boundary is repeated), 7) City of symbols and architecture (The fact that symbols of city have continuity is understanding land as activity, thinking of space based on body).

Architectural Design Studio 5-1

Arcitectural Design studio 5-1

Contemporary cities are enlarged and function of architecture are being absorbed into city, i.e. architecture contains city. Space and time are compressed in the city, architecture weave into fluctuating flow, architectural forms disappear in the city, activities of urban people are overlapped in various programs. In 21st century, method of urban architecture is explored in which articulation does not exist, no orders, no districts. For this, design concerning main issues as following: 1) Institutions and facilities of information oriented society (The purpose of building is system changing to space.), 2) Change of society: flow and architecture (Place is the standing of the city and its design.)

Architectural Design Studio 5-2

Professional Practice

Diverse range of activities of city, activities of urban people occur in various programs. 21st century, new method of urban architecture is explored in which articulation doesn't exist, no orders, no district. For this, design concerning main issues as following: 1) Institutions and facilities of information oriented society (The purpose of building is system changing to space.), 2) Change of society: flow and architecture (Place is the standing of the city and its design.)

In 21st century, new method of urban architecture is explored in which articulation doesn't exist, no orders, no districts. For this, design concerning main issues as following: 1) Institutions and facilities of information oriented society, 2) Change of society: flow and architecture, 3) Portable self space and privacy, publicity, 4) Exchange of institution, 5) Union, 6) Internalization of city, 7) City of symbols and architecture. Make students to check technical problems of overall project first and they can obtain problem solving ability for technical aspects of their design. Also design main space and try to transmit design intentions to the very details. Check detailed spaces with overall knowledge on building systems and nurture ability of synthesizing conception of various technical and planning stages.

For the later part, prove by the evidence of original intentions and theoretical studies. Check how architects systemize theory and reality through this stage, produce various documentation in practical style. Getting critiques at graduation exhibition, students can develop their architectural design ability to higher level.
aware of professional principles. Students will study the role and responsibilities of an architect and understand the following: arbitration of human relations; office organization; method of management; and financial administration. They will also learn to understand drawings and documentation types for each stage of the project.

4012.511A* 건물시스템 3-3-0

Building Systems

This course teaches students the ways to evaluate and select building materials, equipment, and structural and environmental systems for their building design. It integrates the fields of structure, environmental control, and building construction, and is thus provided at the final stage of building technology courses.

4012.522 디지털디자인 스튜디오 3-1-4

Digital Design Studio

This is an experimental studio for the application of the creative potentiality of computer technology on architectural designing. Students will experience the designing process with creative ideas through both traditional media and digital technologies.

4012.524 실내설계 3-3-0

Interior Design

This course teaches students to design a space which meets the functional and psychological needs of the user. Students will study the way of grouping space, the relationship between space and structure, and the practical matters of material and finishing.

4012.526 건축기획 3-3-0

Building Economics and Development

This course teaches students the ways to evaluate and select building materials, equipment, and structural and environmental systems for their building design. It integrates the fields of structure, environmental control, and building construction, and is thus provided at the final stage of building technology courses.

4012.530 아시아건축과 도시 3-3-0

Asian Architecture and Urbanism

This course teaches students to design a space which meets the functional and psychological needs of the user. Students will study the way of grouping space, the relationship between space and structure, and the practical matters of material and finishing.

4012.531 행위와 공간 3-3-0

Activity and Space

This course teaches students to design a space which meets the functional and psychological needs of the user. Students will study the way of grouping space, the relationship between space and structure, and the practical matters of material and finishing.
Students will learn what kind of spaces to build according to the human psychology of size of space, and random movements of people. The course is based on quantitative analysis, but will take more concrete form through architectural space analysis corresponding to the random movements of people and their behaviors. This course is an extension of architectural planning, but the solution is derived from architectural design. It also aims to design public spaces that can result in public activities, indifferent to size.

This course is to understand the systematical urban space planning. Urban space planning systems can be changeable. Architectural planning, but the solution is derived from architectural design. This course is an extension of architectural planning, but will take more concrete form through architectural design. It also aims to design public spaces that can result in public activities, indifferent to size.

This course deals with the following issues: how architects can make architectural space and form in urban context, what the existential forms of architectural and urban artifacts can make architectural space and form in urban context, architectural and urbanism. This lecture consists of a series of students’ presentations unfolding in three stages to address certain common themes. Readings come from the self-selected articles about contemporary architectural and urban design for sustainable society. Students lead discussion sessions and write both synopses of presentations and a longer theoretical text.
In this course, fundamental skills for the use of computer softwares that are frequently used for the design and construction of buildings are introduced and practiced. The lecture topics and softwares include basic design, engineering drawing, structural analysis, and BIM. A small building is designed with CAD, which is applied to detailed design and analysis using relevant softwares. The use of MATLAB is practiced to solve basic engineering problems.

4013.203*  
Architectural Environmental System

Architectural Environmental System covers application methods of mechanical systems in buildings including HVAC systems and automatic control. The main topics include the structural design and construction. Main topics include the thermal properties, first law of thermodynamics & second law of thermodynamics, thermodynamic process, heat transfer, energy theory in buildings, and heating & cooling systems such as thermodynamic properties, first law of thermodynamics & second law of thermodynamics, thermodynamic cycles, psychrometric chart, conduction heat transfer, convection heat transfer, radiation heat transfer, evaporation and moisture transfer, and heating/cooling load & energy analysis in building. This course also covers the application methods of mechanical systems in buildings including HVAC systems and automatic control systems.

4013.205*  
Thermal Energy Fundamentals in Buildings

This course focuses on understanding the basic concept and engineering theory of mechanical systems in buildings so as to provide students not only with the elementary knowledge required for advanced courses in mechanical system engineering, but also with the basic information for the engineering consulting in electrical system & fire protection, structural design and construction. Main topics include the following: concepts of engineering, basic principles of thermodynamics, heat transfer, energy theory in buildings, and heating & cooling systems such as thermodynamic properties, first law of thermodynamics & second law of thermodynamics, thermodynamic cycles, psychrometric chart, conduction heat transfer, convection heat transfer, radiation heat transfer, evaporation and moisture transfer, and heating/cooling load & energy analysis in building. This course also covers the application methods of mechanical systems in buildings including HVAC systems and automatic control systems.

4013.208*  
Building Construction Materials

As a case study, we will introduce concrete, steel, and composite materials used in construction. The main topics include the properties of concrete, steel, and composite materials, as well as their applications in construction. The course also covers the principles of structural design and materials selection in construction. The course is designed to provide students with a comprehensive understanding of the properties and applications of construction materials, as well as the principles of structural design and materials selection.
4013.307 건축시공 3-3-0
Building Construction Engineering

건축물의 설계, 시공, 유지관리에 이르는 전반적인 건축생산과정을 설명하고, 건축물의 품질과 성능 확보를 위한 방법요소를 고찰하며, 건축공사비의 산정과 주요 공통에 대한 시공방법 및 절차에 대하여 강의한다.

This course introduces overall construction processes from design through construction and maintenance. The course examines specifications for performance and higher quality of buildings, and explains the construction methods of major trades and cost estimating skills.

4013.308 건설관리 3-3-0
Building Construction Management

건설 프로세스의 목표를 달성하는데 요구되는 제반 관리 요소를 소개하고, 건설관리론을 토대로 중요한 관리요소인 공정관리, 비용관리, 자원관리, 품질관리 등의 방법과 절차에 대하여 강의한다.

Based on basic theories of construction management, this course introduces courses and processes of major management areas such as time, cost, resource, and quality.

M1498.001400* 콘크리트 구조설계 및 공법 1 3-3-0
Design and Construction of Structural Concrete 1

콘크리트의 재료특성에 대한 기초적인 이해를 토대로 콘크리트 구조시스템의 구성, 구조설계의 개념, 사공 방법, 부재설계의 기초에 대한 접근법을 제공한다. 콘크리트는 재료부터 시공 그리고 구조로 완성되기까지 품질관리, 안전성, 유지관리, 내구성에 대한 초기 설계 개념의 중요성을 이해하는 것이 이 과목의 주요 목표이다.

On the basis of basic understanding the material properties of concrete, structural system selection, design philosophy, construction process, and basic member behaviors under flexure, shear, and axial forces are addressed. The main objective of this course is to understand that the conceptual engineering design stage of buildings should start with the consideration of quality control, safety, maintenance, and durability over the life cycle.

4013.310 구조구조해석 3-3-0
Structural Analysis

이 과목은 힘의 평형조건, 변형을 고려한 기하학, 재료의 역학적 특성을 이해하여 공구 구조물에 작용하는 응력과 변형을 해석, 구조물에 대한 기초적 지식을 배양한다.

This course focuses on stress and strain analysis based on the equilibrium conditions of the forces, geometrical compatibility, the mechanical properties of the material, and other fundamental knowledge of the structural system.

4013.311 구조동역학 3-3-0
Structural Dynamics

이 과목은 구조물의 동적적응과 이해와 해석방법을 토대로 내진, 내풍설계에 대한 공학적 해석방법 및 능력을 배양한다.

This course deals with the dynamic response of building structures and their analysis methods to improve the problem solving capability concerning seismic and wind engineering designs.

M1498.001500* 철골구조설계 및 공법 3-3-0
Design and Construction of Structural Steel

본 과목에서는 하중저항계수법에 의한 강구조물의 설계법은 물론 강구조 공법과 시공과정을 학습시켜 설계능력과 강구조공사의 관리능력을 배양함을 목적으로 한다.

이 과목은 건축물의 안정성을 좌우하는 기초구조와 지반공학에 대한 이해를 토대로 설계능력과 강구조공사의 관리능력까지 배양함을 목적으로 한다.

土木工程学院

4013.313 토질 및 기초공학 3-3-0
Soil Mechanics and Foundation Engineering

이 과목은 건축물의 안정성을 좌우하는 기초구조와 지반공학에 대한 이해를 토대로 설계능력을 배양한다.

This course will help students enhance their design abilities through learning about foundation & soil engineering, along with structural stability.

4013.314* 건축전기 및 조명이론 3-3-0
Electrical & Lighting Theory in Buildings

이 과목은 건축전기설비 시스템의 개념 및 공학이론을 숙지함으로써 장차 건축전기설비 혹은 전기설비 엔지니어링과 관련한 과목을 이해하기 위한 기초 지식을 토대화 뿐 아니라, 소방, 건축전기 및 구조물의 전기설비 설계를 수행하기 위한 기초 지식을 습득한다. 전기의 기본성질, 직류(회로방학, 회로식법, 교류(회로방학, 주파수, 유호저, 슬, 임피던스, 전력, 전압과 전압압차, 회로분석), 전력기기의 전력도, 전동기, 전기학, 인버터 및 정류기, 모터(모터모델링), 조명의 물리적 특성(광속, 광도, 조도 및 훈도, 광조사이론).
This course is focused on understanding the basic concepts and engineering theory of electrical systems in buildings so as to provide students not only with the elementary knowledge required for advanced courses in mechanical and/or electrical system engineering, but also with the basic information for engineering consulting in fire protection, structural design and construction. In this course we will study the basic concepts of electricity & electrical circuits, lighting theory & lighting design method in buildings, which include the following: the basic properties of electricity, direct current (circuit laws, circuit analysis), alternating current (circuit laws, frequency, effective value, phase, impedance, power & power factor, voltage & voltage drop, circuit analysis), power equipment (generator, motor, transformer, inverter & rectifier, MCC), physics of light (illumination, luminous intensity, luminance and brightness), and luminous radiative transfer. We will also examine the methods of applying electrical systems to buildings such as lighting design methods (lumen method, point method).

4013.315* 건축공학시스템설계 3-2-2
Design Process Building Systems

This course intends to grow the ability of architectural design and engineering approach, which will be necessary to experts seeking effective expression method. The course is composed of setting up the design requirements, design alternatives, design expression and systematic design process. Finally, this course aims to grow the general decision-making ability in the process of architectural design and engineering problems. In addition, students will be trained to understand each other in architectural engineering problems through individual projects. This course requires synthetic thinking ability, creativity and basic knowledge which may be acquired during lower grade's classes.

4013.401A 에너지정각 건축계획 3-3-0
Energy Conscious Building Planning

This course is focused on energy conscious building planning through the analysis of the passive and the active system alternatives, energy simulation and life cycle analysis of the buildings, to meet the occupant comfort and achieve the energy conscious design.
공과대학(College of Engineering)

M1498.002700 스마트건설기술 3-1-4

Smart Construction Technology

본 강좌는 BIM(Building Information Modelling), Reality Capture, VR/AR 등의 스마트 건설 기술에 대한 주요 이론을 습득하고, 건설 관리 프로세스 내에서의 다양한 활용 사례를 배우며, 실제 경험을 통해 스마트 건설 기술의 활용법과 현재 기술의 제약점을 이해하도록 한다. BIM 모델 구축 프로세스를 이해하고, 이를 통해 시공성 검토(Constructability review), 4D Simulation, 디자인 간섭 검토(Clash detection)을 실습한다. 또한 LiDAR와 Photogrammetry를 통한 Reality Capture를 통한 측량과 Scan-to-BIM을 실습하고, VR/AR 기술의 활용 사례를 고찰한다.

This course covers a fundamental understanding of smart construction technologies, including building information modelling (BIM), reality capture, and VR/AR, and their practices in construction management. The course aims to provide hands-on experience of practicing these technologies, so that students can learn the benefits and challenges of these technologies in practice. The course will begin with the theoretical foundation of BIM and its developmental process, and allow students to practice constructability review, 4D simulation, and clash detection using BIM. Also, students will be given an opportunity to practice scan-to-BIM using reality capture technologies (e.g., LiDAR, Photogrammetry) and VR/AR applications in construction.

M1498.001600 콘크리트구조설계 및 공법 2 3-3-0

Design and Construction of Structural Concrete 2

이 강의는 철근콘크리트구조와 부재설계를 위한 고급구조해석과 설계방법 및 공법을 다룬다. 콘크리트구조설계 및 공법 1에서 다루는 내용에 이어 기둥설계, 2방향 슬래브, 기초, 전단마찰, 구조 벽, 스트럿타이 모델, 내진설계를 포함하여 강의를 진행한다.

This course covers advanced structural analysis, design, and construction methods for reinforced concrete structures and members. Following Structural Concrete Design and Construction 1, the lecture focuses on columns, two-way slabs, footings, shear-friction, shear walls, strut-and-tie models and seismic design.

M1498.002200 건물설비시스템 3-3-0

Building MEP System

건축설비시스템의 개념 및 공학이론을 숙지함으로써 장차 건축 설비 엔지니어링 관련한 교과목을 이해하기 위한 기초지식을 탄ados.t. 건축에 필요한 MEP 시스템(Mechanical, Electrical and Plumbing), 즉, 급수설비, 급탕설비, 배수설비, 환기설비, 공기조화설비, 난방설비, 소화설비 등의 개념 및 기본 원리를 파악하고, 건축에 필요한 전기설비 즉, 조명설비, 전단설비, 배전설비, 에비전원설비, 통신 및 신호설비, 방송설비, 전동력설비, 따뜻함설비, TV등 정선설비 등의 개념 및 기본원리를 파악하고 건축물에 이용하는 방법에 대하여 학습한다.

As a preparation course for future building engineering subjects, this course deals with the fundamentals of building mechanical systems and engineering theory. Students will study the fundamentals and practical applications of MEP(Mechanical, Electrical and Plumbing) systems in buildings, including plumbing systems, hot-water systems, drainage systems, ventilation systems, HVAC systems, heating systems, and fire protection systems. And students will also study the fundamentals and the practical application of electrical systems in buildings, including lighting systems, electrical conversion systems.
Basic Studio 1 (Architecture and Expression)

Architecture is designed, recorded, analyzed, and imagined through a set of conventions—both visual and verbal, which constitute a specific language for communicating architectural thought may be abstracted, analyzed, visualized, and created through drawings and words.

The first part of this course will emphasize spatial imagination, and ask students to perceive, draw, and re-present architectural thought which may be abstracted, analyzed, visualized, and created through drawings and words.

M1498.000700* 기초스튜디오 1 (건축과 표현) 3-0-6

Basic Studio 2 (Architecture and Structure)

Architecture is designed, recorded, analyzed, and imagined through a set of conventions—both visual and verbal, which constitute a specific language for communicating architectural thought may be abstracted, analyzed, visualized, and created through drawings and words.

The first part of this course will emphasize spatial imagination, and ask students to perceive, draw, and re-present architectural thought which may be abstracted, analyzed, visualized, and created through drawings and words.

M1498.000800* 기초스튜디오 2 (건축과 구조) 3-0-6

Basic Studio 3 (Architecture and Environment)

Architecture is designed, recorded, analyzed, and imagined through a set of conventions—both visual and verbal, which constitute a specific language for communicating architectural thought may be abstracted, analyzed, visualized, and created through drawings and words.

The first part of this course will emphasize spatial imagination, and ask students to perceive, draw, and re-present architectural thought which may be abstracted, analyzed, visualized, and created through drawings and words.

M1498.013600* 기초스튜디오 3 (건축과 환경) 3-0-6

Design Computing

CAAD의 원리와 개념, 그리고 설계에의 영향에 대해 다루고, 이미지 합성과 애니메이션, 웹페이지 작성에 대해서도 실습한다. 실습활동으로 진행되며 학생들은 개별 혹은 집단별 프리랜싱을 하게 된다.

This laboratory course deals with the principles and concepts of CAAD (Computer-Aided Architectural Design). Students will also practice image processing, animation, and web page design. They will be required to provide some individual and group presentations.

Structural System

Structural system is the backbone of any building, and its design and construction are crucial for the safety and stability of the structure. In this course, students will learn about the principles and techniques of structural design.

M1498.013600* 기초스튜디오 3 (건축과 환경) 3-0-6

Basic Studio 3 (Architecture and Environment)

Architecture is designed, recorded, analyzed, and imagined through a set of conventions—both visual and verbal, which constitute a specific language for communicating architectural thought may be abstracted, analyzed, visualized, and created through drawings and words.

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M1498.013600* 기초스튜디오 3 (건축과 환경) 3-0-6

Basic Studio 3 (Architecture and Environment)

Architecture is designed, recorded, analyzed, and imagined through a set of conventions—both visual and verbal, which constitute a specific language for communicating architectural thought may be abstracted, analyzed, visualized, and created through drawings and words.

The first part of this course will emphasize spatial imagination, and ask students to perceive, draw, and re-present architectural thought which may be abstracted, analyzed, visualized, and created through drawings and words.

M1498.013600* 기초스튜디오 3 (건축과 환경) 3-0-6

Basic Studio 3 (Architecture and Environment)
will combine architectural effect with engineering performance. For instance, aspects such as material thickness, articulation, apertures, and sequence will be integrated with solar geometry, passive techniques, airflow, lighting and acoustic theory, etc. The goal will be to deploy a synthetic approach that is available through digital techniques that allow direct feedback during the design process instead of relying on calculations and feedback only at the end of the process. Main pedagogical goals will include programmatic zoning, site design, representational skills, developing a design thesis, integrating architectural and engineering concepts, and gaining the digital skills for the following semester.

### M1498.013700* 기초스튜디오 4 (바르티케이션 디자인) 3-0-6

*Basic Studio 4 (Fabrication Design)*

This course is designed to allow students to experience new holistic concepts and ways of creating and producing architectural space conceived in virtual digital space, produced in the real world by designing it in the consideration of the fabrication process as well as the creation of architectural design. During this process students will also be exposed to comprehensive building materials, structure systems and construction processes and methods.

### 4012.302* 건축설계론 3-3-0

*History of Architecture 2*

This course helps students understand the changes in contemporary theories, function, structure, and esthetics of architecture from the Renaissance to the modern era, from the perspectives of philosophy, religion, politics and environment.

### 4013.206A* 건축재료역학 1 3-3-0

*Mechanics of Materials in Architectural Engineering 1*

This course covers the fundamental principles concerning the behavior of deformable bodies that are presented and discussed from the architectural engineering perspective. The main topics covered are summary of classical rigid body mechanics, properties of structural sections, mechanical properties of structural materials, concept of stress and strain, analysis and design of simple structural members subjected to tension, compression, and direct shear.
M1498.014000* 건축시공 및 건설관리 입문 3-3-0

Introduction to Building Construction Engineering and Management

As an introduction course to Building Construction Engineering & Management, this course deals with overall building production process in terms of engineering and management perspective. Construction engineering parts covers temporary work, earth work and foundation, reinforced concrete work, and finish work, while construction management includes understanding construction industry, management fundamentals, construction project organization and structure, contracts, scheduling techniques such as network scheduling, LOB, and TACT, project execution, and cost estimation.
406.211* 과학적 관리 3-3-0

Scientific Management

‘과학적 관리’는 산업공학의 기초 필수과목이다. 산업공학 전공 저학년 학생을 대상으로 산업공학을 추구하는 이론, 원리, 법칙, 기본적 방법론 등을 교육한다. 수강생들은 Frederick Winslow Taylor를 비롯한 산업공학 선구자들의 사상을 흥미롭게 읽게 된다. 이로써 산업공학의 역사적 배경을 이해하며, 또 오늘날의 산업 환경에 맞게 재해석을 시도하여 과학적 관리의 경험적인 의미를 제시한다.

‘글로벌 관리’는 산업공학의 기초 필수과목이다. 산업공학 전공 저학년 학생을 대상으로 산업공학을 추구하는 이론, 원리, 법칙, 기본적 방법론 등을 교육한다. 수강생들은 Frederick Winslow Taylor를 비롯한 산업공학 선구자들의 사상을 흥미롭게 읽게 된다. 이로써 산업공학의 역사적 배경을 이해하며, 또 오늘날의 산업 환경에 맞게 재해석을 시도하여 과학적 관리의 경험적인 의미를 제시한다.

406.212 산업공학개론 3-3-0

Introduction to Computing for Industrial Engineering

본 강좌는 산업공학개론을 개발할 수 있는 컴퓨터 과학에 대한 개략적으로 소개한다. 특히, 컴퓨터 아키텍처, 운영체제, 통신, 인터넷, 알고리즘, 프로그래밍 언어, 소프트웨어공학, 데이터베이스, 인공지능, 컴퓨터 과학 등에 대한 개요를 제공한다. 각 분야마다 산업공학과의 연계성이 강조될 것이며, 또한 최근 IT 업계의 동향 및 IT 산업에서 산업공학의 역할 등을 토대로 한다.

This course introduces computing fundamentals to industrial engineering students. It covers various topics such as computer architecture, operating systems, communications, internet, algorithms, programming languages and implementations, software engineering, data structures, database, file systems, artificial intelligence, and theory of computing. Relevance to industrial engineering will be emphasized. Finally, students will be exposed first hand to current issues and topics of IT industry that are relevant to industrial engineers.

406.304* 인간공학 3-3-0

Human Factors Engineering

Human Factors Engineering

Man-Machine-Computer-Environment의 total integrated system effectiveness를 향상시키기 위한 human capability, limiting function, performance output의 측정, 변수의 선정, 분석, 개선을 위한 설계과정을 심리학, 사회학, 생리학, 역학 등의 방법론을 동원하여 훈련한다. 위의 목적을 이루기 위한 방안으로서 input 기능과 신뢰도, information processing 기능과 측정, output의 분석 및 주위환경의 변화가 인간성능에 미치는 요인들에 대한 실험을 구성한다.

This course will address the basic concepts of ergonomics and their applications to the design of the man-machine-computer environment, while considering the psychological, sociological, human physiological, biomechanical, and biological capabilities and limitations in design for human efficiency, safety and comfort. The course will study human limitations in the light of human engineering, human reliability, stress, and human physiology.

406.305A* 인간공학실험 1-0-2

Human Factors Engineering Lab

Human Factors Engineering Lab

406.310* 생산관리 3-3-0

Production Control

Production Control

406.311* 시뮬레이션 3-3-0

Simulation

Simulation

본 과목에서의 시뮬레이션의 시간경과에 따른 상태변화를 컴퓨터를 이용하여 추적하고 분석하는 시뮬레이션 기법의 해석 사항을 컴퓨터 문제의 분석과 설계를 위한 방법론을 학습한다. 이러한 시뮬레이션 기법은 산업공학의 중요한 도구이며, 이는 산업공학의 특성과 그 적용 범위를 넓히는 역할을 한다. 또한 오늘날의 산업공학의 문제를 해결하기 위한 방법론으로도 활용된다.

This course is an introduction to the analytic problem solving approaches for operating production systems. It includes basic concepts of production systems, customer satisfaction, production planning, logistics management, factory automation, and strategic production planning. Students will examine applications of efficient management and control techniques, customer oriented design, innovations of logistics management, CALS/EC, and ERP.
to have basic knowledge of statistical analysis and experimental
design. If time permits, simulation using virtual reality will
be covered.

406.314* 경제성공학 3-3-0

Engineering Economy

이 과목의 내용은 크게 두 가지 부분으로 나누어진다. 전반부에는
공학도에게 응용될 수 있는 기존적인 재무관리에 관한 기법을 다루며,
후반부에는 기업의 기본적인 내용을 다루게 된다. 경제성을 고려한
공학적 설계에 대한 이해를 가질 수 있도록 기존적인 재무관리
에 관한 기법들을 경제성 공학이라는 주제로 묶어 학습하게 된다. 또
한 금융 산업 전반에 대한 기초적 지식들을 익히고, 기업에 응용된
기술들을 학습하게 된다.

The contents of this course consist of two parts, which are
the techniques of financial management for students in
engineering, and basic techniques related to investment en-
gineering.

406.315* 경영과학 3-3-0

Operations Research 1

이 과목의 내용은 크게 두 가지 부분으로 나누어진다. 전반부에는
기술경영에서 발생하는 문제들에 대한 계량적, 재무관리에 관한
기법을 학습하게 된다. 경영과학 2는 전략계획법, 목표계획법, 전략계획법, 비선형계획법, 동적계획법 등에 대해 학습한다.

The purpose for taking <Operations Research 1> is to im-
prove the ability of thinking quantitatively and systematically,
and the ability of dealing with problems in management, in-
formation, communication, and engineering systems. The con-
tents of this course include linear programming, goal pro-
gramming, integer programming, nonlinear programming, dy-
namic programming.

406.317* 경영과학 3-3-0

Operations Research 2

이 과목의 내용은 크게 두 가지 부분으로 나누어진다. 전반부에는
기술경영에서 발생하는 문제들에 대한 계량적, 재무관리에 관한
기법을 학습하게 된다. 경영과학 2는 전략계획법, 목표계획법, 전략계획법, 비선형계획법, 동적계획법 등에 대해 학습한다.

The purpose for taking <Operations Research 2> is to im-
prove the ability of thinking quantitatively and systematically,
and the ability of dealing with problems in management, in-
formation, communication, and engineering systems. The con-
tents of this course include linear programming, goal pro-
gramming, integer programming, nonlinear programming, dy-
namic programming.

406.319* 기술경영 3-3-0

Management of Technology

시스템의 시각에 기술-경영간의 상호관계와 합작적인 종합적
으로 이해하고, 구체적으로 기술경영을 위해 수행되는 제반활동의
내용과 범위 및 절차를 파악하며, 그러한 활동에 사용될 수 있는
구체적인 기법과 방법론을 이해함으로써, 전문분야에 관계없이 기
술 경영에 대한 복잡성을 이해할 수 있도록 미래의 관리자로서 필요
한 기본지식과 전략적 사고를 배양하는 과목이다.

The objective of this course is to understand the inter-
active relationship and functional linkage between technology
and management from the systems perspective. By doing so,
students are expected to obtain basic knowledge and strategic
insight required for prospective CTOs and CEOs. To this
end, the main tasks of the course are to identify the contents
and scope of related activities in technology management, to
learn relevant methods for system analysis and design, and
to develop, as an individual or as a team, prototype technol-
gy management systems. Specifically, the course is com-
posed of topics such as related concepts and terminology,
framework of the class, technology forecasting, project evalua-
tion and selection, project control, cost management, project
organization management, commercialization and management
of technological assets.

406.321 최적화 모형 및 응용 3-3-0

Optimization Models and their Application

학자들은 산업공학의 경영과학 또는 OR에서 최적화 모형들을
성공적으로 관리하기 위해서는, 문제의 구조, 해법의 원리를 함께 습득하기 때
문, 보다 다양한 현실문제를 해결하는 능력을 배양하는 데 부족한
실정이다. 본 과목에서는 기존의 산업용 solver를 해법으로 사용함
으로써, 주어진 문제를 모델링하고, solver를 통하여 구한 최적해
t을 사용하여 현실문제에 적합하는 해를 얻을 수 있다. 이
러한 방식은 학생들로 하여금 다양한 모형을 다양한 문제에
적합하는 기법을 극대화하여 산업공학도로서의 창의적인 문제해결
능력을 배양하는데 기여하리라고 믿는다.

In an IE curriculum, students are normally introduced to
optimization models in the one-semester course of Operations
Research or Management Science, where they are burdened
with the multipleaspects of optimization, theories, solution
methods and applications. In this course, relying on the com-
nercialized solvers such as Xpress MP, we will choose solely
problem-solving approaches: Given a set of real-world
problems, students are asked to model and solve them th
find an answer to decision problems. Simultaneously, stu-
dents are introduced to a diverse set of optimization models
with prototype applications which will enable students to cul-
tivate the ability to recognize the special structure of the
problems and accordingly formulate them as right mathemat-
ical models.

406.322 서비스공학 3-3-0

Service engineering

최근 세계경제의 서비스화가 빠른 속도로 진행되고 있고 국내
산업구조 역시 제조 중심에서 서비스 중심으로 크게 변화하
고 있어, 서비스에 대한 이해와 생산성의 향상이 중요 관심사로
d라인되고 있다. 서비스 시스템은 고객의 요구사항을 만족시키는
서비스를 생산·전달하기 위해 설계되는 기술과 조직적 네트워크의
복합체인 바, 본 과목은 서비스 공학적 관점에서 서비스
시스템을 분석하고, 새로운 서비스 시스템을 설계·운영·혁신하
기 위한 다양한 방법론을 학습한다.

Understanding of service in general and mechanism to im-
prove the productivity of service becomes a major issue of
the whole society, as the global economy is undergoing a
transition from manufacturing to services. A service sys-
tem is considered a complex artifact consisting of technolo-
gical and organizational networks which are targeted for
production and delivery of services needed by users and oth-
er stakeholders. This course covers a variety of methodology to analyze the current service systems and the state-of-the-art techniques recently developed for design, operation, and innovation of a better service systems.

406.324A Logistics Management

This course aims to teach undergraduate level students a suite of ideation and creativity techniques for new product/service design and difficult engineering problem solving. The techniques to be covered include: brainstorming, mind mapping, lateral thinking, TRIZ, attribute listing and morphological analysis, transformation theory, physical stress reduction principles, portability design principles, and problem definition and solution procedures for solving the problems will be discussed. Practical examples of logistics systems will be utilized, and mobile data. In this course, students will (1) learn theoretical foundations and methods for information retrieval (IR), automated recommendation (AR), and text mining (TM) (2) understand technical issues related to design and implementation of IR and AR systems as well as TM applications by using web and mobile data, and (3) develop necessary problem solving skills for analysis of web and mobile data.

406.326 Ergonomics Design

The course aims to enhance problem-solving capabilities on the design and the operation of logistics systems by using various mathematical theories and methodologies. Various logistics systems along with the decision-making problems related to each type of logistics system will be introduced, and solution procedures for solving the problems will be discussed. Practical examples of logistics systems will be utilized to enhance real problem-solving capabilities. Specific topics include logistics strategy and planning, transport decisions, storage and handling decisions, facility location decisions, and the network planning process.

406.326* Data Management and Analysis

Information Modeling Methods and Their Applications

This course introduces basic theories and scientific computing skills on mathematical methods for industrial engineers. In terms of methodology, the course covers such subjects as matrix computations, differential equations, Fourier transform, and MCMC. This course also emphasizes mathematical and computational practices for practical problems in industrial engineering and management using MATLAB or R programming.

406.426B Data Management and Analysis

The course aims to provide undergraduate students in Industrial Engineering and other engineering disciplines with basic concepts and methods for ergonomics design of products, work tasks and systems. Major topics include applied anthropometry, occupational biomechanics techniques, digital human models, comfort and discomfort and population accommodation level optimization.
The course aims to introduce theoretical foundations and approaches for effective management and analysis of structured and unstructured data. Specifically, the course first covers the models and methods for database (DB) system design and implementation, DB mining, and recommender systems, and subsequently focuses on the topics of information retrieval, text classification and clustering for unstructured text data. The course also includes several programming projects that require students to implement the methodologies introduced in the course and to apply them to various types of real-world data for the purpose of developing the students' real-world problem solving skills.

**Human Interface Design**

An effective and efficient design of human-computer interaction and its core element such as human interface is a source of competitiveness in digital convergence products. A fundamental technology for successful HCI is the human interface design technology. Human interface has a wide variety of spectrum such as graphic user interface, adaptive interface and user experience management. This course explores the basics of human interface design from the design principles of human factors engineering, user experience management, and user-centered product design. Affective design interface, Design for six sigma, design process and new product design will be studied together for their relevance to human interface design.

**Data Mining**

Data mining is comprised techniques from statistics, AI, and computer science. It is applied not only to conventional engineering and science problems, but also to business areas such as manufacturing, marketing and finance. This course introduces basic data mining problems (clustering, classification, and association analysis) and the respective algorithms and techniques. In addition, students will learn about actual business problems, goals, and the environment in which data mining is applied. Cases in various areas will be studied. Students are strongly encouraged to identify and solve real world business problems using data mining techniques so that they improve their problem solving capability.

M1505,01500

**Product Development and Quality Design**

This course aims to provide the students with a comprehensive understanding of the mechanism for high-quality product development process. The state-of-the-art tools and methods from the domains of marketing, design, manufacturing, and system engineering will be introduced and investigated with a view to integrating and facilitating the interdisciplinary processes involved in creating a product. Especially, the recent trend in the market strongly requires not only the reduction of defectives but also the systematic planning and management of quality from the early stages of product design. In this context, this course covers the issues of product and process design, design of experiments and Taguchi methods, and design for six sigma, etc., from the integrated point of views of product development and quality design.
chap 464.434* 3-3-0

Understanding Industrial Engineering

This course introduces the basic principles of financial engineering including the theories of options, futures, derivatives, and risk management. The preliminaries required for this course are the basic quantitative skills in the junior level of mathematics and statistics. This course takes an engineering approach to the principles and values of various financial products so that students can learn the elementary of financial engineering from a general engineering perspective.

This course teaches Industrial Engineering majors such core subjects as mathematical programming, investment engineering, manufacturing, automation, technology management, data mining, human factors, ergonomics, management science, information management, product and service engineering, and financial risk engineering. Students will learn various applications fields including manufacturing, transportation, communication, logistics, hospital management, service management as well as finance, marketing, human resources.

chap 406.436 3-3-0

Manufacturing Process Design for Industrial Engineers

This course introduces the basic principles of financial engineering including the theories of options, futures, derivatives, and risk management. The preliminaries required for this course are the basic quantitative skills in the junior level of mathematics and statistics. This course takes an engineering approach to the principles and values of various financial products so that students can learn the elementary of financial engineering from a general engineering perspective.
이 교과에서 학생들은 원자핵 공학 분야의 다양한 학술적, 과학적, 기술적, 사회적 주제를 도출하여 토의한다. 핵공학 분야에 대한 이해, 전문 분야의 학습 준비, 전문 미래에 대한 고찰, 원자핵공학도로서의 사회적 역할, 인간의 목표 설정 등과 함께 핵공학이 갖는 사회적 수용성 고찰 등을 통하여 인간과 공학의 관계 등을 토의하고, 이를 통하여 공학도로서 성장에 필요한 문제의식과 능력을 강화시킨다. 자기 주도적이고 창의적인 핵공학도로서 성장 기반을 제공하는 것이 이 교과의 목적이다.

In this course, a variety of scientific, engineering, technical, and social topics in the field of Nuclear Engineering will be selected by students and those topics are discussed for understanding of the field of Nuclear Engineering, preparation of this major field study, prospect of Nuclear Engineering, the relationship between humans and technology will be reconsidered and the capability of problem consciousness to grow a self-directed and creative nuclear engineer can be improved.

이 교과서는 학부학생이 원자핵공학과의 주요 과목들 앞으로 성공적으로 수강하고 이해를 증진하는 데 필요한 물리학의 기초 개념과 기본적인 수학적 기법을 소개한다.

This course provides with introductory review of nuclear engineering, focusing on its sub-fields, technological developments and the prospect of each field.

핵공학은 원자핵을 근본으로 발생하는 핵에너지의 이용 기술과 핵에너지의 환경에 미치는 영향을 다루는 학문이다. 핵공학개론은 원자핵공학과에 입학한 신입생과 저학년을 대상으로 핵공학에 관련된 전공기술 분야의 분류, 각 분야별 기술개발 현황과 전망, 고학년 핵공학 과목과정과의 연관성 등 원자핵공학과에서 전수되는 각종 핵공학 기술 분야를 개략적으로 소개하는 과목이다. 또한 핵공학론과 다른 전공과는 달리 다각적 기술이 종합화된 핵공학론 그룹이 핵공학개론을 대학 초년생들의 전공과 핵공학 실험에서 많이 활용되는 온도측정 및 유속측정용 회로를 도출 및 제작하여 데이터 획득 및 해석을 수행한다.

This course provides with introductory review of nuclear engineering, focusing on its sub-fields, technological developments and the prospect of each field.

핵융합공학에 및 양자공학에 있어서 전기장 및 자기장의 해석을 수행한다. 이 강의는 학부학생이 원자핵공학과의 주요 과목들을 앞으로 성공적으로 수강하고 이해를 증진하는 데 필요한 물리학의 기초 개념과 기본적인 수학적 기법을 소개한다. 핵공학개론은 핵공학의 근간이 되는 현대물리학의 상대성 이론, 흑체복사 이론, 과도-일차 양변성, 라디오프드 실험, Schrödinger 방정식 및 도착공학의 기본이론을 다룬다. 이를 바탕으로 원자 구조와 방사능과 핵반응 현상의 기본 원리에 대한 이해를 제공한다.

This course focuses on the electromagnetic theories as a basis for nuclear fusion and quantum engineering. Specific topics will include Coulomb’s Law, Gauss’s Law, Ampere’s Law, Faraday’s Law, Maxwell Equation, Potential theory etc to enhance their understanding of the subjects. Topics include most essential parts of classical mechanics, electricity and magnetism, thermodynamics and statistical physics, and fluid mechanics. Background at the level of college freshmen physics and mathematics is required.

학점구조는 “학점수-주당 강의시간-주당 실습시간”을 표시함. 한 학기는 15주로 구성됨. (The first number means “credits”; the second number means “lecture hours” per week; and the final number means “laboratory hours” per week. 15 week make one semester.)
engineer who will perform successful experiments. Typical subjects are: 1) Introduction of passive electric components such as resistors, capacitors, and inductors, 2) Introduction of active components such as diode and operational amp, 3) Analysis of electrical circuit of Norton and Thevenin circuits, 4) Understanding of noise filter and frequency response, 5) Introduction of various balanced circuits such as Wheatstone Bridges and unbalanced circuits. Based on these knowledge, circuits for temperature, vacuum and flow measurements will be designed, fabricated, and used for data acquisition and analyses.

409.224B 核反应堆动态学和控制 3-3-0

Nuclear Reactor Dynamics and Control

409.225 核反应堆物理 3-3-0

Applied Nuclear Physics

409.301A* 核反应堆理论 3-3-0

Nuclear Reactor Theory

409.307A* 激光与等离子体 3-3-0

Introduction to Plasma Physics

409.308A 等离子体物理 3-3-0

Introduction to Nuclear Fusion

409.302B 核燃料动力学及堆 3-3-0

Nuclear Reactor Theory and Fuel

409.303B 核燃料物理 3-3-0

Nuclear Fuel Physics

409.304B 核材料物理 3-3-0

Nuclear Materials Physics

409.305B 核融合 3-3-0

Introduction to Nuclear Fusion

409.306B 核材料制备 3-3-0

Nuclear Fuel Preparation

409.307A* 激光与等离子体 3-3-0

Introduction to Plasma Physics

409.308A 等离子体物理 3-3-0

Introduction to Nuclear Fusion

409.309A 核材料研究 3-3-0

Nuclear Materials Research

409.310A* 核反应堆热物理 3-3-0

Nuclear Reactor Heat Physics

409.311A 核反应堆工程 3-3-0

Nuclear Reactor Engineering

409.312A 核燃料循环 3-3-0

Nuclear Fuel Cycle

409.313A 核材料安全 3-3-0

Nuclear Materials Safety

409.314A* 核物化物理 3-3-0

Nuclear Chemistry Physics
409.310A 수치해석기초 3-3-0

Introduction to Numerical Analysis

This course probes into basic principles and technological topics related to the engineering feasibility of fusion reactors as power sources. Specific topics will include mechanisms of energy generation and losses, plasma confinement and transport. It also covers thermonuclear fusion concept, magnetic and inertial confinement devices, and low-temperature fusion methods.

409.313A 핵융합플라즈마실험 3-1-4

Fusion Plasma Experiments

The lectures will cover, but not necessarily limited to, the subject of heat, work, system, units, working fluid, reversibility, reversible work; conservation of energy, nonflow equation, steady flow equation; liquid, vapor, gas, use of vapor tables, perfect gas; reversible nonflow processes, irreversible processes, nonsteady flow processes, heat engine, entropy, T-s diagram, reversible processes, entropy & irreversibility, availability; Carnot cycle, absolute temperature, Otto cycle, Diesel cycle, combustion cycle, Stirling & Ericsson cycle; Rankine cycle, condensers, reheate & regenerative cycles, binary vapor cycle, boiler plant, nuclear plant; impulse turbine, impulse-reaction turbine, efficiencies, turbine governing & control, radial flow turbine; practical cycle, centrifugal & axial flow compressors, combustion, jet propulsion, small stage efficiency; engine types, engine output & efficiency, performance characteristics, real & air standard cycles, fuels; vapor compression cycle, refrigerating.
load, gas refrigeration cycles, refrigerants, insulating materials; law of conduction, law of cooling, electrical analogy, numerical methods, heat exchangers, and gas radiation.

409.331 원자력재료 기초 3-3-0
Introduction to Nuclear Materials

핵재료공학은 원자력시스템의 안전성 및 경제성 확보를 위한 핵심 공학이다. 4세대 원자로, 핵융합로 등 진보된 원자로의 구현을 위해서는 높은 온도와 방사선 노출을 견딜 수 있는 재료의 개발이 필수적이다. 이 교과목은 (1) 방사선 조사손상 과정과 같은 핵재료 물리 학의 기초와 (2) 원자력 재료의 경기 기반에 대한 공학 지식을 다룬다.

Materials play key roles for high safety and economics of nuclear reactors. The importance of materials is more pronounced in aged reactors as well as advanced reactors including fusion reactors, as the radiation damages get more severe. Thus, there are still many subjects to be solved for now and future. This course gives (1) the scientific fundamentals on physics and chemistry relevant to nuclear materials, e.g. the mechanisms of radiation damages, and (2) the engineering knowledge on long-term behavior of materials utilized in reactors obtained so far.

409.402F 원자력시스템실습 3-1-4
Nuclear Systems Workshop

가압수로 원전을 참조로 원자로 계통 전산설계, 공정관리, 가상현실 등을 실험 실습한다. 원전 3차원 전산설계 형상을 바탕으로 가상현실 정보기를 구축하고, 원전 건설 기간을 단축하기 위해 핵공학 및 시공 공정 최적화 등에 대한 효용성과 현장 적합성을 검토하며, 가상현실 기술을 이용해 건설 공정을 가상공간에서 시현하여 시험작업을 최소화한다. 먼저 가상현실 정보기반 및 건설 공정 모사를 위한 신규 원전 3차원 전산설계 형상을 구축하고, 원전 3차원 형상 가상현실 정보기반을 생성하며, 건설 공정을 모사한다. 전산 모형을 통해 원전에 사용되는 기기, 건설물 등을 3차원 공간에 구현하는 방식으로, 이를 원자력 기술의 직접적인 설계에 이용할 수 있고, 기기 형상 및 간섭확인 등을 통해 설계 오류를 파악하여 시범 전에 문제점을 해결할 수 있다. 또한 전산 모형은 공학적 해석을 수행하는 프로그램에서 사용할 수 있는 3차원 형상으로 변환되어 원전 기기의 공학적 해석에 이용될 수 있다. 전산 모형을 제작, 이를 공정 모사 도구에 의해 작업 시간과 효율, 분석을 통해 공정 최적화에 사용할 수 있다.

This course experiment with totally paperless lifetime management of a pressurized water reactor (PWR) nuclear power plant (NPP) spanning the spectrum of design, procurement, manufacturing, fabrication, assembly, transportation, construction, operation maintenance and decommissioning by pre-checking on the systems dynamics, economics and ergonomics in virtual reality. This course is aimed at minimizing the working hours by way of the process optimization through real-time exchange of the design and process information. A great deal of information of the plant construction can readily be analyzed and modeled adopting the object-oriented modeling technique. The digital mockup is constructed graphically using the three-dimensional (3D) computer-aided design (CAD) system. This course allows the students to understand and analyze the structure, feature, construction, and installation process of the PWR NPP starting from the 3D CAD model. The students are expected to build the virtual NPP pursuant to optimized construction schedule and structural design. The integrated design and maintenance of the virtual NPPs can totally replace the conventional text oriented database. This course exploits detailed 3D mockups and visualization of their assembly process.

409.403A 원자로안전공학 3-3-0
Reactor Safety Engineering


This course deals with basic concepts of DBA (design-based accident), accident analysis, and regulatory requirements. It also covers several safety parameters of nuclear power plants.

409.407B 원자로 수치해석과 설계 3-3-0
Reactor Numerical Analysis and Design

이 과목은 원자로 노심 설계해석에 필요한 전산코드에 도입된 기본적인 수치기법과 노심설계를 다룬다. 수치기법은 삼각형, 공정화학방정식의 차분법해, 연립방정식의 반복해법, 고유치 문제 계산법, 연료재생방정식과 노심상의 기반, 실제 코드를 사용한 연료배치 및 연소모델로 이루어져 있다. 학생들은 MATLAB 혹은 다른 전산 언어로 실제 프로그램을 작성하고 다양한 문제를 분석함으로써 설계를 통해 원자로해석뿐 아니라 다른 분야에도 활용할 수 있는 수치해법을 배우게 된다.

This course deals with the first basic numerical methods employed in the computer codes needed for the design and analyses of reactor cores, and then the actual core design practice. The major topics are the discretization methods for the neutron diffusion equation, the iterative solution methods for linear systems, eigenvalue calculation methods, depletion analysis methods, core design criteria, and fuel loading design and depletion analysis using a practical code. Though the programming practices using the MATLAB or other programming languages and analyses of various problems, the student will earn practical experiences which would be helpful in other areas than the reactor analysis.

409.417B 에너지정책 및 경제 3-3-0
Energy Policy and Economics

이 과목은 원자력 이용의 대부분을 차지하는 원자력 발전과 관련된 제한 사항에는 항상 제계적인 검토가 필요하다. 본 과목에서는 원자력 발전 시설과 관계된 경제성 및 인허가 문제를 전반적인 범위에 걸쳐 체계적으로 검토할 것이다.

This course reviews economic and licensing problems concerning nuclear power plants.

409.418C 산업 플라즈마 공학 3-3-0
Industrial Plasma Engineering


This course deals with basic concepts of DBA (design-based accident), accident analysis, and regulatory requirements. It also covers several safety parameters of nuclear power plants.
Medical Applications of Radiation.

This course studies various plasma generation methods and their characteristics. It focuses on plasma chemistry, various plasma heat sources and reactors depending on power supply and processing methods. The course also deals with a survey of leading-edge material processing and environmental treatment methods. The system design for processing plasma rector is also introduced in this course.

409,431 元素化学法와 사회 3-3-0

Nuclear Energy Laws and Society

이 과목은 원자력 시설의 구축, 운영, 방호에 관한 법제와 아울러 원자력의 사회적 수용성과 같은 원자력 관련 일반적 국민의 관심사를 다룬다.

This course covers the law systems related with building, operating, and protecting various nuclear facilities and also the general nuclear related public issues such as social acceptance of nuclear energy.

409,433 방사선의 산업 및 의학응용 3-3-0

Radiation Technology for Industrial and Medical Application

본 과목은 방사성 동위원소, 가속기 등에 의해 발생되는 방사선의 물리적 특성에 대한 이해를 바탕으로 방사선의 의료 및 산업적 이용 기술을 소개한다.

This course presents Radiation Isotopes, Radiation Production, Radiation Physics and Technologies in Industrial and Medical Applications.

M1509.000300 방사선의학과 기초 2-2-0

Basic Radiological Science for Medicine

 Ryu, and the study of various nuclear facilities. In addition, the use of radioisotope, such as treatment and diagnostic machine, RTG (radioisotope thermoelectric generator), micro-battery, and medical radiation sources will be introduced. Experts will be invited to present recent advances in biomedical radiation sciences.

M1509.000400 원자로물리 실험 3-2-2

Nuclear Reactor Physics Lab.

이 교과목을 통해 학생들은 다양한 원자로물리 실험의 이론을 배우고, 원자로로 실험 장비를 이용하여 실시간으로 이루어지는 경희대학교 AGN-201K 교육용원자로에서의 실험에 참여한다. AGN-201K 원자로물리 실험을 원자로 운전, 반응속도 측정, 임계접 근, 제어봉과 측정, 중성자수 측정, 음도 및 반사체 효과 실험 등으로 구성된다. 원자로로 동작에 대한 이해를 위해 중성자확산방정식과 원자로 입자동량방정식을 학습하고, Matlab과 몬테카를로 입자수술학코드를 이용해 다양한 원자로로 동작을 수치 모델화한다. 이를 통해 실험으로 취득된 자료를 직접 분석함으로써 원자로로 동작에 대한 이해를 높인다.

Through this course, students can learn theories of nuclear reactor physics experiments and participate real-time experiments at AGN-201K of Kyung Hee University by Internet Reactor Laboratory equipments. The reactor physics experiments at AGN-201K are composed of reactor operation, reactivity measurements, critical approach, rod worth measurement, flux mapping, and temperature and reflector effects. The neutron diffusion equation and the point kinetics equations are reviewed and various nuclear reactor behaviors are simulated using Matlab and a Monte Carlo neutron transport analysis code. Analyses of experimental data will enhance the understanding of the nuclear reactor behavior.

M1509.000500* 원자핵공학 학사논문연구 1 2-2-0

Nuclear Engineering Undergraduate Thesis Research 1

이 교과목은 원자핵공학과 학생들에게 학사졸업논문 작성을 위한 논문작성에 필요한 모든 절차를 포함한 논문작성 과정을 학습하게 한다. 학생들은 수업에서 제공되는 다양한 장학금 및 프로그램의 안내를 통해 논문제작 및 논문작성에 필요한 지식을 배우고, 논문제작 과정에 필요한 정보를 얻는다. 또한 논문작성 과정을 통해 논문작성 및 논문검토를 수행하게 된다.

This course offers undergraduate students the opportunity...
to pursue an independent research on a thesis topic. Students can select the thesis topic from introduction to various researches in nuclear engineering and professor interviews. Each student conducts research on the selected topic in a laboratory of his or her thesis supervisor. After a literature survey for the selected topic, students present reviews on related references. Students learn thesis writing and present their thesis proposals.

**M1509.000600** 원자핵공학 학사논문연구 2 1-1-0

**Nuclear Engineering Undergraduate Thesis Research 2**

This course offers undergraduate students the opportunity to pursue an independent research on a thesis topic. Each student conducts research on the selected topic in a laboratory of his or her thesis supervisor and writes a thesis. Students present their research progress and discuss research results. Students also present their final theses.

**M1509.000700** 열역학 및 원자력시스템 3-3-0

**Thermodynamics and Nuclear Power System**

Nuclear fission and fusion reactors incorporate cooling and power conversion systems in order to extract heat from the reactor and generate electricity. They also include the safety systems for the safety and stable operation. This course deals with the various systems of the power plants; and axillary systems for the safety and stable operation. This course also covers basic heat transfer modes, conduction, convection, radiation, and heat exchangers. In heat transfer, students learn how to solve 1D/2D and steady/transient conduction problems, and learn convective heat transfer correlation for various flow regimes. Students also learn the concept of radiation and the methods to estimate radiation heat transfer in black or gray body surfaces. This course is geared to training for the students in Nuclear Engineering to solve the engineering problems of practical interest with hands-on experience and expertise for nuclear engineering.

**M1509.000800** 핵재료 시뮬레이션 입문 3-3-0

**Introduction to Modeling and Simulations of Nuclear Materials**

Modeling and simulation techniques are of vital importance in nuclear materials engineering to ensure the high performance and structural integrity of nuclear materials for long-term use in harsh environments. With recent developments in data science and machine learning, these techniques are receiving even more attention. In this course, students will learn the basic theory and how-to of modeling and simulation of nuclear materials through lectures and exercises, with a focus on atomistic descriptions of the properties and behavior of nuclear materials using molecular dynamics calculations. At the end of the course, students are expected to be able to properly read and interpret relevant research papers, and design and initiate preliminary research using modeling and simulation techniques.

**M1509.000900** 원자로열유체공학 3-3-0

**Nuclear Thermofluids Engineering**

The introductory course provides students with a unified approach to system thermofluids engineering in nuclear systems. Typical subjects include heat generation & distribution in nuclear systems, thermofluids overview of concepts & basic definitions, conservation of mass, momentum, and energy, viscous flow in laminar and turbulent regimes, internal & external flows, frictional loss & friction factor, dimensional analysis in terms of prototype vs. model. This course also covers basic heat transfer modes, conduction, convection, radiation, and heat exchangers. In heat transfer, students learn how to solve 1D/2D and steady/transient conduction problems, and learn convective heat transfer correlations for various flow regimes. Students also learn the concept of radiation and the methods to estimate radiation heat transfer in black or gray body surfaces. This course is geared to training for the students in Nuclear Engineering to solve the engineering problems of practical interest with hands-on experience and expertise for nuclear engineering.
선의 잠재적 위해로부터 사람과 환경을 안전하게 지키는데 관여하는 지식과 실적 기술이 요구되며, 이는 핵공학과의 전문가는 핵기기의 설계, 설비 검증, 안전성 평가 등에 필수되어야 한다. 본 교과목에서는 핵기기의 설계, 설비 검증, 안전성 평가 등에 필수적인 핵공학 기초 지식과 실적 기술을 배우게 되며, 핵기기의 설계, 설비 검증, 안전성 평가 등에 필수적인 핵공학 기초 지식과 실적 기술을 배우게 된다.

This course regards two themes: radiation physics deals with the physical characteristics of radiation represented by energy, their change in the process of interacting with substances, and the effects appearing in those substances; and radiological protection concerns the knowledge and practical skills to protect people and the environment from potential radiation hazards. It explains sources of radiation generation, interaction properties of different radiations, and the principles of radiation detection. It also describes the pathways of environment contamination and the human exposure to radiation and instructs the theoretical and experimental methods for estimating radiation dose. It conveys the radiation protection regulatory framework and radiation exposure control guidelines.

M1509.001200 방사선광학 시뮬레이션 입문 3-3-1

Practice of Numerical Simulation for Nuclear Engineering

본 교과목에서는 핵기기의 설계, 설비 검증, 안전성 평가 등에 필수적인 핵공학 기초 지식과 실적 기술을 배우게 된다. 핵기기의 설계, 설비 검증, 안전성 평가 등에 필수적인 핵공학 기초 지식과 실적 기술을 배우게 된다. 핵기기의 설계, 설비 검증, 안전성 평가 등에 필수적인 핵공학 기초 지식과 실적 기술을 배우게 된다.

This course copes with computer software widely applied in the field of nuclear engineering. They include a therm-fluid analysis code, structure-material analysis code, Monte Carlo particle transport code, neutron diffusion code, etc., which are essential for the design and transient analyses of a nuclear engineering system (nuclear fission, nuclear fusion, radiation source, etc.). In the course, students learn knowledge on the computer programs and practice simulations using them. They gain a hands-on experience with the use of the programs through computational homeworks and projects on various nuclear system simulations. The course also provides tutorials for data exchange between codes to establish code coupling and multi-physics simulation. Finally, the state-of-the-art and future perspectives of the nuclear engineering simulations are provided.

M1509.001300 원자력 부품 및 소재 3-3-0

Components and Materials of Nuclear Energy Systems

원자력 시스템을 이루는 다양한 부품들은 제작의 기준을 고려하여 설계·제조·검증·품질 확인 등에 있어 매우 중요하다. 본 교과목에서는 원자력 시스템의 부품 및 소재에 대한 기초 지식을 배우게 된다. 원자력 시스템의 부품 및 소재에 대한 기초 지식을 배우게 된다. 원자력 시스템의 부품 및 소재에 대한 기초 지식을 배우게 된다.

In nuclear power plants and fuel cycle facilities, various components are used to realize the required function and performance as a system. Each component consists of certified materials whose performance is guaranteed through standards. The integrity and reliability of the components and materials serve as the crucial elements of nuclear safety, environment-friendliness and economy. This course is designed to introduce basic knowledge and practices in the selection and maintenance of components and materials used in nuclear energy systems, such as light water reactors, advanced nuclear reactors including fusion reactors, and fuel-cycle facilities. First, basics on the properties of various types of materials, such as metals, ceramics, and composite materials, are introduced, including their typical degradation modes. Next, as an example, equipment and materials for current light water reactor designs are examined in detail, including its evolution history. This is followed by the examination of other systems, and the similarity and difference between systems are discussed. Finally, to consolidate the
knowledge gained from the lectures, the history of materials selection and development for a given component will be investigated and presented by participants.

M1509.001400 핵연료주기공학 3-3-0

Nuclear Fuel Cycle Engineering

Nuclear fuel cycle is essential for sustainable nuclear energy and applications by ensuring the stable supply of nuclear fuel and the safe management of used nuclear fuel. This course introduces the technical principles and policy issues of various options for nuclear fuel cycle. Topics include uranium supply, conversation & enrichment, fuel design & fabrication, storage, reprocessing, disposal, and their non-proliferation and environmental aspects.

M1509.001500 핵비확산과 핵안보 3-3-0

Nuclear Nonproliferation and Security

Peaceful uses of nuclear energy is a necessary condition for enriched fuel supply, used nuclear fuel management, and national energy security. This course will cover international nuclear nonproliferation and security issues such as global nuclear nonproliferation and security regime, nuclear safeguards, physical protection, cyber security, nuclear terrorism, and nuclear forensics. Also, students will learn how nuclear engineering can contribute to solve these issues with particular focus on radiochemistry, nuclear fuel cycle, and advanced nuclear reactor systems.
조선해양공학과(Dept. of Naval Architecture and Ocean Engineering)

414.110* 조선해양공학의 이해 3-1-4

Understanding Naval Architecture and Ocean Engineering

한국 조선해양 산업의 현재, 조선해양관련 전기부 산업, 해양/항로/해상 물동량, 상선의 개요 및 종류, 해양구조물의 개요 및 종류, 주요 해수차, 오일 머드러와 국제 유가, 선박의 설계와 생산에 대하여 학습하고 설계 주요 지수, 설계착수, 설계양식과 추진, 복원성, 선박의 특수 능과 조종, 설계조건, 일반적인, 특수성, 합성, 요도, 예상선, 크루 저리, 스마트 선박, 스마트 조선소 확대 후 현장 건축을 한다.

This course treats Korean shipbuilding industries’ present, related industries, shipping industry, overview and category of merchant ships, major shipping companies, oil majors and oil prices. Also, the course deals with the basic concepts of ship design, hull form design, ship resistance and propulsion, ship motion and maneuverability, general arrangement, and ship structure. Finally, the course introduces briefly the types and features of war ships including submarines, special ships and leisure boats. Field tour is scheduled.

414.241* 유체역학기초 3-3-0

Fundamentals of Fluid Mechanics

유체 역학 기초방정식, 압력변화, 유압장치, 정수력, 부력, 검사 체적 적분형 방정식, 유체운동방정식, 비압축성 비점성 유동 (오일러 방정식, 바르노이 방정식, 에너지보존법칙)을 얻어하고 이에 따른 변형식과 상상성, 내부 비압축성 접수유동(덕트 유동, 수주운동), 외부 비압축성 접수유동(경계층, 물체주위 접수유동)을 얻힌다.

As a first course in fluid mechanics, it provides an introduction to basic concepts in fluid statics, kinematics, and dynamics. Control-volume approach, differential equations and dimensional analysis methods are derived and used to demonstrate applications to simple external- and internal flows with naval applications in mind to determine variables of interest, such as pressure, shear stress, velocity distributions, flow rates, forces, energy losses, power requirements, etc.

414.251* 구조정역학 3-3-0

Structural Statics

고체역학에서 필요로 하는 힘, 응력, 변형율 등의 정의와 관련 수학적 기초를 배운다. 구조물은 트러스(truss) 및 보 (beam) 요소가 열 핵융합을 포함한 접합, 벽돌암 등 일반적 외력 을 받을 때, 힘의 영향을 이용한 자유 무동적을 그리고 발생하는 내력의 분포를 파악한다. 또한, 그 내력에 의해 발생되는 변형율과 응력의 분포를 계산할 수 있는 기초를 공부한다.

Students learn the definitions of force, stress, strain and other related mathematical basics in solid mechanics. When the truss and beam elements constituting a structure are subjected to general external forces such as bending and torsion including thermal load, the free body diagram is obtained by using the equilibrium of force, and the resultant internal force distribution is obtained. In addition, the basis for calculating the distribution of strain and stress caused by the internal force is studied.

414.252* 구조동역학 3-3-0

Structural Dynamics

본 과목에서는 주요 기본역학의 한 분야인 동역학에 대한 기초

이론 및 운동동학에 대하여 학습한다. 주요 내용으로는 외력이 받는 단일 질점에 대한 운동학(kinematics of particles), 질점계 (systems of particles), 질점 동역학(particle dynamics)에 대한 학습이다. 이를 바탕으로 강제 운동동학(kinematics of rigid body), 강제의 물질운동(plane motion of rigid bodies)에 대한 힘과 가속도, 에너지 및 운동량 방정식동 등에 대해 배우며 마지막으로 기체 전동(mechanical vibrations)에 학습한다.

This course treats basic theories and applied problems of dynamics which is one of main mechanics. It covers kinematics of particles, systems of particles energy and particle dynamics when the particle is subjected to external loads. Students also learn kinematics of rigid body, plane motion of rigid bodies in terms of forces & acceleration and energy & momentum. Finally, mechanical vibrations is studied.

414.261* 선박계산 3-3-0

Naval Architectural Calculation

본 강의에서는 선박이 반드시 가져야 하는 주요 성능 중 하나인 복원성(stability)의 개념을 설명하고, 이를 평가하기 위한 일반의 과정인 선박계산에 대해 학습한다. 먼저 선박과 같은 부유체에 적용되는 다양한 힘 및 토크를 이해하고, 선박의 복원성 및 중종점을 학습한다. 복원성의 개념을 이해하기 위한 다양한 힘에 대한 학습한다. 또한, 선박의 복원성을 평가하기 위한 여러 개의학적 방법을 설명하고, 유체역학적 계수 및 배수응력 등중도수를 구하기 위한 방법을 학습한다. 이어서 선박의 환경을 입혔을 때 복원성을 평가하기 위한 두 가지 방법, 즉 결정론적 방법과 확률론적 방법에 대해 소개한다. 본 강의는 선박과 관련한 다양한 계산 방법을 다루고 있으며, 과정적으로 설계 과정에서 적용하여 선박의 안정성 및 복원성을 평가하기 위한 목적으로 한다.

This lecture explains the concept of stability which is one of the main performances that a ship must have. It also gives a detailed explanation about the methods for naval architectural calculation of a ship, which is a series of processes to evaluate it. First, students will learn about various forces and moments acting on the floating body like a ship, and then the transverse stability and the longitudinal stability of the ship. Next, they will learn about the free surface effect and the inclining test to obtain an accurate center of gravity of a ship. They will then learn about various criteria for evaluating the overall stability from the stability curve of a ship. In particular, various numerical integration methods for generating the stability curve of the ship are explained, and the methods of finding the hydrostatic coefficients and curves are studied. Next, they will study in depth two methods for assessing the stability when a ship is damaged: deterministic and probabilistic methods. This lecture deals with various calculation methods, and finally, those methods are applied to the design process to evaluate the stability of the ship.

414.318 신호처리 3-3-0

Signal Processing

조선해양공학 실험과 각종 해양·운항정보 처리에 사용되는 디지털 신호에 대한 기초와 이론을 통하여 이를 바탕으로 설계 테라스의 컴퓨터 신호처리와 수중음향신호처리의 실제적인 응용을 다룬다. 추가적으로 본 교육은 MATLAB을 사용한 실습을 통해 학습하기를 목적으로 한다.

Basic digital signal processing theory used in processing
the experimental data inevitably occurring in naval architecture & ocean engineering discipline, specifically in underwater acoustics, is studied. We apply the fundamental theory into real application practices. Additionally, use of MATLAB is required to tackle problems assigned, thus the students will naturally acquire the ability to use MATLAB.

414.319  
Creative Experiments in Naval Architecture and Ocean Engineering

414.336  
Fundamentals in Finite Element Analysis

414.341*  
Marine Hydrodynamics

the related definitions and theories for potential flows are studied. We will review the fundamentals of fluid flows and the mathematical basis for vector analysis.

414.343  
Dynamics of Ocean Waves

414.361  
Design Theory of Ship and Offshore Structure
the method of performing local scintling. In the stage of outfitting design, the design method is briefly divided and explained into hull outfitting, machinery outfitting, accommodation outfitting, and electric outfitting. This lecture covers key theories for the basic design of ships and offshore structures and ultimately aims to provide then students with a basic ability to directly perform the basic design of ship and offshore structures.

414.419 조선해양경영론 3-3-0
Shipyard Economics and Management

This course deals with six-factors of the shipyard (product, process, scheduling, facility, human, space) and management theory at strategic/planning/executive stage based on engineering understanding of the production process of ships and offshore structures. Specifically, students will learn about various detailed processes accompanying production process of the ship (fabrication, assembly, erection, outfitting, painting, etc.) and production dynamics and algorithms that are necessary for shipbuilding especially about the factors like product, space, and human. Based on the production management theory of industrial engineering, the theory and practice of strategic, planning, and execution stages are performed for a certain part. Finally, they will study the DES simulation method to analyze the dynamic characteristics of the production system, and will carry out the shipyard or related industrial case project.

M1513.000600* 해양플랫폼공학개론 3-3-0
Introduction to Offshore Engineering

The offshore platforms or offshore units mean the facilities of the shipyard (product, process, space, human). In the practical stage, management for offshore activities is required. Students will carry out the shipyard or related industrial case project.

M1513.000700* 해양열역학 3-3-0
Offshore Engineering Thermodynamics

Thermodynamics handles various kinds of mechanical equipment (turbine, pump, heat exchanger etc.) that uses energy in work or heat, and separators using phase equilibrium. Students will learn how to calculate energy, relationship between heat and work, heat engine, thermodynamic state (T, P, h, s etc.)

In this lecture, to effectively generate a hull form model and a compartment model of a ship in 3D using the lines drawing in 2D is explained for the basic design of the ship. And, the applications of the models are also described. First, Bezier curves and B-spline curves are studied and then extended to Bezier surfaces and B-spline surfaces. As a topology for a representation of piecewise surfaces of a 3D hull form model, students will learn about the boundary representation method as a solid modeling method. Primarily, students will deal with the problem of generating a compartment model by dividing the hull form model with some bulkheads based on the boundary representation method. Finally, students will deal with the problem of generating the developable surface from the hull form model, so that this lecture deals with not only the ship design but also the application to the ship production such as hull forming.

Students understand the transformation equations and the Moiré’s circle for the stress and strain in the plane stress state and understand the plane stress state deeply through the spherical or cylindrical pressure vessel application. Also, they learn the deflection of beam and the bending elastic energy which are important for beam design and analysis. They study the statically indeterminate beam and its various solutions. Finally, they study buckling and stability of columns. In the second half of this course, students learn the basic theory of vibration for free vibration and forced vibration, and learn about the concept of transient vibration, multi-degree of freedom vibration system and major vibration system of

M1513.0002000 친환경 선박추진 시스템 설계 3-3-0
Eco-friendly Ship Propulsion System Design

친환경 선박 추진 시스템의 설계는 고급 선박 추진 시스템을 만족시킬 수 있는 고효율 친환경 선박 추진 시스템을 만드는 것이 본 교과목의 주요 목표다. 환경 친화적인 시스템의 구현은 선박 추진 시스템의 설계와 운영에서 고려되어야 한다. 또한, 효율 향상을 위하여 고성능 추진 시스템을 설계하기 위한 환경 친화적인 추진 시스템의 설계와 친환경 추진 시스템의 설계가 필요하다. 환경 친화적인 친환경 추진 시스템은 고가의 장비와 도구를 사용하여 설계와 설계에 사용된다. 또한, 효율 향상을 위하여 고성능 추진 시스템의 설계와 친환경 추진 시스템의 설계가 필요하다.

The eco-friendly ship propulsion system is a high-efficiency eco-friendly power source that can satisfy stringent marine environmental regulations. The eco-friendly ship propulsion system can use alternative fuels such as natural gas, hydrogen and ammonia while using the existing ship propulsion system. In addition, in order to improve efficiency, conventional propulsion system may be replaced with an alternative power sources such as a fuel cell and a hybrid system. There are various types of fuel cell systems that have been spotlighted as alternative power sources for electric propulsion systems, and the system configuration may vary depending on the type of fuel and fuel cell system. To determine an optimal design of a highly efficient eco-friendly ship propulsion system, it is necessary to acquire basic en
engineering knowledge to understand the characteristics of fuel and alternative power sources. This class covers the various propulsion system for future eco-friendly ship. Along with the introduction of the conventional ship propulsion system, we will learn about the conversion to high-efficiency eco-friendly propulsion systems such as internal combustion engines, fuel cells, batteries, and hybrid systems as well as fuel diversification to satisfy the strict marine environmental regulations.

In this class, students will learn the overall systems and fundamentals of basic equipment required for offshore platforms, and the background knowledge for the safety issues. The overall production systems from subsea to topside will be studied with the function and specifications of each equipment. Additionally, students will learn what kinds of incidents happened in the offshore industry history, and how to define and calculate risk for offshore safety based on the quantitative risk assessment method.

This course provides an understanding of resistance and propulsion of marine vessels. Experimental and theoretical methods are covered with an emphasis on application to design. Students are shown the theory behind these methods and are required to demonstrate usage of the methods to predict resistance and powering requirements. Student will acquire fundamental knowledge in ship hydrodynamics and know the principles for designing an efficient hull form.

In this course, students will learn the overall systems and fundamentals of basic equipment required for offshore platforms, and the background knowledge for the safety issues. The overall production systems from subsea to topside will be studied with the function and specifications of each equipment. Additionally, students will learn what kinds of incidents happened in the offshore industry history, and how to define and calculate risk for offshore safety based on the quantitative risk assessment method.

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This course aims at three major topics as follows. First, students study the main theories specifically focused on offshore structures. Second, students study the main theories specifically focused on structural mechanics. Third, they learn how to calculate fatigue damage caused by repeated environmental loads.

This course provides an understanding of resistance and propulsion of marine vessels. Experimental and theoretical methods are covered with an emphasis on application to design. Students are shown the theory behind these methods and are required to demonstrate usage of the methods to predict resistance and powering requirements. Student will acquire fundamental knowledge in ship hydrodynamics and know the principles for designing an efficient hull form.

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that includes the design drawings and, in some cases, may include the creation of a mock-up model for the design.

Through this lecture, the students will have the ability to design ships and offshore structures directly, and at the same time, learn how to collaborate with other students through team projects.

M1513.001600 조선해양기계학습  3-3-0

Machine Learning for Naval Architecture and Ocean Engineering

본 강의에서는 통계적 추론에 기반한 기계학습의 기초에 대하여 학습하고 조선해양공학의 응용문제에 대한 프로젝트를 수행한다. 기계학습에 관련된 확률, 선형대수, 최적화의 기초에 대하여 학습 한다. 확률에 기반한 최우추정법에 대하여 학습한다. 비지도 학습 분류 방법 및 선형 회귀법에 대하여 학습한다. Hidden Markov 모델과 Bayesian Inference의 개념, 이론 및 알고리즘에 대한 개념을 학습한다. Neural Network에 기반한 학습모델로 이미지 인식을 위한 Convolutional Neural Network, 음성과 같은 time series 데이터의 학습을 위한 Recurrent Neural Network의 개념에 대하여 학습한다. 그리고 보상에 따라 학습하는 Reinforcement Learning에 대하여 익힌다. 마지막으로 조선해양공학 응용의 기계 학습 프로젝트를 수행하도록 한다.

This course deals with fundamentals of machine learning based on statistical inference to be applied in the area of naval architecture and ocean engineering. Probability, linear algebra, and optimization basics related to machine learning is covered. Then, linear and logistic regression, neural network, Bayesian classifier, hidden Markov model, and support vector machine is studied. Other machine learning algorithms, including principal component analysis, convolutional neural network, and recurrent neural network are covered in an introductory level.
Discrete Mathematics

Experiments implementing example digital circuits. Students confirm their understanding through a series of methodologies for combinational circuits and sequential circuits. These are basic elements of digital circuits and then design methodologies and skills using Java and C++. Students first learn the fundamentals of Java and C++ programming languages, and then they lean by practice how to design and develop high-quality Object-Oriented software that correctly solves real-world problems in a sound and valid way.

Computer Programming

This course covers the mathematical topics closely related to computer science. Topics include: logic, sets, functions, relations, countability, combinators, proof techniques, mathematical induction, recursion, recurrence relations, graph theory, and number theory. The course emphasizes the context and applications of these concepts within computer science.

System Programming

This course introduces basic knowledge for digital circuits, and the principle of logic circuits and amplifier techniques for circuits with capacitors and inductors. It also covers data structures and organized thinking for problem-solving. It covers data structures and organized thinking for problem solving. Specific topics will include arrays, stacks, queues, linked lists, search trees, and hash table.

Data Structures

This course gives a practical introduction to system software. A computer system consists of hardware, system software, and application software. The task of the system software is to efficiently and safely execute programs written in a machine language on given hardware while other programs are also running. This class covers aspects of an operating systems' system software, I/O and file management, network and web programming.

Electrical and Electronic Circuits

This course deals with the basics on the electrical and electronic circuits. It covers the general circuit analysis methods for software development and problem-solving. It covers the operation principle and characteristics of MOS and Bipolar transistors, two key components of electronic circuits. It also covers the operation principle and characteristics of MOS and Bipolar transistors, two key components of electronic circuits, and the principle of logic circuits and amplifier circuits. Throughput this course, students will learn the basic knowledge on the understanding of digital hardware: electrical characteristics, speed, and power consumption.

Computer Engineering Seminar

Students confirm their understanding through a series of experiments implementing example digital circuits.
In this course, special topics in computer engineering will be analyzed and discussed in-dept with experts, these topics include hardware, software and computer application systems.

4190.210 Principles of Programming

Principles of Programming

This course helps students learn programming elements, programming methodologies, and program design principles so that students can handle the mounting complexity of softwares in real world. This course emphasizes on high-level programming skills: that is, more on pure software design than on system software design, more on abstraction than on implementation by exercising the learned programming principles and software engineering techniques.

M1522.002400 Principles and Practices of Software Development

Principles and Practices of Software Development

This course deals with the basic principles of data and software engineering techniques.

M1522.001800 Database

Database

This course also covers advanced issues such as concurrency controls and disaster recovery methods.

M1522.002100 Data Communications

Data Communications

This course deals with the basic principles of data and computer communications, focusing their topology and architecture. Specific topics will include digital data transmission and encoding schemes, along with data link control, multiplexing techniques, and packet switching principles.

4190.303C Embedded Systems and Applications

Embedded Systems and Applications

This course introduces the main software components of embedded systems and studies various design optimization techniques for embedded systems. The topics covered include RTOS, device drivers, and key target applications such as multimedia applications. In addition, the course covers performance evaluation techniques and introduces validation techniques for embedded software.

M1520.306 Automata Theory

Automata Theory

This course studies automata and formal grammars, along with their relationships. Specific topics will include finite automata, pushdown automata and Turing machines. The course also covers regular grammars, context-free grammars and unrestricted grammars.
이 과목은 운영체제가 무엇이며, 그것이 수행하는 역할은 무엇이며, 또한 운영체제의 특성에 대해 배운다. 주요한 주제들은 프로세스 관리, 자원관리 관리, 입출력 시스템, 분산처리 및 보안 등이다. 이와 함께 Linux와 같은 실제 운영체제에 대한 소개도 한다.

This course probes into operating systems. It covers process management, storage management, and I/O systems. The course also studies distributed systems and security issues.

4190.308 컴퓨터구조 3-3-0
Computer Architecture

이 과목에서는 컴퓨터를 구성하는 주요 구성 요소들의 기능과 그들이 상호작용하는 방식을 이해하고 이를 바탕으로 컴퓨터 시스템을 구성하는데 사용되는 여러 설계 기법들을 학습한다. 병렬 컴퓨팅, 중앙처리장치, 파이어웨어, 메모리 계층구조, 입출력장치 등을 다루며 컴퓨터 단위의 역사적 고찰 및 컴퓨터 시스템의 성능 분석에 필요한 지식을 배운다.

This course introduces the main components of a modern computer system including the instruction set, the processor, and the memory hierarchy. We cover techniques such as pipelining, caching, and virtual memory. In addition, this course gives a historical perspective on the evolution of computer systems and an overview of performance evaluation methodologies.

4190.309A 하드웨어시스템설계 3-2-2
Hardware System Design

전기전자회로 및 논리설계의 이론 지식에 기초하여 실제 디지털 하드웨어 시스템을 설계 및 구현할 수 있는 능력 배우며, 학습을 통해서 전반적인 특성을 배운다. 학습은 실험에서 배운 이론적 디지털 회로 전자회로도 소자 특성에 접목하여 실제 디지털 시스템의 구현에 이를 활용이 가능하다. 실험을 통해 전자회로, 신호와 전원 모델링 및 시스템 동작에 미치는 영향을 공부한다. 아울러 디지털 디바이스가 아닌 여러 입력출력 및 통신 디바이스와의 인터페이스를 배운다. 환경의 완전한 디지털 하드웨어 시스템을 구성하기 위한 전원장치를 배우며, LCD 디스플레이 시스템과 호스트 컴퓨터 통신을 공부한다. 실습으로는 포르투나 연습기 등을 배운다.

This course provides both theory and hands-on experience for the design of digital hardware system, assuming the prerequisite knowledge on the electrical and electronics circuits and logic design. It aims to enable all students to design and implement a complete digital hardware system for themselves by applying the theory and lab. experience. Students will learn how the classroom theory of logic circuits is different from the real circuit that is affected by eletronic circuit characteristics. They will also learn the effect of signal and power integrity on the circuit behavior. In addition, this course will cover the interface with several input/output and communication devices. It will also cover other components of a system for independent operation, such as power circuitry, LCD display, and communication design. As the final project, the hardware system that deals with Morse signal will be implemented.

4190.310 프로그래밍언어 3-3-0
Programming Language

이 과목은 프로그래밍 언어에 대한 전반적인 이해를 높이고, 다양한 프로그래밍 언어를 익힌다. 이를 위해 프로그래밍 언어의 개념, 설계 이론, 구현 방법에 대해 공부한다.

This course examines fundamental syntactic and semantic concepts underlying modern programming languages. It helps students compose several small programs in various programming languages.

4190.313 선형 및 비선형계산모델 3-3-0
Linear and Non-linear Computation Models

이 과목은 컴퓨터과학의 기초를 수강한 학부 수학생들을 대상으로 선형대수학, 선형 프로그래밍, 비선형 최적화 등의 다양한 계산 모델들을 소개한다. 이러한 계산모델들이 컴퓨터공학에서 사용되는 구체적인 방법들을 통해 이들이 컴퓨터 공학에서 개발되고 있는지 토대를 마련한다. 이 과목은 선형대수학에 관한 기본 수준의 지식과 C, C++ 등의 프로그래밍을 할 수 있는 지식이 요구된다. 수업의 전반은 강의와 더불어 여
This course aims to providing senior level students with basic introduction to linear and non-linear computation models including selected topics from linear algebra, linear programming, and non-linear optimization. In this course, many examples from computer science and engineering will be discussed. Through these practical examples, the students can understand the usefulness of linear and non-linear models in solving various problems encountered in developing computer application software. Students are expected to be familiar with basic computer science and engineering and they have basic knowledge on how to program using C, C++, etc. In addition to lectures, they will carry out various programming assignments.

4190.402 Software Engineering

Software Engineering is a discipline concerned with the development of software systems that can satisfy the needs of users and stakeholders. This course covers the issues regarding software requirement analysis, various software design methodologies, and software project management.

4190.403 Software Application

Software Application is a discipline concerned with the development of software systems that can satisfy the needs of users and stakeholders. This course covers the issues regarding software requirement analysis, various software design methodologies, and software project management.

4190.404 Algorithms

Algorithms is a discipline concerned with the development of software systems that can satisfy the needs of users and stakeholders. This course covers the issues regarding software requirement analysis, various software design methodologies, and software project management.

4190.405 Artificial Intelligence

Artificial Intelligence is a discipline concerned with the development of software systems that can satisfy the needs of users and stakeholders. This course covers the issues regarding software requirement analysis, various software design methodologies, and software project management.

4190.406 Software Application

Software Application is a discipline concerned with the development of software systems that can satisfy the needs of users and stakeholders. This course covers the issues regarding software requirement analysis, various software design methodologies, and software project management.

4190.407 Algorithms

Algorithms is a discipline concerned with the development of software systems that can satisfy the needs of users and stakeholders. This course covers the issues regarding software requirement analysis, various software design methodologies, and software project management.

4190.408 Artificial Intelligence

Artificial Intelligence is a discipline concerned with the development of software systems that can satisfy the needs of users and stakeholders. This course covers the issues regarding software requirement analysis, various software design methodologies, and software project management.
This course reviews how to model computing resources in terms of quantity and analyzes the performance of the models. It covers basic stochastic modeling, the theory of queues and its application to real cases.

4190.414A 멀티코어 컴퓨팅 3-3-0

Multicore Computing

멀티코어의 등장으로 인하여 모바일 기기, 대스케일 및 서비 컴퓨팅, 슈퍼컴퓨팅을 아우르는 소프트웨어 산업에서 큰 변화가 나타났다. 이와 같은 멀티코어 하드웨어에 의한 성능 증가에 따른 이익을 얻으려면 소프트웨어가 멀티코어에 맞게 작성되어야 한다. 본 과목으로는 많은 변화가 있었고 앞으로도 변화할 멀티코어 구조에 대하여 배우고 이를 위한 소프트웨어를 잘 작성하는 방법에 대한 주제를 다룬다. 다수의 주제는 다음과 같은 주제들에 포함한다.

- 디버깅 기법
- 병렬 프로그래밍 모델, 스케줄링, 동기화, 성능분석기법, 최적화 기법, 다비지 기법 등

The introduction of multicores to the computing market has created a big change in the software industry for mobile devices, desktop computers, servers, and supercomputers. To benefit from performance due to the multicore hardware, software must be specifically built for the multi-core hardware. This course introduces various contemporary multicore architectures and teaches the way how to develop software for them. Topics include multicore processor architectures (mobile devices, desktop computers, servers, and supercomputers), memory hierarchies, memory consistency models, multicore operating systems, parallel programming models, scheduling techniques, synchronization, performance analysis techniques, optimization techniques, debugging techniques. Especially, we cover accelerator architectures, such as GPUs, and understand the trend in heterogeneous computing that exploits such accelerators.

4190.415 컴퓨터보안 3-3-0

Introduction to Computer Security

이 과목은 학부 상급생을 대상으로 컴퓨터 및 네트워크 보안의 기본적인 관심 사항 및 기법들을 소개하고, 보안과 관련된 여러 문제점과 해결 방안에 대한 입문수준의 지식을 제공한다. 주요 학습 주제로는 보안의 정의, 확인, 인증, 접근 제어, 취약성 분석, 보안모델, 보안상태, 악성코드 감지, 취약점 분석, 보안보드, 보안정책, 다양한 테스트, 악성코드 감지, 그리고 네트워크 보안 등을 포함한다. 이 과목은 실용적이고 학습에 있어서 운영
This course aims to introduce general concerns and techniques of computer and network security for advanced undergraduate students. It also provides introductory knowledge for security-related problems and their solutions. Major topics include definition of computer security, identification and authentication, access control, vulnerability analysis, security models, security evaluation, cryptography, intrusion detection, system security, and network security. The students are required to have basic knowledge of operating system and computer network.

Basic Digital Signal Processing

This course deals with the basics of digital signal processing. In the first half, it covers the analysis of Fourier-transformed signals in the frequency domain and the sampling theorem which translates an analog signal to a digital signal. In the second half, digital filters, signal processing in the frequency domain, and FFT (Fast Fourier Transform) will be explained. It ends with a brief introduction on image processing.

IT-leadership Seminar

This course is to teach the basics of leadership in the IT field through case studies by experts. The topics include general elements of leadership and leadership skills considering special requirements of IT field.

Computer Convergence Application

This course introduces the fundamental components and practical techniques of Human-Computer Interaction which is a field of study on designing, implementing, and evaluating interactive computing systems for human use. It starts with studying designs of everyday objects to help students to realize the importance of the efficient design of interactive computing systems. Then, HCI theories and techniques on how to involve users in designing and evaluating interactive computing systems will be covered. In this course, students have a chance to apply the HCI theories and techniques to solving practical problems while designing and implementing a team project throughout the semester.

Social Network Analysis

This course deals with the basics of digital signal processing. In the first half, it covers the analysis of Fourier-transformed signals in the frequency domain and the sampling theorem which translates an analog signal to a digital signal. In the second half, digital filters, signal processing in the frequency domain, and FFT (Fast Fourier Transform) will be explained. It ends with a brief introduction on image processing.

Human Computer Interaction

This course introduces the fundamental components and practical techniques of Human-Computer Interaction which is a field of study on designing, implementing, and evaluating interactive computing systems for human use. It starts with studying designs of everyday objects to help students to realize the importance of the efficient design of interactive computing systems. Then, HCI theories and techniques on how to involve users in designing and evaluating interactive computing systems will be covered. In this course, students have a chance to apply the HCI theories and techniques to solving practical problems while designing and implementing a team project throughout the semester.
스에 사용되고 있으며 컴퓨터구조, 컴퓨터언어, 운영체제, 통신망 시스템의 모델링 및 성능 예측 등 컴퓨터공학의 다양한 분야에서 널리 활용되고 있다. 본 교과목은 감독학습, 무감독 학습, 강화학습 등 기계학습의 기본 개념과 원리, 여러 가지 학습 방법에 대한 모델 구조와 학습 알고리즘 및 그 수학적인 기반을 제공하는 것을 목적으로 한다. 편평본, 확률관계모델링, 순차적 의사결정과정에 대한 구체적인 학습 구조와 알고리즘을 살펴보며 실제 응용문제 해결을 위한 미니 프로젝트를 통하여 그 활용 방법을 습득한다.

A learning system is a system that improves its performance based on the knowledge acquired from experience through its interaction with the environment. Machine learning studies computational models of the learning systems by developing the architectures and algorithms that automatically build the models of the data from the past experience and use them to predict the future behavior of the systems. Machine learning has been successfully applied to Internet information retrieval, text mining, computer vision, robotics, and games. Recently, it is deployed in a wide range of applications, including in mobile phones and smart TVs for user modeling and personalized recommendation services and, also, in computer architecture, compilers, operating systems, and communication network systems for empirical modeling and performance prediction. This course aims to provide the attendants with the basic concepts and principles of supervised, unsupervised, and reinforcement learning methods and their model structures, algorithms, and mathematical backgrounds. Students learn the specific learning architectures and algorithms for pattern classification, probabilistic relational modeling, and sequential decision-making through mini projects on real-life application problems.

M1522.001000 컴퓨터비전 3-3-0

Computer Vision

컴퓨터비전은 학계와 산업체 모두에서 가장 빠르게 발전하는 인공 지능 분야로, 3차원 세계를 기록한 사진 및 동영상과 같은 시각정보들을 획득, 처리, 분석, 이해하는 데에 그 목적이 있다. 본 과목은 학부 4년생을 위한 과목으로써 컴퓨터비전과 관련한 기초적인 개념과 방법론 및 그 응용을 배운다. 아울러 프로그래밍으로 구성된 과제들과 학기 프로젝트를 통해 실제 영상을 다루는 경험을 빼내는 주제를 다룬다. 본 수업에서 다루는 주제로는, 영상 처리 및 분할, 특징점 추출, 컴퓨터 실수, 사전기 모델, 3차원 복원, 인공 및 물체 인식과 같은 것들을 포함한다.

Computer vision is one of fastest growing subfields of artificial intelligence in academia and industry. The goal of computer vision is to acquire, process, analyze, and understand the images of a three-dimensional world. This is an undergraduate-level introductory course to the fundamental principles and important applications of computer vision. We expect to cover topics including image processing, segmentation, feature extraction, photometric vision, motion and tracking, camera models, scene reconstruction, and human/scene/object recognition and detection.

M1522.001200 컴퓨터 신기술 특강 3-3-0

Topics in New Computer Technology

기존의 교과목에서 다루지 못한 새롭게 개발된 컴퓨터 공학 기술들 중 특정 주제를 다룬다. 강의 주제는 매개학기 바뀔 수 있으 며 강의 개설시기에 사전에 소속되어야 한다. 2015년 기준으로, 강의 주제는 예를 들면 빅데이터 분석, 소프트웨어 컴퓨팅, 딥러닝, 로봇학, 3차원 프런팅, 클라우드 컴퓨팅, 사물 인터넷, 양자 컴퓨팅 등이 될 수 있다.

This course teaches a particular topic in new computer technology that is not covered by existing courses. The topic of this course may vary each semester. See the syllabus for details. As of 2015, examples of possible topics may include big-data analysis, software verification, deep learning, robotics, 3D printing, cloud computing, internet of things and quantum computing.

M1522.002300 인터넷 보안 3-3-0

Internet Security

인터넷 보안은 시스템을 근본적으로 이해하기 위해서는 중요한 기술 과 그 수학적인 원리를 알아야 가능하다. 본 강좌에서는 먼저 암호 기술을 이해하기 위해 필요한 기본적인 내용, 시스템 로그, 소스코드 분석, 해양 해킹 등을 설명한다. 그 다음에는 대청액 양자기법, 공개ключ 암호법, 디지털 셀링, 폰 보안 등 기본 기술들을 다루고, 마지막으로 그 뒤에 공개키보안기술(PKI), 비트코인, TLS, 웹 보안, Tor 등 암호 기술들을 다룬다.

본 과목은 컴퓨터공학을 전공 혹은 부전공으로 하는 학부생들을 대상으로 하며, 학부생들이 일반 고등학교 수학과 이산수학을 수강하였으면 무리 없이 본 강의를 수강할 수 있도록 강의 내용을 간편화하였다.

Computers and Internet technologies have become the social infrastructure, and hence understanding the security requirements, security mechanisms, and system vulnerabilities is crucial for students who major in computer science and engineering.

To understand security systems, it is a must to know cryptographic techniques and its mathematical backgrounds. This course deals with mathematics including number theory, discrete logarithm, integer factorization, hash function to understand cryptography. Then, students learn basic security techniques such as symmetric key cryptography, public key cryptography, digital signature, key management and so on. Last, we deal with application security techniques like PKI, Bitcoin, TLS, Web security, Tor and so on.

This course aims at undergraduate students who major in computer science and engineering. The prerequisite for this course will be high school mathematics and discrete mathematics.

M1522.002500 양자 컴퓨팅 및 정보의 기초 3-3-0

Introduction to Quantum Computing and Information

양자 컴퓨팅은 기존 정보처리장치에서 비효율적인 연산을 양자 시스템의 고유한 성질을 활용하여 효율적으로 해결하는 장치이다. 이 강좌는 양자 컴퓨팅의 작동원리를 이해하는데 필요한 간단한 계산 이론에 대한 소개와 선택된 기초의 수학으로 추상화된 양자역학의 기초를 소개한 후, 이를 바탕으로 양자 회로를 구성하는데 필요한 양자 게이트들과 이들로 이용한 양자 알고리즘을 살펴보는 것을 내용으로 한다. 또한, 대표적인 양자암호 프로토콜들에 대해 살펴보고 양자 오류정정 부호 등 양자 정보의 전반적인 기초 지식과 최근 연구 동향에 대해서도 소개한다.

Quantum computer is expected to demonstrate exponential speed-up in solving some of the challenging problems with
the traditional computer by utilizing unique properties in the quantum-mechanical systems. This course will start with an overview of the traditional computational model and an introduction to quantum mechanics in terms of linear algebra, and based on these concepts, this course will deal with various quantum circuits and quantum algorithms described in terms of quantum gates. Also some of the well-known quantum key distribution protocols will be introduced, and basics of quantum error-correction will be discussed.

Understanding Blockchains

This course deals with the basic technologies of Blockchains including public key cryptography, hash functions, digital signature, zero-knowledge proof. Then the key concepts of Blockchains like consensus algorithms, data feeds, governance, determinism are explained.

Next, we look at the representative Blockchain systems like Bitcoin, Ethereum, Hyperledger Fabric, and Ripple. Student will get familiar with the concept of decentralization by studying (1) consensus algorithms like PoW, PoS, PBFT and Paxos, and (2) P2P networking technologies like Chord, Pastry, and Kademlia.

Field Application of Computer Education

Graduates of computer science and engineering may have to share computer-related knowledge and experiences with other people. The objective of this course is to make the students learn comprehensive pedagogical methods, and how such methods can be applied to the fields of computer-related courses. To this end, the students first learn teaching skills, understanding the learning process, student-centric teaching, interaction with students, e-learning tools and so on. After this, students participate in the lectures, homework assignments, experiments of the computer-related courses, and analyze the pros and cons of the pedagogical methods in the computer education fields.

Introduction to Natural Language Processing

Natural language processing (NLP) is an important area of artificial intelligence, with a diverse range of applications, including web search, translation, and dialogues. Effective approaches include statistical and deep learning approaches, and more recently, large-scale language models have contributed to super-human performances across many different NLP tasks, using single end-to-end neural models that do not require traditional, task-specific feature engineering. In this course, students will gain insights for designing, implementing, and understanding their own NLP models.

Course introduction

1. Course introduction
2. Bag-of-word language models
3. N-gram language models
4. Bayesian models
5. Logistic regressions
6. Vector semantics and embeddings
7. CNN
8. RNN
9. Transformer
10. Contextual embedding
11. Knowledge
12. AI Fairness for NLP
This course studies electromagnetic waves. It covers transduction and radiating systems. The design methodology of finite state machines is explained with various applications.

430.202B*  기초전자기학 및 실험  4-3-2
Introduction to Electromagnetism with Practice

Digital Logic Design and Lab

The objective of this course is to provide students the concrete concepts of logic design by learning its basic concepts and doing their corresponding experiments including a small project. This class covers the basic concepts of logic design such as basic gates (NOT, NOR, NAND) with the design and optimization of combinational logic circuits. Number system theories are introduced and the implementation of arithmetic units such as adders and multipliers are explained. For sequential logic design, this class covers basic storage elements, flipflops, PLAs, FPGAs, synchronous design methodology, and counters. The design methodology of finite state machines is explained with various applications.

430.207B*  기초전자회로 및 실험  4-3-2
Electromagnetics

This course studies electromagnetic waves. It covers transmission lines, waveguides and cavity resonators, along with antennas and radiating systems.
Linear Algebra for Electrical Systems

This course presents the basic theories and techniques of matrix, linear algebra and applications for the linear systems in electrical engineering. Through this course students will learn about mathematical reasoning and proofs, and also acquire the basic skills to model, analyze and solve real engineering problems by linear algebra techniques. The topics will include the definitions of vectors and matrices, the solution of linear system of equations, vector spaces associated with matrix, linear algebra and applications for the linear systems engineering problems by linear algebra techniques. The topics will include the definitions of vectors and matrices, the solution of linear system of equations, vector spaces associated with matrix, determinants, independence and orthogonality, eigenvalues and eigenvectors, similarity transform, positive definite matrices, and the least square problem.

Electromechanical Energy Conversion

This course studies various signal processing tools and systems which are widely used in modern electronics and other engineering systems. It covers diverse applications of the signal processing methods in various areas.

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are analyzed using the theory. Finally, stability and steady-state response are analyzed in general electric machines including linear machines.

430.310 Fundamentals of Control Engineering

This course focuses on dynamic systems and responses, along with the basic properties of feedback, Root-locus method, and frequency response method.

430.312 Semiconductor Devices

Random processes are analyzed using the theory. Finally, stability and steady-state response are analyzed in general electric machines including linear machines.

430.314 Introduction to Random Variables

430.315A Digital Systems Design and Experiments

This course introduces random variables and processes to linear systems with random inputs. Specific topics will include probability space, the first and second moments, linear systems with random inputs, and frequency response method.

430.317 Introduction to Communications

This course focuses on dynamic systems and responses, along with the basic properties of feedback, Root-locus method, and frequency response method.

430.318 Introduction to Operation System

This course provides hardware and software design techniques. Specific topics include probability space, the first and second moments, linear systems with random inputs, and frequency response method.

430.322 Computer Organization

This course focuses on dynamic systems and responses, along with the basic properties of feedback, Root-locus method, and frequency response method.

430.325A Digital Systems Design and Experiments

This course introduces random variables and processes to linear systems with random inputs. Specific topics will include probability space, the first and second moments, linear systems with random inputs, and frequency response method.

430.326 Introduction to Random Variables

430.327 Digital Systems Design and Experiments

This course focuses on dynamic systems and responses, along with the basic properties of feedback, Root-locus method, and frequency response method.

430.328 Computer Organization

This course focuses on dynamic systems and responses, along with the basic properties of feedback, Root-locus method, and frequency response method.

430.330A Digital Systems Design and Experiments

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430.331 Introduction to Random Variables

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430.326 양자역학의 응용 3-3-0

Application of Quantum Mechanics

이 과목에서는 양자역학의 기초 및 응용을 강의하고 이를 바탕으로 한 통계역학의 기본적 내용을 설명한다. 즉, 포텐과 입자의 양방성에 대한 설명에서 시작하여 주어진 방정식을 펼치로 터널링 현상, 수소원자, 분자의 에너지 준위, 삼각이온, 빛과 원자의 상호작용 및 에너지 등을 강의하고, 반도체와 광학의 이해를 필수적으로 요구하는 통계역학의 기본 개념과 기본적 관념을 강의한다.

In this course, fundamental and applications of quantum mechanics, and statistical mechanics are covered. Main topics include wave-particle duality, Schrodinger equation, tunneling, hydrogen atom, energy levels of molecules, perturbation theory, photon-atom interaction, laser, fundamental concept of statistical mechanics and energy band theory, which will provide students with fundamental background for better understanding of semiconductor and photonics.

430.328 전력 및 에너지시스템의 기초 3-3-0

Introduction to Electric Power and Energy Systems

본 과목은 전력과 에너지 시스템에 대한 기초 교과목이며, 본 과목은 다양한 전력 및 에너지 시스템에 대한 이해, 분석, 설계에 대한 학부생의 능력을 요구한다. 전력의 기초, 3상 전기 시스템, 냉동 및 태양광 발전 시스템, 전력 전송, 전력, 접속 등의 기술에 대해 개요 수준으로 다룸. 전력과 전기 에너지 변환 시스템의 이해도를 높이기 위한 과목임.

This course introduces electric power and energy systems. It is intended to promote abilities of the undergraduate students to understand, analyze and design various electric power and energy systems. It includes the fundamentals of electric power, 3 phase electric system, power generations by wind and solar energy systems, the transmission, the distribution, and the grid connection technologies. It will provide understanding of electric power and the power conversion in energy systems.

430.329 알고리즘의 기초 3-3-0

Introduction to Algorithms

여러 가지 문제를 컴퓨터로 해결하기 위한 다양한 방법론이라 할 수 있는 알고리즘을 본 과목에서는 소개한다. 특히 알고리즘 분석 기법을 통해 효율적인 알고리즘을 개발하고 이해할 능력을 키운다. 또한 컴퓨터가 물론 있는 취한 문제와 어려운 문제들을 구별하기 위한 NP-complete 문제를 메우며 이러한 문제를 해결하기 위한 근사 알고리즘을 소개한다.

This course introduces many algorithms for various problems. It helps students to understand and develop efficient algorithms using algorithm analysis techniques. NP-complete theory is also introduced to differentiate easy and difficult problems that computers can solve, and approximation algorithms are introduced to handle difficult problems.
This course covers the basics in bio-instrumentation techniques for clinical and research measurements. Course topics include design of medical instruments composed of biosensors, amplifiers, and signal processing methods. Measurement of various bio-signals, such as those from muscles (electromyogram; EMG), heart (electrocardiogram; ECG), and eyes (electrooculogram; EOG) will be dealt with. Also discussed will be more recent topics such as neural signal acquisition and its application into the Brain Machine Interface (BMI) and the use of nano-structured biosensors for detection of cellular signals. Some lab demonstration will be done.

430.431A 유기전자소자 3-3-0

**Organic electronic Devices**

본 강좌는 학부 4학년에 개설되어 전기전자 재료의 특성을 체계적으로 이해하기 위해 고체의 결합유형, 결정성과 비결정성, 고체 재료의 열적 및 전기적 특성, 반도체의 성질, 칼럼 전자와 형태학적 특성 및 전자현상에 대해 다룬다. 또한, 다양한 전자현상에 관한 다양한 주제로 구성된 전자현상의 기초 및 현상을 설명한다.

430.423 광전자공학 3-3-0

**Introduction to Photonics**

이 과목은 광학의 기본 원리를 강의하고, 광학의 기본 원리를 사용하여 광학적 현상에 대해 설명한다. 또한, 광학의 기본 원리


430.442 전력전자공학 3-3-0

Power Electronics

The objective of this course is to provide students with the concrete concepts of fundamental theory and devices for electro-physics. Based on the solid-state physics, quantum mechanics, thermal physics and statistical physics, the following subjects are discussed: the characteristics of electronic materials, the interaction between light and material, the structures and characteristics of semiconductors, conductors, anisotropic materials, nonlinear optic materials, electronic devices and optical devices using the materials, and polymer devices. The current status and applications of the electronic devices, optical devices and display devices are also explained.

430.446A 마이크로시스템기술개론 3-3-0

Introduction to Microsystem Technology

Microsystem technology, based on semiconductor IC device fabrication technology, fabricates Microsystems and applies it to various fields. In this lecture, design theories, fabrication technologies and applications of the microsystem are given. Firstly, as basic microstructures, cantilevers, bridges, diaphragm and comb actuators are designed. Principles of electrostatic forces, electromagnetic forces and piezo forces are explained. As fabrication technologies, silicon surface and bulk micromachining technologies are explained, and micro-system's applications on inertial microsensors, micro optics, biotechnology and RF are also given in this lecture.

430.447 전력시스템이론 3-3-0

Power System Economics

This course explains the basic principles of power electronics to electric vehicles, cellular phones, computers and display devices. It also introduces the applications of power electronics to electric vehicles, cellular phones, computers and display devices. The current status and applications of the electronic devices, optical devices and display devices are also explained.

The plan of this course is following. After introducing the participants in a restructured electricity supply industry, we discuss the concepts from microeconomics that are essential for the understanding of electricity markets. We then move on to the analysis of the operation of power systems in a competitive environment. To Keep matters simple, we begin by ignoring the transmission network and we consider the operation of pure energy markets. We then discuss power system security and the effects that networks have on electricity prices. Finally, in the last course, we consider the issue of investments in power generation and transmission equipment in a competitive environment.

430.448 전기기기 및 제어 3-3-0

Electric Machine and Control

This course provides an overview of the basic principles of electric machines and drives, which are highly demanding for a broad spectrum of modern society. In this course, we discuss the basic principles of electric machines and drives, including their power source, so-called electric power systems, and the operation principles of various electric machines including transformer will be introduced. And, the steady state characteristics of the machines will be discussed. Basic circuits to drive the electric machines based on power electronics are investigated with their associated electric machines. Also, the electric power system, which is used to provide electric power to the machine, will be discussed. The course is intended to introduce the basic operation principles of electric machines, drive system, and power system to the beginners. And, not only electrical engineering majors but also other engineering majors can take this lecture to extend the knowledge of electric machines and drive system.

430.452A 로봇공학개론 3-3-0

Introduction to Robotics

This course provides an overview of the basic principles of electric machines and drives, which are highly demanding for a broad spectrum of modern society. In this course, we discuss the basic principles of electric machines and drives, including their power source, so-called electric power systems, and the operation principles of various electric machines including transformer will be introduced. And, the steady state characteristics of the machines will be discussed. Basic circuits to drive the electric machines based on power electronics are investigated with their associated electric machines. Also, the electric power system, which is used to provide electric power to the machine, will be discussed. The course is intended to introduce the basic operation principles of electric machines, drive system, and power system to the beginners. And, not only electrical engineering majors but also other engineering majors can take this lecture to extend the knowledge of electric machines and drive system.
Advanced Control Techniques

State-space representation will be introduced in this lecture. The lecture includes control system design, including pole placement technique, state estimator, and robust tracking. It covers state-space design methods with various algorithms. This course introduces the state-variable method of describing differential equations. It covers state-space design methods involving pole assignment technique, state estimator, and robust tracking.

Introduction to Intelligent Systems

This course introduces the foundations of intelligent systems, such as probabilistic modeling and inference, statistical machine learning, computer vision, and robotics, to undergraduate students. Topics include Bayesian networks, hidden Markov models, Kalman filters, Markov decision processes, and their applications. Bayesian networks, hidden Markov models, Kalman filters, Markov decision processes, and posterior probability are also discussed. This course introduces the state-variable method of describing differential equations. It covers state-space design methods involving pole assignment technique, state estimator, and robust tracking.

Introduction to Digital Signal Processing

This course introduces basic theories of digital modulations, construction, and mechanism of a variety of microwave application system. It covers spectrum communication systems, multiple access systems, and the information theory.
Main focus of this lecture is introduction of basic physical and chemical principles of cells to understand information and energy transportation systems in living organisms.

1. Physical modeling to explain basic metabolism, production of proteins and metabolites, intra/extracellular transport of energy, signals, and materials
2. To understand electrical and chemical modeling of various characteristics and functions of neurons as basic building blocks of brain and nervous systems
3. To understand generation of electrochemical gradient by active transportation, basis of membrane potential, action potential, signal transduction in synapse, synaptic plasticity
4. To introduce various micro-nano scale optical/electrical/chemical devices for measurement of characteristics and functions of neuronal cells and tissues

**M2608.001300 기계학습 기초 및 전기정보 응용 3-3-0**

Machine Learning Fundamentals and Applications in Electrical and Computer Engineering

This is an undergraduate-level machine learning course for students in electrical and computer engineering and related fields. This class focuses on the fundamental concepts of machine learning as a core of artificial intelligence and their applications in various domains including electrical and computer engineering. This course will cover various algorithms of machine learning and their mathematical models. Students will be assigned programming projects and homework assignments through which they can have hands-on experiences with various state-of-the-art machine learning algorithms to solve practical problems. Covered topics include: deep learning design, supervised learning and unsupervised learning, linear regression, logistic regression, random forests, clustering algorithms, support vector machines, artificial neural networks, hidden Markov models, collaborative filtering, graph models, and deep learning fundamentals. Prerequisites: data structures or algorithms, linear algebra for electrical systems, probability and random variables, and programming methodology.

**M2608.001400 전기 기초세미나 1 1-1-0**

Seminar in Electrical and Computer Engineering 1

이 강좌는 전기전자 공학을 전공으로 학습하기 시작한 학생에게 전기전자 공학의 기초적이며 전반적인 원리 및 응용을 보고서 작성법, 구두 발표법 등등의 지식 및 연구윤리의식을 고취하기 위한 기술과 아이크로나 사이즈의 평활의, 전기적, 화학적 장치를 다룬다.
This course deals with the analysis and design of analog CMOS integrated circuits, emphasizing fundamentals as well as new paradigms that undergraduate students and practicing engineers need to master in today’s industry. This course deals with the analysis and design of analog CMOS integrated circuits, emphasizing fundamentals as well as new paradigms that students and practicing engineers need to master in today’s industry. Since analog circuit design requires both intuition and rigor, each concept is first introduced from an intuitive perspective and subsequently treated by careful analysis. Specifically, the course covers general topics in CMOS analog IC design; biasing, noise, single-stage amplifiers, differential amplifiers, OP-Amp, OTA, frequency domain analysis, active filter, oscillator, and PLL. While the focus of the course is on CMOS IC design, design in bipolar and BiCMOS technologies are introduced as well. A design project is a key component of the course.

**M2608.001900** インタロダクトゥ・コンピュータビジョン

Introduction to Computer Vision

본 교과는 인공지능의 중요한 문제중 하나인 컴퓨터비전의 기초를 소개하는 과목으로서 컴퓨터비전 관련 이론의 이해는 물론 알고리즘의 설계 및 분석을 통해 다양한 실용적 응용예를 익힌 다. 본 교과의 내용으로는 선형설계과정의 발전학, 영상전 처리 및 복원문제로부터 영상영상처리, 그리고 문제해결 및 인식 문제 등의 고차원 문제가 포함될 것이며, 이의 해결을 위한 고전적인 접근 방법 뿐 아니라 최근 연구개발 및 방법론들을 포함한 다.

This course introduces the fundamentals of computer vision and machine vision, and their applications. Through this course, students will learn about the basic theories, methodologies as well as practical skills for designing and solving computer vision problems ranging from the low-level vision(early vision) and mid-level vision (feature extraction, reconstruction) to high-level vision (recognition, analysis). Recent emerging research topics and trends in computer vision will also be covered.

**M2608.002200** 정보 이론

Information Theory

본 강좌에서는 정보이론과 그 응용을 다룬다. 우선 엔트로피의 정의와 개념을 다루고, 연속확률변수 상황의 diferenciaent entropy, relative entropy, mutual information으로 개념을 확장한다. 그 응용으로 무손실 압축방법론을 다루고, 정보 전달량의 한계치를 분석한다. 또한 음성신호 입출력에 대한 분석, JPEG 및 MPEG 등 의 응용사례를 다룬다. 통신이론에서 채널 용량 관계에서의 통신, Shannon 엔트로피, rate distortion, Huffman 코드, 랜덤 코드 등의 응용도 다룬다.

This course covers basic information theory and its applications. The definition of entropy is introduced first with its intuitive concepts. The entropy concept is extended to differential entropy for continuous random variables, relative entropy, and mutual information. The entropy concept is applied to data compression. The mutual information theory
is applied to information transfer limit called capacity. Both lossless and lossy data compression will be discussed with theoretical limits as well as applications such as JPEG and MPEG. The applications to communications systems and machine learning (AI) will also be discussed.
This course addresses organic compounds as well as their properties and synthesis processes. It covers the basic concepts of organic chemistry to develop organic/inorganic composite materials.

445.213A* 재료물리화학 1 3-3-0

Physical Chemistry of Materials 1

This course provides the basic concept of thermodynamics for students to determine the changes of physical and chemical properties of materials upon the variation of macroscopic stimuli such as pressure, temperature and volume, etc.

445.214 재료수치해석 3-3-0

Numerical Analysis in Materials Science and Engineering

This course offers a groundwork for numerical analysis in materials science and engineering.

445.215* 재료물리화학 2 3-3-0

Physical Chemistry of Materials 2

This course provides the basic concept of chemical kinetics for students to analyze the rate of changes of physical and chemical properties of materials.

445.301* 재료열역학 3-3-0

Thermodynamics of Materials

This course introduces thermodynamics in materials. It covers phase equilibrium, calculation of heat capacitance, and the relation between free energy and phase diagram.

445.302* 재료상변태 3-3-0

Phase Transformation in Materials

This course studies phase transformation in solid materials. It focuses on the nucleation theory and growth mechanism.
교과목

재료공학 연구에 기본적으로 필요한 실험 지식을 습득하는 한편 상변태, 열역학, X선 결정학 등의 과목에서 배운 재료의 성질을 경험을 통하여 다시 배울 수 있도록 한다.

이 수업에서는 1) 전공필수 ‘재료의 전기적 성질’ 관련 실험으로 재료의 전기적 특성을 직접 느끼고 정량화하는 방법을 체계화하고, 2) 전공필수 ‘전기공학’ 관련 실험으로 X선 회절을 응용하는 능력을 배양하며, 3) 흙붙이 재료의 제조 공정(특히 분말공정) 및 소성체의 특성을 분석하는 법을 익히게 한다.

This course focuses on phase transformation, thermodynamics and X-ray crystallography.

- 재료실험 1  3-0-6
- Experiments in Materials 1
- 재료실험 2  3-0-6
- Experiments in Materials 2
- 재료기계적 고통  3-3-0
- Mechanical Behavior of Materials
- 재료의 전기적 성질  3-3-0
- Electric, Magnetic and Optical Properties of Materials
- 시미나리  1-1-0
- Seminar in Materials
- 응용전기화학  3-3-0
- Applied Electrochemistry
This course introduces the fundamental concepts of structure-property-processing interrelationships of polymers. It covers configuration and conformation of polymer chains, state of polymer melt, and amorphous nanostructures.

This course focuses on powder processing, characterization of powder, and surface treatment. It also covers single-crystal growth.

This course covers (1) experimental practices with a soft-computing method and (5) application of statistical software to materials analysis, (4) design of experiment (DOE) and Taguchi's method and (3) analysis of variance, (2) introduction to biology for materials science and engineering.

This course covers (1) experimental practices with a soft-computing method and (5) application of statistical software to materials analysis, (4) design of experiment (DOE) and Taguchi's method and (3) analysis of variance, (2) introduction to biology for materials science and engineering.

The target of this course is to understand the basic principles and structure of analytical tools for materials analysis and to apply to the structure analysis for the development and improvement of materials. X-ray diffraction, transmission and scanning electron microscopy will be covered in the course for both theoretical and practical aspects. The scattering of wave, a common platform of XRD, TEM, and SEM, will be reviewed in the first part followed by the components of the analytical equipment where the source and manipulation of the wave source will be discussed. Analytical techniques from an experimental data obtained in the hands-on experiments will be discussed and demonstrated in the class. Presentations are required as group discussions at the final stage.

This course covers (1) statistical procedures from an experimental data obtained in the hands-on experiments will be discussed and demonstrated in the class. Presentations are required as group discussions at the final stage.

This course covers (1) statistical procedures from an experimental data obtained in the hands-on experiments will be discussed and demonstrated in the class. Presentations are required as group discussions at the final stage.
Self-design Experiments in Materials

In this course the students will be learning to apply the knowledge of materials science and engineering, to design the experiment for solving problems in engineering fields. Along with the fundamentals, recent progress and challenges in the field of biofunctional materials will be briefly covered. Students will know how materials science meets with biology as a new paradigm. In the later part of this course, the interface between biological systems and materials will be taught.

Structure and Properties of Alloys

This course deals with the basic theory of metal and strengthening mechanism, as well as the relation between structures and properties. It also discusses heat treatment and materials processing.

Integrated Circuit Processes of Semiconductor

This course focuses on the integrated circuit processes of semiconductor and up-to-date integration technologies in the industry.

Ceramics Processing

The aim of this course is to introduce the elemental theory and application of the electric and magnetic properties of electronic ceramics. Based on our understanding of the elemental theory, we will study the mechanisms of electromagnetic properties and examine the applications of devices by material properties and device designs. The course will also cover various ceramic-electrics and their properties. The dielectric materials include piezoelectric, pyroelectric, ferroelectric, and microwave dielectric materials, and magnetic materials include the ferric/ferro-magnetic and microwave mag-
재료를 박막화하는데 필요한 공정에 대한 체계적인 이해를 시키는데 목적이 있다. 박막 공정에 흔히 이용되는 전공장치 및 축정장치에 대한 설명과 여러 박막작성방법에 대해 소개한다. 여러 박막에 대한 특성 및 박막 형성과정에 대해 설명하고, 박막 물성의 측정에 대해 소개한다.

The objective of this course is to understand the thin film deposition process. The course will introduce various vacuum equipments and deposition methods and examine the deposition theory and characterization methods of thin film.

### 445.428 박막소자 및 응용 3-3-0

**Thin Film Devices and their Applications**

본 강의에서는 재료공학과 관련된 일반적인 소자 및 장치 논문에 요구되는 실험실 기초 지식을 이해하고, 재료공학과 관련된 종합설계의 개념을 소개하고, 프로젝트의 수행을 통해서 학생들에게 종합설계능력을 부여하는 것을 목적으로 한다. 수업은 강의와 프로젝트 수행으로 구성되며, 학생들은 프로젝트의 수행을 통해 학부에서 배운 재료공학 및 학계적 지식을 현실적 문제해결에 적용할 수 있도록 한다. 

**Molecular Electronic Materials**

분자 물질은 유기고분자 기능재료는 광전-전자산업의 핵심소재로 복잡하게 사용되고 있다. 본 강의에서는 현재 산업적으로 중요한 분자 전자재료인 유기 EL을 방광, TFT-LCD를 양성 및 컬리나트, CD 및 DVD용 기반 및 기록소재, 메모리반도체용 Photore sist 및 유전자, 레이저프린터/복사기용 감전제 및 컬리나트, LAN 및 비디오기기용 플라스틱 광섬유에 사용되는 유기고분자 물질들의 합성과 성형가공, 기능성, 그리고 이들을 이용한 소자 및 제품의 동작원리에 대해 소개한다. 또한, 초고밀도 광매트, 초고 속도소자, 고정점 스마트카드, 고성능섬유의 새로운 분자유기재료들의 합성과 기능성에 대한 기초개념과 소자기술에 대해서도 소개한다.

Molecular materials including organic compounds and polymers are widely used as the key functional materials in many electronics/photonics devices and products. This course is designed to provide MSE-major undergraduate students with the fundamental knowledge of the synthesis, processing and functionality of these molecular materials as well as the operational principles of molecular electronics/photonics devices. The molecular materials discussed in this course include the following: fluorophore/phosphore for organic EL, liquid crystal and color filters for TFT-LCD, substrate and recording media for CD/DVD, photore sist and low k dielectric in memory semiconductors, plastic optical fibers for LAN and image guiding. This course will also examine the basic concepts and materials of future super optical memory, ultrafast optical devices, high capacity smart card, and high fidelity sensors.

### 445.429 분자전자재료 3-3-0

**Molecular Electronic Materials**

본 과목에서는 재료공학과 관련된 종합설계의 개념을 소개하고, 프로젝트의 수행을 통해서 학생들에게 종합설계능력을 부여하는 것을 목적으로 한다. 수업은 강의와 프로젝트 수행으로 구성되며, 학생들은 프로젝트의 수행을 통해 학부에서 배운 재료공학 및 학계적 지식을 현실적 문제해결에 적용할 수 있도록 한다. 

**Spin-Materials Science and Application**

양자역학에 기초한 스핀 개념과 개발된 스핀의 협동효과작용에 의한 자기 물리현상을 이해하고, 자기현상에 관한 이론 및 응용, 다양한 스핀재료의 응용 예를 학습한다. 이를 통해 스핀 정보저장 및 처리소자, 전반전인 스마트카드 기술에 이해한다.

The lecture describes a concept of spins and their collective behaviors, its related physical phenomena based on quantum mechanics. Also, fundamental theory on and practical applications of various magnetic materials and magnetism, as well as examples of the applications of spin materials are studied. Through this class, information storage/process de-

### 445.441 에너지재료 및 소자 3-3-0

**Energy Materials and Devices**

전기화학, 축대, 발광 특성을 갖는 나노 기술을 이용한, 에너지 대학 개요 기능소자 응용 데이터를 다룬다. 이 과목은 재료공학과 전공하는 학생들 중 에너지 관련 소재/소자 개발에 관심을 갖는 학부생을 대상으로 한 과목이다. 재료의 기분 특성의 막대한 전자 또는 이온의 기동성 특성에 관한 조건에서 이들 기동성에 대한 이해에 의한 원자과학, 반도체학, 저온체학, 전자학, 백색 발광소자의 기초적인 소재 및 소자/장치 해석에 대해 구체적으로 학습하며, 학생들은 기존 재료 및 신원의 방법성 및 차세대 에너지 재료 및 다이아이트에 대한 취업/연구 시 도출을 주도할 수 있다.

1. Background: General materials science
   - Electrochemistry, Semiconductor, Ionic conductor, Catalysis
2. Principles, materials and devices for the following applications
   - Battery, Fuel cell, Solar cell, White LED
   - Basic Concepts and Definitions of Electrochemistry and Kinetics (~2 weeks)
   - Various Electrochemical Techniques (~1 week)
   - Processing and Analysis Tools for the Nanomaterials and Devices (~1 week)
   - Application Devices I. Li Ion Battery (~2.5 weeks)
   - Application Devices II. Fuel Cell (~2.5 weeks)
   - Application Devices III. Solar Cell (~2.5 weeks)
   - Application Devices IV. White LED (~2.5 weeks)

### 445.442 재료융합설계 3-1-4

**Capstone Design for Material Science and Engineering**

본 과목에서는 재료공학과 관련된 종합설계의 개념을 소개하고, 프로젝트의 수행을 통해서 학생들에게 종합설계능력을 부여하는 것을 목적으로 한다. 수업은 강의와 프로젝트 수행으로 구성되며, 학생들은 프로젝트의 수행을 통해 학부에서 배운 재료공학 및 학계적 지식을 현실적 문제해결에 적용할 수 있도록 한다.

In this course, principles and concepts of engineering design are introduced and students will learn about engineering design of materials through the completion of a project. This course is a mixture of lectures and team-based project performance. To complete the project, students will have to apply the interdisciplinary knowledge he/she has learned in undergraduate study. Also, students will learn about proposal writing, concept of management and productivity, planning and scheduling of a project, team work, creativity, presentation and communication skill as well as industrial ethics while carrying out the project.

### 445.443 나노기술과 재료 3-3-0

**Materials Science for Nanotechnology**

본 강의는 나노기술의 구현에 있어 필수적인 재료과학의 영역
The purpose of this lecture is to introduce fundamental concepts of materials science which is closely related with the concept of nanotechnology. Namely, the excerpt of crystallography and crystal structure, thermodynamics, kinetic aspects of materials science to understand the evolution of microstructure of nano-size material will be introduced. The main processing technology to build nano features such as top-down and bottom-up processing technology will be introduced. Furthermore, the properties of nano-materials such as electrical, optical, magnetic, and surface chemical properties which typically appears in nano-size materials will be summarized. The materials characterization techniques will also be briefly introduced. The students are expected to summarize all the basic concepts of materials science to understand the core concepts of nanotechnology.

445.448 최신반도체제료 및 소자 3-3-0
Current Semiconductor Material and Devices

최신 메모리와 로직 반도체소자 및 제로에 대한 기본 지식 제공을 목적으로 한다. 이를 위하여 최근의 반도체 기술 현황 및 개방 방향을 점검하고 소자의 점검으로 교과제를 공부한다. DRAM과 같은 대표적 메모리 소자의 동작 원리와 점검에 관한 일반적인 원리들을 공부함으로써 메모리 운영에 관한 근본적 이해를 도모한다. 이와 더불어 NAND 및 NOR type의 Flash memory의 동작 원리 및 scaling에 관련된 문제들을 공부한다. 또한 FeRAM, MRAM, PCRAM 또는 새로운 저장 변화형을 이용하는 새로운 메모리 소자의 등장에 따라 이들에 대한 새로운 지식을 제공하고 이들 소자의 궁극적 한계를 생각해본다. 궁극적으로 반도체 또는 고체 전자 소자가 직면하게 될 스���링의 한계를 설명하고 이를 극복하기 위한 새로운 Nanoelectronics의 개념과 전개 방향을 설명한다.

Offer the basic understandings on semiconductor memory and logic devices and materials for logic, DRAM and non-volatile memories, such as flash memory. Review the current status of the technologies and problems. Fundamentals of logic devices and operations principles will be elucidated. The problems related to the scaling of the devices will be studied. Operation principles and scaling problems of NAND and NOR type flash memory devices will be discussed. New memory devices, such as FeRAM, MRAM, PCRAM and other resistive switching memory devices will also be reviewed. The basic operation principles and ultimate limitations of these new devices will be discussed and finally nanoelectronics concepts that may ultimately replace current microelectronics will be introduced.

M1569.000300 재료기계학습 1-1-0
Materials Science and Engineering Introductory Seminar

재료공학의 입문자에게 재료공학의 역사 및 학문의 구성원리를 소개한다. 재료공학 전반의 강의 구성에 대한 심도 있는 이해를 통해 능동적으로 수학계획을 수립할 수 있도록 지원한다. 재료공학을 전공한 학습자의 경험을 공유하고 재료공학의 응용 사례를 탐방함으로서 재료공학이 산업 및 연구계에서 실증적으로 활용됨을 체험하여 재료공학 이론의 습득 필요성을 인지한다.

This course introduces the history and discipline of Materials Science and Engineering (MSE) to beginners in the field. The course plans to deliver the in-depth understanding of curriculum of MSE, so supports students to set the education plan during B.S. degree. Students will experience the practical needs of MSE knowledge in the industry and research fields by discussing a specific topic with seniors and exploring the application examples.

M1569.000600 재료제작기초실습 1-0-2
Basic Materials Fabrication Laboratory

본 수업은 미래 재료 산업의 핵심 인력이 될 재료공학부 저년차 학생들에게 금속, 세라믹, 고분자 등 기본적인 재료의 공정 및 제작에 대한 개념을 체험하기 위해서 만든 실습수업이다. 대학이 들어오기 전까지 실제 공학적인 재료들을 만드는 또는 심습에 노출될 기회는 없지만 학부생들에게 직접 손으로 다양한 재료들을 다루고자 볼 수 있는 교육공학에 대한 홍보와 인지도를 높이는 목표로 한다. 다름없이 미래대학과의 업무협상을 도입하여 재료를 이용하여 창의적이고 상상적인 기술의 제작과정을 직접 경험하고, 이와 동시에 신생산업 중장기수록목표인 “재료공학자들”에서 배운 재료공학적 지식을 공정 중에 발생하는 다양한 재료적 한계와 연구산업이 가능한 프로젝트를 제공함으로써, 향후 고학년수에 필요한 재료 공학적 창의성과 도전성을 향상할 수 있을 것으로 기대한다.

This class is a hands-on laboratory class for undergraduate students in the department of materials science and engineering. The course is designed to embody the concept of the fabrication process of basic materials such as metals, ceramics, and polymers. The students who did not have much opportunity to be exposed to materials processing and fabrication will gain interest and familiarity in materials engineering beyond theoretical knowledge by creating their own products out of various materials. In addition, by introducing an interdisciplinary program with help from the college of art, our lab experiment is designed to give students first-hand experience with the concepts developed in the lecture; “introduction to materials science and engineering” providing students to experience the process of making creative and aesthetic objects. It is expected that creativity and initiative required in the senior classes will be cultivated during the lab experience.

M1569.001200 재료기계학습 3-3-0
Machine Learning for Materials

인공지능의 발전 및 데이터의 축적으로 최근 재료공학부에서 기계학습이 핵심적으로 적용되고 있는 새로운 재료설계방법으로도 기대되고 있다. 본 강좌에서는 학생들에게 기계학습 및 통계추론에 대한 기초 이론과 파이썬을 이용한 라이브러리 활용 방법을 익히는 데, 이를 바탕으로 학생은 실제 재료 데이터에 기계학습을 적용하고 해석하는 방법을 익히도록 한다.

With the development of artificial intelligence and the accumulation of data, machine learning is being actively applied in the field of material engineering in recent years, and it is emerging as a new material design method. In this course, students are taught the basic theory of machine learning and statistical inference and how to use the library using Python. Based on this, students learn how to apply and interpret machine learning to real material data.
M1586.003400 건설환경 디지털 공학설계 3-3-0

Digital Design in Civil and Environmental Engineering

본 교과목은 계획, 설계, 사후 운영에 이르는 시설물 생애주기 전반에 걸친 정보 모델링 프로세스를 Building Information Modeling (BIM)을 중심으로 교육하여 건설환경공학부 신입생이 건설 환경 분야에서 활용되는 다양한 디지털 설계 및 운용 기술을 이해하도록 한다. 구체적으로 도시계획 및 설계, 교통계획, 수자원 및 환경관리, SOC 설계 및 해석, 건설 및 공정관리, 시설물 유지관리 등이 기조 강의, 실무 활용사례 소개, 실습 및 조별과제 등을 통해 교육한다.

This course teaches digital engineering processes of civil and environmental engineering systems from planning, through design and construction, to operation and maintenance with the application of digital engineering platforms including Building Information Modeling (BIM) and thus enables CEE freshmen students to understand state-of-the-art design and management technologies used in the field of civil and environmental engineering. More specifically, this course teaches city planning and design, transportation planning, water resources and environmental management, SOC design and structural analysis, estimation and scheduling, facility management by theory lectures, case studies, BIM tutorials, and group projects.

M1586.003300 건설환경공학 입문 1-1-0

Introduction to Civil and Environmental Engineering

학부신입생의 건설환경공학 입문을 위한 본 교과목은 먼저 건설환경공학의 역사와 현대사회에서의 중요한 역할에 대해 논하고, 건설환경공학 모든 세부 분야의 현재 트렌드와 미래의 도전을 회신 연구결과와 첨단기술을 기반으로 소개한다. 또한, 본 교과목은 건설환경공학 분야의 다양한 리더들과 리더십 분야 전문가의 초청 강연을 제공하여 학생들의 리더십을 배양하고, 다양한 문화 활동, 소셜 이벤트와 현장견학 등을 기반으로 학부신입생의 건설환경공학자로서의 첫걸음을 둔다.

This course provides the freshmen students with an introduction to civil and environmental engineering. After presenting history and critical roles of civil and environmental engineering in the modern societies, the course provides current trends and future challenges in all sub-disciplines of civil and environmental engineering based on state-of-the-art research outcomes and cutting-edge technologies. To help the students grow as future leaders, the course offers invited talks by renowned leaders in civil and environmental engineering and experts in professional leadership. The course also organizes a variety of cultural activities, social events and field trips to help freshman students with their first steps as civil and environmental engineers.

457.201* 재료역학 및 실험 3-2-2

Mechanics of Materials and Lab.

재료역학은 자연 또는 인공 구조물의 역학적・기동특성을 취급하는 공학의 한 분야이다. 이 과목에서는 왜곡과 변형도를 연구하고, 변형과 변형량, 변형과 변형량의 벡터화, 변형과 변형량의 벡터화, 변형과 변형량의 벡터화, 변형과 변형량의 벡터화 등의 기본개념을 소개한다. 이러한 개념들은 다양한 역학 및 구조 시스템의 해석과 설계에 요구되는 전문지식의 기초가 될 것이다. 또한, 실제 역학문제를 다루는 실험시간을 통하여 개념적인 장인내용에 대한 학생들의 이해도를 높일 수 있도록 한다.

Mechanics of materials is a branch of fundamental engineering that deals with the mechanical characteristics of natural or man-made structures. This lecture introduces fundamental concepts such as stresses/strain, deformations/displacements, elasticity/inelasticity, strain energy, and load-carrying capacity. These concepts will contribute to the constitution of professional knowledge required for analysis and design of various mechanical and structural systems. Moreover, Laboratory works with actual mechanical problems are organized to be able to help the students' comprehension about the conceptual substances of the class.

457.204* 기초유체역학 및 실험 3-2-2

Elementary Fluid Mechanics and Lab.

본 과목에서는 유체 운동 및 역학에 관한 기초적인 이론과 실제유체학의 적용이론을 연구한다. 우선 정유체 유체의 역학 및 압력에 대하여 논하고, 유체운동을 기반의 방법론을 취급한다. 또한 유체유체의 관편한 운동의 벡터 및 일안방정식에 관한 개념을 도입한 후, 유체 운동에 관한 애니메이션, 운동방정식 및 그 결과를 설명한다. 운동방정식에는 격자유체의 흐름 특성과 변동성, 변동성, 변동성, 변동성을 연구하며, 실험유체학의 기본이론과 사파역학에서의 적용사례를 취급한다.

In this class, the basic properties of fluids are introduced and the hydrostatic problems in quiescent fluid are studied. After introducing the conservation of mass and continuity equation related to fluid flow, the energy equation and momentum equation are derived for flowing fluid and their applications are studied. Furthermore, the flow characteristic and turbulent methods of real fluids are discussed, and the similitude laws and dimensional analyses are studied for laboratory experiments of flow problems.

457.205* 공간정보공학 3-2-2

Introduction to Geospatial Engineering

실습과 병행하여 기초적인 오토매핑법, 네트워크 분석, 삼각 및 삼각측량, 테레비전 측량 등의 내용을 강연하고, 전자지도인식기와 GPS를 사용하여, 최신연구분야인 지리정보시스템 (GIS), 위성원격탐사, 디지털 매핑 등의 현장을 설명한다. 또한, 측량 장비 실습과 더불어 QGIS를 이용한 공간정보 자료 분석 실습을 병행한다.

This course covers concepts on elementary surveying, geo.
Spatial data and techniques, and remote sensing. Students will learn key surveying concepts such as adjustment computation, surveying network analysis, triangulation & trilateration, and traverse surveying. This course provides students with the opportunity to learn about fundamental surveying equipment such as Total Station and Global Positioning Systems (GPS). Furthermore, students will learn the fundamental concepts related to geospatial engineering, including Geographic Information Systems (GIS), Satellite Remote Sensing and Digital Mapping. Class tutorials are conducted using QGIS and integrate key concepts from GIS, remote sensing, and surveying techniques.

457.206* 토질역학 3-3-0

Soil Mechanics

The basic properties of soil, the concept of effective stress, shear strength, consolidation of soil, lateral earth pressure, and the seepage in soil, the concept of effective stress, shear strength, consolidation of soil, lateral earth pressure, and the seepage in soil. We will especially focus on the study of the concepts of effective stress and shear strength and the consolidation theory of clay.

457.207A* 수문학 3-3-0

Hydrology

Basic elements of the environment and their interactions including human impacts are investigated. Numerous factors that cause deterioration of environmental quality such as the pollution of air, water, and soil as well as noise, vibration, solid wastes, and hazardous material are considered, and the effects on the human beings and the ecosystem as well as a number of technologies to restore the environmental quality are studied. The environmental policies and socioeconomic system concerned with the prevention and abatement of environmental contamination and conservation of a healthy ecosystem are also major topics of the course work. Studies are not restricted to local or regional environmental problems spatially. Global issues such as climate change, ozone layer destruction, biodiversity and so on are discussed.

457.210A* 환경공학 3-3-0

Environmental Engineering

This course will introduce the hydrologic circulation as a field in Earth Science and examine the engineering techniques such as flood frequency analysis and hydrologic design methods. It will also cover statistical techniques such as environmental contamination and conservation of a healthy ecosystem are also major topics of the course work. Studies are not restricted to local or regional environmental problems spatially. Global issues such as climate change, ozone layer destruction, biodiversity and so on are discussed.

457.212* 건설환경통계학 3-3-0

Statistics for Civil & Environmental Engineers

The course provides an introduction to basic and applied theories in statistics and probability with examples drawn from civil and environmental engineering. Specific topics include preliminary data analysis, basic probability concepts, random variables, probability distributions, parameter estimation, regression analysis, frequency analysis, risk analysis.

457.301 교통계획 및 실험 3-2-2

Transportation Planning and Lab.

This course will introduce the concept of Traffic System Engineering by examining the basic concepts and methodologies of Transportation Planning, Highway Engineering, Traffic Operation, etc. This course will deal with the following topics: the components of Traffic System; Queueing Theory; Transportation Demand Analysis; Traffic Network Analysis; ITS (Intelligent Transportation System).
Urban Design

The purpose of this course is to introduce the concept of urban design to students who do not have strong background in the field of urban planning and design. The basic theories and concepts of space, space aesthetics and urban landscape will be dealt with in this course as well as techniques for urban design and implementation methods. It is recommended that students take 'Urban Planning(457.203)' prior to this course, though it is not mandatory.

Structural Analysis 2

This class introduces the matrix structural analysis using computers based on c theories dealt with in Structural Analysis for analyzing complicated structures and understanding behaviors of structures under various external loads in detail. The stiffness method is presented, which completes the whole theory of structural analysis. The matrix structural analysis is presented by the virtue of the stiffness method. Numerical methods to solve linear and nonlinear algebraic equations are reviewed and structural analysis approaches associated with the numerical methods are discussed. The mathematical theories to solve bucking problems of beams are presented. The energy methods are derived to provide basic concepts and skills of modern computational methods.

Reinforced Concrete Engineering

This course deals with the analysis and design theory of reinforced concrete structures. Main topics of lecture include properties of concrete, the basic mechanics of structural concrete and methods for the design of individual members for bending and shear, bond and anchorage, serviceability. The contents of this course are in accordance with the provisions of KCI code.
457.308 Construction Methods and Equipment

This course will introduce various construction equipments frequently used in construction sites and examine the methods of handling these equipments according to the type of the required engineering work. Students will acquire the professional knowledge of various construction methods essential for construction work such as foundation work. Field trips will help concretize their knowledge of the construction methods. The main objective of this course is to acquaint students with various processes carried out in construction sites.

457.309 Hydraulics and Lab.

The purpose of this course is to have a systematic understanding of the mathematical and physical concepts of fluidics and also prepare for subsequent in-depth study of fluidics such as foundation work. Field trips will help concretize their knowledge of the construction methods.

457.309 Soils and Groundwater Engineering

This course will cover the composition and capacity of groundwater and soil pollution are introduced in this course. Topics include basics on groundwater and soil, interactions among environmental matrix, pollutants, and biological systems. This course also deals with the transport and fate of contaminants such as advection, dispersion, chemical reaction and biodegradation. In addition, soil and groundwater remediation technologies are introduced, and ecological aspect of environmental restoration is also discussed. Students are to participate in soil and environment remediation team project.

457.311 Water Supply Engineering and Lab.

This course introduces fundamental theories and major methods of statistical learning and machine learning. Through computing exercises, the course also aims to equip students with capabilities to apply learning methods to a variety of disciplines in Civil and Environmental Engineering. Main topics of the course include linear/nonlinear regression, linear/nonlinear classification, cross validation, reinforcement learning, and linear/nonlinear filters.
457.316A 지속가능교통체계 3-3-0
Sustainable Transportation Systems

대중교통체계를 효율적으로 운영하기 위해 대중교통수단의 역할로서 도심업무, 상업지구와 시외곽지역 거주자와의 유기적 연관도를 도모하고 도시가 안고 있는 교통문제를 해결해야 할 것이다. 본 강좌에서는 대중교통체계개요, 도시교통망설계, 요금정책에 대한 기법, 장·단기 대중교통정책 등을 다루게 된다.

The main objective of this course is to investigate various mass transit systems. This course involves the following topics: introduction of various mass transit systems including the bus, subway and other new mass transit systems; and the characteristics, operation systems, and fare systems of mass transit systems.

M1586.001600 도시의 물질과 에너지 순환 3-3-0
Material and Energy Circulation for Sustainable Cities

2018년 자원순환기본법이 시행되는 등 국내외에서 패키지에 대한 인식과 패키지 관리의 역할이 변화하고 있다. 도시의 환경 수준 향상이란 패키지 관리의 기본 역할과 더불어 자원과 에너지 회수를 통한 도시의 지속가능성과 환경 보호에 기여해야 한다. 따라서, 이 교과목에서는 도시 내의 물질과 에너지 순환에 관한 큰 틀에서 패키지 관리에 대한 해석을 논의하고자 한다.

Recognition of wastes is changing and evolving. They are no longer useless and unwanted substances and instead have become reusable natural resources and renewable energy sources. In addition to the traditional and fundamental roles of waste management, i.e., hygiene and sanitation, wastes management needs to be planned and considered for more sustainable and resilient cities. Solutions for waste management in urban areas will be discussed and addressed.

457.318 토질공학 3-3-0
Geotechnical Engineering

지반이 관련된 제반 공학적 문제들을 다루는 과목으로서 적은 기초와 같은 기초, 공학적 고찰, 지반 개발, 시멘트성 등을 위한 해석 및 설계방법에 기반하여 공학적 지도사항을 강의한다. 지반에 관련한 악학적 이론들을 토대로 구축된 다양한 지반구조물들의 해석 및 설계방법들을 살펴서 대한 설명 및 예제들이 함께 행해져 실시한다. 특히 실제 현장공학적 문제들에 대한 학생들의 현실 감을 고양하고 최근 지반공학 분야의 인구화방향을 파악할 수 있도록 관련분야 기후환경의 세미나와 현장공학을 행해져 실시한다.

This course deals with subjects on geotechnical engineering. It provides design and analysis of following geotechnical structures: shallow foundations, deep foundations, retaining walls, excavations, soil improvement, and slope stability. To enrich students’ knowledge on geotechnical engineering, lectures on field cases and problem solutions are allocated. Also, to help students to grasp deep understanding on field applications and recent research trends, field trip and seminars by field experts are provided.

457.319 도시 및 지역경제론 3-3-0
Urban and Regional Economics

도시 및 지역경제론은 경제학 이론을 활용하여 현대의 도시 및 지역이 직면하고 있는 주요, 교통, 교육, 고용, 민간, 법적 등 주요한 이슈를 다루고, 그에 대한 경제학적 해법을 도모한다. 또한 도시의 존재, 도시의 입지, 도시의 규모, 도시의 성장과 생활, 환경의 공학적 평가와 관련된 이론들을 다루게 된다. 도시의 도시경제학의 학문적 성과를 바탕으로, 도시의 경제가 행한 상태를 이해하고 도시의 경제성과 상호작용에 초점을 두어 경제을 짧게 나갈 계획이다. 이 과목은 정규 수업과 더불어 학생들의 발표, 토론을 강화하여 이론이 된다.

Urban and Regional Economics utilizes economic theory to examine the major contemporary issues confronting urban and regional areas, exploring possible economic solutions to the problems of housing transportation, education, employment, poverty, and crime. Also considered will be theories of why cities exist, city location, city size, the causes of growth and decline, and the spatial distribution of alternative activities within cities. Also, based on existing urban economic’s academical achievement, this class will be focused on city’s economic situation and interaction that will influence earth environment and world economics. The class follows a seminar format, which involves a mixture of formal lectures, student presentations, and class discussion.

457.320A 수자원 공학 3-3-0
Water Resources Engineering

수자원공학의 기능은 시간적 가용성과 공학적 생활에 패키지에 대한 해석, 물자원을 양적이고 질적으로 측면에서 이용할 수 있도록 하는 것이다. 본 과목에서는 수자원공학 분야에서의 계획 및 관리에 대한 소개, 수자원계획에 대한 확장적인 개념, 경제성에 대한 일반적인 사항 및 시스템공학에 대한 소개를 다룬다.

The function of water resources engineering is to make available a water resource of given properties (quantity as well as quality aspects), which is a limited resource in time and space. This course deals with the introduction to water resources, the uncertainties in water resources, the selective overview of economics, and the introduction to systems.

457.322 토목지질임업공학 3-3-0
Engineering Geology in Civil Engineering

지반을 구성하는 중요한 재료이며 건설공학 측면에서 크게 활용되는 암반의 역학적 특성과 그 공학적 활용 방법을 강의하는 과목이다. 지반의 지질공학적 고찰과 함께 암의 생성과 분류, 그리고 환경 등의 선정 방법을 그 역학적 특성을 함께 강의하고, 암반에 초점을 맞춘 또는 암반을 이용하는 이상, 건설구조물은 터널, 암사면, 기초 등에 대한 사항 및 해석 이론 등을 강의한다.

The subsurface is composed largely of rocks, a material that has a high practical use in the field of civil engineering. The course is focused on understanding the mechanical properties and the engineering applicability of rock materials.
수질은 물의 상태(물리,화학,생물학적 특성)를 나타내며 이는 그 물이 자연환경에 미치는 영향 또는 인간의 사용 목적과 필요에 적합한지를 판단하기 위한 중요한 자료로 사용된다. 특히 21세기에 들어 비료의 농도에서도 생태계에 심각한 영향을 미치는 산소 오염물질들이 점차 늘어나고 있어 지속가능한 수질관리를 위해서는 수질에 대한 기본적인 이해가 반드시 필요하다. 오염물질들이 점차 늘어나고 있어 지속가능한 수질관리를 위해서는 수질에 대한 기본적인 이해가 반드시 필요하다.

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457.405  3-3-0  Introduction to Traffic Operation

This course deals with characteristics and theories about traffic flows on various transportation facilities. Three major attributes of traffic flow, flow, speed, and density, are discussed from the view points of microscopic and macroscopic aspects. Also the relationships between these three attributes are dealt with. These characteristics are major factors in planning, design, and operation of transportation facilities.

457.407  3-3-0  Pavement Engineering

This course deals with basic principles of design and the latest design methods for the pavement of road and runway. We includes a discussion of theories of stress distribution in all types of pavements, the effect of static and moving loads on these stresses, and the development of traffic analyses and equivalency factors. Along with these concepts, factors dealing with materials characterization and design of all of the components of the pavement will be presented. We also introduces the methods of design of both airport and highway pavements in use throughout the world.

457.408*  3-1-4  Integrated Design of Civil Engineering Systems

This course is intended to the graduating students who finished overall theoretic civil engineering classes. We let the students directly experience the design and (virtual) construction procedure which require knowledge about various specific sections in civil engineering. We set the goal to bring up competent persons who can adapt themselves to the field right after graduation.

457.409  3-3-0  Coastal and Harbor Engineering

This course deals with basic principles of design and the design procedures for bridge structures, a representative form-active type with cable and arch, and the section-active type structural system into a form-active type with cable and arch, planning of the structural system for various bridge types.

M1586.002400  3-3-0  Planning of Structure Systems

This course deals with basic principles of design and the design procedures for bridge structures, a representative form-active type with cable and arch, and the section-active type structural system into a form-active type with cable and arch, planning of the structural system for various bridge types.

457.410  3-1-4  Environmental Engineering Systems Design

This course deals with the major disciplines of environmental engineering including water and wastewater treatment, hazardous waste treatment, and soil and groundwater remediation. The attendees will obtain basic experimental skills and their design ability to understand and improve the functions of environmental engineering systems. Students will also learn interdisciplinary experimental methodology.

457.411  3-3-0  Remediation of Contaminated Subsurface
soil and groundwater, which came to the front as serious environmental problems, and introduces remediation methods. Students will study the classification of contaminants, the source of contamination, the transport process of contaminants, and the investigation methods of contaminated sites. In detail, students will deal with water pumping treatments, bio-remediation, and soil vapor extraction in the remediation methods. Also, they will visit remediation sites and study their problems.

457.412 Design of Transportation Systems

The purpose of this course is to improve ability of designing various transportation systems through discussion of related theories and training. Types of transportation systems can be classified into highway, railway, public transportation, freight, air transportation and maritime transportation systems. This course focuses on the surface transportation systems such as highway, railway and public transportation systems. Related theories and characteristics are applied to the design of transportation systems through design projects. Through presentations and discussions about the design project, abilities of transportation engineers can be cultivated.

M1586.002200 Structural Design Engineering

In this course, students will learn Load-Resistance-Factor-Design(LRFD) for tension members, compression members, beams, beam-columns, and connections of steel structures. In the latter part, torsional shear, short and long columns, two-way slabs, and foundations of the reinforced concrete are followed. Taking the course of Reinforced Concrete Engineering prior to this course is strongly recommended. The students who would take the class of Planning of Structure System after this course will be capable of planning/design of structural system like a bridge.

M1586.001100 Civil and Environmental Planning for Climate Change Adaptation

Civil and Environmental Engineering is one of the most sensitive areas due to global climate change and climate variability. This course introduces climate change preparation techniques such as projection, mitigation, and adaptation. In addition, offers IPCC global climate models, downscaling techniques, projection time series uncertainty, and adaptation with decision making theories. This course also focuses on impact assessments and future adaptation techniques that are necessary to civil and environmental industries such as water resources, coastal, ecology, transportation, disaster prevention, and urban planning.

M1586.002900 River and Dam Engineering

In this course, students will learn design methodology of hydraulic structures based on the fundamental knowledge of movement of fluid and water studied in the courses of Elementary Fluid Mechanics and Hydraulics. In the first part of the course, outlines of river engineering, surveys of river engineering, water quality analysis will be treated, and then design of river structures will be studied. In the dam engineering field, students will learn theories of dam and spillway, and then design of dam structures.
and structural properties. Later, concrete material, the most widely used structural material in modern infrastructure will be covered based on its material characteristics, manufacturing method, and design concept. Additionally, this lecture has interdisciplinary content. Along with conventional Newtonian mechanics, statistical mechanics based on Schrödinger equation will be introduced to understand atomic structure and bonding and crystal structures and their characterization techniques. The characterization technique is mostly based on X-ray method that is designed to be utilized in actual civil and environmental engineering. Therefore, this new interdisciplinary content will be useful for future engineers who want to study not only structural materials but also materials for geotechnical and environmental engineering, which will enhance the utilization of various new sustainable materials for civil engineering with more in-depth understanding on material properties at various scales.

M1586.003100 수질오염의 공학적 해결 3-3-0

Engineering Solutions for Water Pollution

 인간 활동으로부터 발생하는 수질오염으로부터 인간과 생태계의 건강을 보호하기 위한 공학적 방법론에 대하여 학습한다. 하수 및 수수의 적절한 수집, 수송, 처리, 방류에 대하여 이해하고, 하수와 수도로부터 유출한 에너지와 자원을 회수하여 물이용의 지속가능성을 향상시키기 위한 방안을 고찰한다. 하수와 수도 및 이의 처리 과정에서 발생한 전류유동의 처리 및 에너지와 자원의 관리에 관한 각 단위공정의 계획과 설계, 운전 및 유지관리에 관한 구체적 내용을 공학적인 원리에 기반하여 교육한다. 지속가능한 물이용을 위한 에너지 및 자원 회수의 새로운 기술을 학습하고 물이용의 지속가능성을 보다 향상시키기 위해 극복하여야 할 문제와 앞으로의 과제에 대하여 논의한다.

This class will deal with the engineering methodologies to protect the human and ecosystem health from the threat of water pollution caused by human activities. Students will study collection, transport, treatment, and discharge of wastewater and stormwater as well as the approaches to enhance the sustainability of human water use by recovering energy and resources from wastewater and stormwater. Based on engineering principles, the planning, design, operation, and maintenance of unit processes involved in the treatment of and energy/resource recovery from wastewater, stormwater, and residual solids will be studied. Novel technologies for sustainable water use through energy and resource recovery will be reviewed, and challenges and future tasks involved in the enhancement of water use sustainability will be discussed.

타학과 학생을 위한 과목
(Courses for Non-major Students)

457,001 수리학 및 실험 3-2-2

Hydraulics and Lab.

물에 대한 기본적인 역학 및 운동학적 지식을 학생들에게 습득시킴으로써 이를 관계해수조직의 계획, 설계 및 농업용수자원의 개발에 응용할 수 있는 능력을 배양한다. 본 과목에서는 강의 중심의 이론보다는 실제문제 해결을 위한 실험, 실험에 초점을 맞추어 과목이 운용될 것이다.

This course introduces dynamics and fundamental mechanics related to water. It covers the application of fundamental hydraulics to planning/design of irrigation and drainage systems. The course provides relevant experiments and practices.

457,002 측량학 및 실습 3-2-2

Surveying and Practice

측량의 기초적인 이론과 기준점측량, 세부측량, 응용측량의 내용을 소개하고, 항공사진측량과 원격탐사, 지도제작 등의 기초적인 이론을 소개한다. 기초점 측량에서는 거리측량, 수준측량, 자 측량 등의 이론과 응용을 학습하며, 트래버스 측량과 삼각측량, 곡지측량, 수 준측량을 다룬다. 세부측량에서는 평면측량, 시각측량, 지형측량, 노선측량과 민관과 체계제산 등을 학습한다. 응용측량은 농업토목 분야의 응용측량내용과 공사 측량 등을 학습한다. 실습에서는 평면측량의 각 방범을 현장에서 실제로 적용하며, 현장 응용능력을 배양하는 데 목적이 있다.

This course introduces basic principles and applications of various levels of survey methodologies. Specific topics will include control survey, detail survey, photogrammetry and remote sensing, and cartography.

457,003 수문학 및 실험 3-2-2

Hydrology and Lab.

수문학은 물의 과학과 공학수문학의 입문과정으로 수문수학의 각 과정에 대한 측정방법과 자료의 분석기법을 다룬다. 주요내용은 기상과 수문, 강수, 증발, 증산, 침수, 지하수, 하천수 등이다. 육출수취방법으로 수학적인 강수-유출관계의 해석 이론과 단 위수량도와 합성단위도 등을 다루며, 확률론적인 수문수계기법에는 확률이론에 기초한 성장과정과 강수량 등 수문자료의 변동해석을 다룬다. 실습에서는 각 강수표로 수문자료의 측정과 분석과 관련된 프로젝트 중심의 진행으로, 응용기술을 학습한다.

This course covers the basics of hydrosience, measurements and data analyses for each hydrologic cycle. Specific topics will include runoff and probabilistic analyses of hydrologic data such as annual flood and rainfall data.

457,004 철근콘크리트공학 3-3-0

Reinforced Concrete

철근콘크리트공학은 재료 및 구조역학의 기본원리를 바탕으로 콘크리트의 재료 특성 및 철근콘크리트의 부재와 구조물의 설계원리에 기초하고 구조자료 설계에 관한 구조물의 설계능력 향상하는 것을 목적으로 한다.

This course studies fundamental facts and theories about reinforced concrete, along with its analysis and design methods. Basic knowledge on material engineering and structural mechanics is required.
This course provides the general concepts applied to the physical chemistry. And this course also gives the knowledge of the properties of gases, the 1st and 2nd laws of thermodynamics and their applications, phase changes and the universal laws of equilibrium. And the lecture is about the basic concepts of equilibrium electrochemistry and batteries.

This lecture provides the basic concepts of organic chemistry and kinetic electrochemistry. This lecture includes the basic theory of the dynamics of gas molecules, ion transfer, mass diffusion and simple kinetics of chemical reactions. And complicated the kinetics of photochemical reaction, autocatalysis reaction, oscillation of reaction and chain reaction, kinetics of electrochemistry of adsorption on solid surface, catalyst reaction, overpotential, polarization, polarography, batteries and corrosion are also provided.

This course provides various concepts of the motion of molecules, chemical reaction and kinetic electrochemistry. This lecture includes the basic theory of the dynamics of gas molecules, ion transfer, mass diffusion and simple kinetics of chemical reactions. And complicated the kinetics of photochemical reaction, autocatalysis reaction, oscillation of reaction and chain reaction, kinetics of electrochemistry of adsorption on solid surface, catalyst reaction, overpotential, polarization, polarography, batteries and corrosion are also provided.

This course deals with the classification and behavior of cell, cell physiology, cell culture, applied microbiology, and applied biochemistry including the fermentation of medical products and fine chemicals.

This lecture provides the basic concepts of organic chemistry, in that the geometric structure and the methods of manufacturing of chemical compounds and their reactivities.

1) the structure and the methods of manufacturing of hydrocarbons such as alkane, alkene and alkyne, (2) the nucleophilic substitution and elimination reaction of halogen compounds, (3) stereochemistry, (4) ethers and epoxide compounds, (5) characteristics and manufacturing methods of alcoholic compounds.
생명학의 4차 기본 물질로서 단백질, 탄수화물, 핵산, 지질 등 생체 고분자의 특성 및 구조-기능 관계를 이해하고 이들 분자간 새로운 내의 다양한 정보전달 및 상호작용에 따른 생명현상의 분자적 논리를 탐구한다. 특히, 물질 대사를 통한 생체 에너지생산과 생체 고분자의 합성과정을 이해함으로써 생명의 기본원리를 완전히 사각으로 해석하고, 생리현상 및 환경대응의 응용 가능성을 탐구한다.

In order to understand the molecular logic of life, the life-defining biomacromolecules such as proteins, carbohydrates, nucleic acids, and lipids are introduced in terms of molecular characteristics, structure-function relationships, and their interactions and molecular communications. Emphasis will be given to the metabolism of carbohydrates, amino acids, nucleotides, and lipids as essential for the biological system. This will provide a conceptual framework to analyze biological phenomena in molecular terms, and a foundation for their applications.

생명체 내에서 일어나는 대사 및 전해 전달 관련된 화학 작용들의 분자적 근거를 소개하고 이의 공학적 응용 가능성은 탐구한다.

This lecture provides basic concepts of heat and mass transfer for analysis and designing of chemical process. This lecture also provides the concepts of conversion, the techniques of determination of reactor size and reaction rates.

M1587.000100* 응용생화학 2 3-3-0

Applied Biochemistry 2

생명체 내에서 일어나는 대사 및 전해 전달 관련된 화학 작용들의 분자적 근거를 소개하고 이의 공학적 응용 가능성을 탐구한다. 자세히 설명하면, 1) 생명체의 탄소 대사에 관련된 다양한 대사 경로의 생화학적 반응을 바탕으로 이해하고, 이의 전산, 반역, 반역 후 대사에 의한 조절 기작을 상세히 설명함으로써 자산계에 존재하는 탄소 대사경로의 응용 가능성을 밝힌다. 2) 생명체의 생리활성 유전자에 필수적인 단백질화학, 암모니아, 핵산, 지질 등의 생형성 과정 또나 분자적 과정을 상세히 이해함으로써 이 물질들의 공학적 생산 가능성을 탐구한다. 3) 생명체의 중심원인인 DNA 대사, RNA 대사, 단백질의 합성 및 분해 과정을 분자적 근거를 바탕으로 상세히 해석하고, 이러한 생화학적 반응을 기반으로 한 생명체의 유전자 발현 조절 기작을 살펴보면서 다양한 생명시스템에서의 유전자 발현의 인위적 조절 가능성을 탐구한다. 본 교과목을 통해 생명시스템의 기본원리를 생화학적 관점에서 해석하고, 다양한 생리현상 및 대사물질들의 공학적 응용 가능성을 탐구한다.

Molecular logics of metabolism and information pathways are introduced to understand biological system and to utilize the knowledge for engineering purpose. More specifically, the following topics are discussed: 1) Various central carbon metabolic pathways of the biological system and their regulatory mechanisms in terms of transcription, translation, and post-translation levels; 2) Synthesis and degradation mechanisms of macromolecules that are essential for the biological system such as carbohydrates, amino acids, nucleotides, and lipids; 3) Detailed mechanisms of central dogma related to DNA synthesis/translation/transcription; RNA synthesis/degradation, and protein synthesis as well as the regulatory mechanisms of gene expression in molecular level. This course provides a conceptual framework to understand biological system in detail and a foundation for its applications in engineering biological systems.
ample, nitration, sulfonation, diazotization, coupling reaction, Friedel-Craft reaction, oxidation, reduction, halogenation, and saponification. This course also makes clear what structures and properties of these compounds are all about.

458.307* 화학생물공정실형 2-0-4

Chemical and Biological Process Lab

화학공학의 전공과목과 관련되는 기본적인 원리를 침술한다. 화학공학의 이론적이고 실제적 이해를 위한 다양한 실험을 수행하는 데 도움이 되도록 하기 위한 교육용 실험이다. 유체역학, 열전달, 전기공학, 전기분석화학의 이론을 바탕으로 실험을 수행함으로써 학습할 수 있도록 한다.

This course leads students to understand comprehensive knowledges related to major subjects such as chemical re-action engineering, hydrodynamics, heat transfer, and process control.

458.308 공정제어 및 설계 3-3-0

Process Control and Design

다양한 화학 및 생물 공정의 특성에 관한 기초 지식과 기본적 인 제어 이론을 강화하고 공정제어 시스템의 이론적, 실제 성, 설계에 관한 문제를 해결함으로써 취약한 현상을 대처할 수 있도록 한다. 각종 제어 장치의 원리, 구조, 특성 및 파라미터 결정 방법을 논의한 다음 간단한 공정에로부터 복잡한 화학 및 생물공정에 대한 제어 시스템을 설계하는 문제에 이르기까지 다양한 과제를 소개하여 이론과 실제가 연관되도록 강의를 진행한다.

This course provides basic knowledge and control theories for the analysis and design of various control systems in chemical and biological engineering. The course offers basic understanding on various controllers (principles, structure, characteristics and parameter estimation) and control system design methodologies from simple processes to complex chemical and biological processes.

458.309A 분석화학 3-3-0

Analytical Chemistry

정량분석의 이론과 계산법을 강술한다. 화학공학과 관련된 다양한 분석법에 대한 기본적인 지식과 실제 분석법에 대한 이해를 제공한다. 유기화학과 무기화학, 생물학과 생물공학 등에 이르기까지 다양한 분석법과 동학에서의 이론과 실제를 연계시킨 강의를 제공한다.

This lecture provides the theory of quantitative analysis and the method of computation. And this lecture also provides the method of expression of result, indirect analysis, titration and managing experimental quantity.

458.310 화공열역학 3-3-0

Chemical Engineering Thermodynamics

유체혼합물의 열역학적 특성에 관하여 광범위하게 검토하고 화공공학자의 전문분야인 상 및 화학공학을 열역학적으로 취급하여 평형상태를 계산하는 방법과 공정에 사용되는 에너지의 효율성을 검토한다.

This course deals with the thermodynamic properties of fluid, basic concepts of VLE equilibrium, fugacity and activity. The objectives of this course are to provide student understanding of both phase and chemical equilibrium to cal-
culate equilibrium state in chemical process and inspect energy efficiency.
Introduction to Catalysis

This course provides basic design theories and their applications for both various chemical/biological processes and products. First half of the course covers the understanding of the design process starting from the given design specifications to final process flowsheets, as well as economic analysis and hierarchical design theory based on design cases. The last half of the course covers product design process starting from needs analysis, to concept generation and selection, to manufacturing based on product design cases.

Introduction to Environmental Engineering

The objectives of this course are to introduce environmental problems in modern society, such as water and wastewater pollution, air pollution, solid waste disposal, energy crisis, global climate change, LAC (Life cycle assessment). The engineering principle behind various environmental issues will be covered with the emphasis of conceptual understanding. The visual education materials will be fully utilized.

Separation Processes

본 과목은 여러 가지 분리공정 중에서 특히 상과 상 사이에서 일어나는 분리공정을 다루게 된다. 따라서 이 과목은 이해하기 위해 반드시 열역학, 열 및 물질전달을 이수한 것을 전제로 하고 있다. 각 상수의 환경에 대한 개념을 이해하기โรงพ물질전달이 일어나는 원리와 물질전달 지수에 대하여 강의한다. 기체와 액체간, 액체와 액체간 및 기체와 고체간의 물질전달에 대한 개념을 강의하며 실제 분리공정에서 기체흡수, 중류, 액체흡수, 고체추출 및 건조에 대한 원리와 응용, 그리고 이들에 관계되는 장치의 기초설계방법과 장치의 내용에 대하여 강의한다.

This course especially deals with separation process between phases in a variety of separation processes. Students have to be familiar with prerequisite subjects such as thermodynamics, heat and mass transport to understand this subject. This course also deals with not only the theory of separation process of mass transport but also mass transport coefficient. Topics include crystallization, distillation, liquid extraction, solid extraction, membrane separation, ultrafiltration, sedimentation, size reduction and mechanical separation operation.

Environmental Biotechnology

Microorganisms are used to convert waste products into biomass, which is then converted into a variety of products. The course also deals with the theory of separation process of mass transport but also mass transport coefficient. Topics include crystallization, distillation, liquid extraction, solid extraction, membrane separation, ultrafiltration, sedimentation, size reduction and mechanical separation operation.

Environmental Biotechnology utilizes microorganisms to
improve environmental quality. Using the principles of engineering (reaction engineering and hydrodynamics), microbiology and molecular biology, this course addresses how to i) remove organic contaminants, Nitrogen and Phosphorous, ii) generate valuable resources like methane gas, and iii) eliminate biological instability for drinking water production.

**458.409 전기화학 3-3-0**

**Electrochemistry**

The course provides opportunity to listen to seminars related to the latest research in biochemistry and biotechnology. This course also helps students understand the principles of chemical engineering and polymer materials, especially structures and properties of polymer and various reactions. The course also provides students opportunity to learn fundamental biological engineering and participate in the discussions.

**458.410 분자생물공학 3-3-0**

**Molecular Biochemical Engineering**

This course deals with the analysis of chromatography, and various advanced techniques such as capillary electrophoresis, UV-IR spectrophotometry, atomic absorption spectrophotometry, X-ray fluorescence spectrophotometry, nuclear magnetic resonance, and mass spectrometry in analysing organic and inorganic materials. The course also provides opportunity to learn fundamental biological engineering and participate in the discussions.

**458.411 고분자물성 3-3-0**

**Properties of Polymers**

This course provides opportunity to learn fundamental biological engineering and participate in the discussions.

**458.412 화공산전응용 3-3-0**

**Computer Applications in Chemical Engineering**

This course provides opportunity to learn fundamental biological engineering and participate in the discussions.

**458.413 생물화학공학 3-3-0**

**Biochemical Engineering**

This course provides opportunity to learn fundamental biological engineering and participate in the discussions.

**458.414A 기기분석 3-3-0**

**Instrumental Analysis**

This course provides opportunity to learn fundamental biological engineering and participate in the discussions.

**458.421 화학생물공학세미나 1-2-0**

**Seminar**

This course provides opportunity to learn fundamental biological engineering and participate in the discussions.

**458.423 화학산업경영 1-2-0**

**Management in Chemical Industries**

This course provides opportunity to learn fundamental biological engineering and participate in the discussions.
lated to chemical engineering which are presented by invited speakers and helps students decide what to do in their future.

458.424A 창의연구 3-1-4

Undergraduate Research

The objectives of this course are developing originality and creating excellent results through various steps such as selection of study subject, investigation and analysis of related reference, and performance and announcement of the study.

M0000.006400 세포생물공학 3-3-0

Cell Biotechnology

Cells are the fundamental units of life. This course intends to give an overview of the cellular components, structure, function, and mechanism. Based on the knowledge of cell biology, technologies used for cell culture, stem cell research, cancer research, and tissue engineering will be taught. The course will also deal with the medical and industrial applications of cells.
This introductory class covers basic principles and applications of energy and resources engineering for freshmen. Lectures about related industry and policy issues are also delivered. Faculty members of the department participate in Q&A sessions and discussion sessions. This class is linked to ‘Practices of Energy Resources Engineering’ which is another mandatory class for freshmen.

Practices of Energy Resources Engineering

This introductory practice class introduces in-situ field experiences to freshmen. This class is linked to ‘Understanding Energy Resources Engineering’ which is another mandatory class for freshmen. Students in this class learn and practice how basic principles and applications of energy and resources engineering that they have learned being applied to in-situ cases.

Petroleum Production Engineering

Petroleum production engineering covers design and selection of production equipment for efficient production of fluids that flow from reservoirs to wellbores. In this course, students learn how to design and select production facilities such as extraction of inflow and outflow performance between reservoirs and wellbores, design of completion, selection of equipment for separation of produced fluids.

Field Design of Energy and Resources Engineering

This class is a mandatory field design class for seniors. This class covers applications and practical knowledges for geological field works, natural resources prospecting and development. Students will visit in-situ fields to experience how to distinguish rocks, how interpret geological structures, how to write reports, and how to perform prospecting and development activities in the fields.

Thermodynamics for Energy Resources

Thermodynamics for Energy Resources is a mandatory class for seniors. This course is to teach essential methodologies to understand, express and solve mechanical problems of engineering materials usually met in Energy Resources Engineering. Students will learn how to calculate the stress and strain (deformation) of rigid or elastic bodies as well as fundamental theories for application of their skills to practical design. Main topics of the class are stress-strain relationship, axial/torsional/flexural loading and deformation, strain energy, etc. Each class consists of introduction of theory and problem solving.
Fluid Mechanics for Energy Resources Engineering

This course deals with the fundamentals of fluid mechanics for the discipline of energy resources engineering covering fluid flow in porous media, fractured rock, borehole and pipeline, and ventilation in underground structures. This course follows the typical outlines of basic fluid mechanics covering the concept of fluid mechanics, fluid statics and dynamics, fundamental equation for incompressible fluid, Navier Stokes Equation, flow of real fluid, fluid flow in circular pipe and parallel plate, frictional flow, similarity rule and dimensional analysis. Special emphasis is given on the application of the fluid mechanics to energy resources engineering in order to appreciate its importance.

M1594.001600* 에너지자원지구화학 3-3-0

Energy Resources Geochemistry

This course covers the source, distribution, and recovery of mineral and energy resources. Coagulation/precipitation, adsorption, distillation/mineralization, membrane, liquid extraction methods as well as electrochemical recovery method of metal resources will be lessened. Differences between traditional metal recovery methods from mineral resource and metal recovery methods from wastewater will be focused. In addition, fundamental knowledge of electrochemistry will be taught for understanding use of electrode in the electrochemical recovery method.

M1594.001700 중저력 및 전자기탐사 3-3-0

Gravity, Magnetic, and Electromagnetic Prospecting

This course deals with geophysical methods and electromagnetic methods are widely used for mineral resources and groundwater exploration. This course deals with basic theory, data acquisition, data processing and interpretation for gravity, magnetic, electrical resistivity, and electromagnetic methods. For data acquisition, students will learn survey design, principles of geophysical instruments, various kinds of acquisition methods and practice how to acquire gravity data and electrical resistivity data. For data processing, various kinds of data processing techniques are introduced and students practice how to perform data processing using freeware, and commercial software. Geophysical data interpretation is also covered. Advantages and limitations of geophysical methods are dealt with by introducing various field applications.

M1594.001900 에너지자원순환공학 3-3-0

Energy Resources Circulation Engineering

This course covers the source, distribution, and recovery of mineral and energy resources. Coagulation/precipitation, adsorption, distillation/mineralization, membrane, liquid extraction methods as well as electrochemical recovery method of metal resources will be lessened. Differences between traditional metal recovery methods from mineral resource and metal recovery methods from wastewater will be focused. In addition, fundamental knowledge of electrochemistry will be taught for understanding use of electrode in the electrochemical recovery method.
M1594.002000 저류개발환경공학 3-3-0

Mine Reclamation Environmental Engineering

This course deals with fundamentals of geomechanics that would be also covered. During the treatment of contaminated environmental media would be focused. The recovery method of useful resources during the treatment of contaminated environmental media would be also covered.

M1594.002100 저류층지오메카닉스 3-3-0

Reservoir Geomechanics

This course follows the typical outlines of basic electrochemistry covering the concept of electricity, electrolyte solution, electrochemical cells, electrode, and electrode reactions, and then typical resources processing method such as electro-refining, electrowinning, and electrosorption will be taught. In addition, other applications of electrochemical system including capacitive deionization that would be useful for the treatment of mining wastewater or mineral processing wastewater.

M1594.003200 지열에너지공학 3-3-0

Geothermal Energy Engineering

The objective of this course is to provide principles and applications of geothermal energy as one of the major renewable energy sources. The course covers geothermal heat pump, direct utilization of geothermal heat and geothermal power generation applied for shallow and deep geothermal applications. For development of shallow geothermal sources, the course deals with principles, installation, and operation of ground source heat pump, site investigation and groundwater engineering. For development of deep geothermal sources, geothermal exploration and site investigation, geothermal drilling, geothermal reservoir engineering, principles of steam power generation, and operation of geothermal power plant are covered. The conditions, principles, and case studies of direct geothermal utilization are also studied. The course covers geothermal resources estimation and environmental impact of geothermal energy development. Lastly, the course covers the emerging topics in geothermal energy such as geothermal energy storage and enhanced geothermal systems.
공과대학(College of Engineering) : 에너지자원공학과(Dept. of Energy Resources Engineering)

M1594.002400

에너지사업 타당성평가 3-3-0

Feasibility Assessment of Energy Projects

- 신재생에너지 및 기존 에너지 사업의 사업 타당성 평가 수행을 위해 주요 요인들을 분석하는 기법들을 교육한다. 경제적 평가(비용-이용시간, 수익요인계산), 전력에너지 공급망에 대한 다양한 평가, 부지의 환경 간 지역 안전성 평가, 환경적 평가에 대한 전반적인 이론적 개념과 다가지 자원량 계산, 발전시설 부지의 지반 안정성, 지리정보시스템(Geographic Information Systems)을 이용한 터널 복잡성(적성, 접근성, 지반 조건, 기후, 사본생 등), 전력정량평가(LCA, Life Cycle Assessment) 기반의 환경적 영향 분석, 에너지 억제의 신재생에너지 사업 타당성 평가 사례들을 다룬다. 석유, 천연가스 기반의 정책적인 에너지 사업과 신재생에너지 사업의 비교 분석을 통해 의사결정을 위한 평가 기법을 배우게 된다.

Analysis methods on the major factors for the feasibility study on renewable energy projects and conventional energy projects are taught. Assessments of the economic factors (cost-benefit, Net Present Value), resource availability of the solar and wind energy, ground stability analysis for power facilities, site suitability analysis (geomorphology, accessibility, ground condition, climate, resources etc) using GIS(Geographic Information Systems), LCA(Life Cycle Assessment)-based environmental impact analysis and case studies on feasibility assessments of energy mix and renewable energy projects are covered. Analytical methods for the decision making are taught by comparing renewable energy projects and conventional energy (petroleum and natural gas) projects.

M1594.002500

에너지와 기술의 경제학 3-3-0

Energy and Technology Economics

- 본 교과목에서는 에너지와 기술이 가지는 경제사회환경적 특성과 이들이 각각 소비자, 생산자, 정부 등 경제주체들의 의사결정에 영향을 미치는 이론과 사례를 학습하여 산업과 사회에 미치는 영향을 분석할 수 있는 능력을 갖추도록 한다. 신기술의 선택과 사회과학적 이론, 에너지문제의 선호/선택과 사회적 용용성, 기술개발과 경제발전의 연관관계 등을 학습함으로써, 특히 기후변화협력으로 인한 에너지 및 기술 선택과 주요국의 정책 수립과정, 국제에너지통계 추이 및 선무지자기술의 운용사례 연구 등을 함께 학습한다.

This course is an introductory course for all students who want to learn about the relations among energy, technology and society. Major concepts of energy and technology, climatic change convention, and their relations to economy, consumer, industry will be introduced, followed by theories about energy markets, technology transfer, energy choice, technology choice, and social impact analysis. Students will participate in Problem-Based Learning (PBL) using energy and technology choice cases and international energy statistics.

M1594.002600

에너지 데이터 사이언스 3-3-0

Energy Data Science

- 에너지 수요 급증, 탄소중립, 환경 문제 등으로 인해 에너지 생산 및 사용의 효율성이 보다 중요하게 되고 있다. 본 교과목에서는 에너지 생산 및 사용의 효율성을 향상시킬 수 있는 데이터 사이언스 기법을 학습한다. 데이터 사이언스는 자료에 숨겨진 유의미한 패턴을 여러 분야의 기법을 사용하여 찾아내는 분야이다. 본 교과목에서는 대표적인 데이터 사이언스 기법인 주성분 분석, 다차원 적응법 등의 차원축소 기법, k-means 클러스터링, 밀도기반 클러스터링 등의 클러스터링 기법, 다큐멘, Support Vector Machine 등의 기계학습 기법을 학습한다. 학습한 데이터 사이언스 기법들은 에너지 데이터에 대해 특성 추출 및 분류, 이상현상 탐지 및 분류, 수요 및 가격 예측, 개발 계획의 신속한 최적화 등 다양한 문제에 적용하는 실용을 수행한다.

The efficiency of energy production and usage has been more important because of the rapid increase in energy demand, carbon neutrality, and environmental issues. In this course, students learn data science techniques that can enhance the efficiency of energy production and usage. Data science is an interdisciplinary field that discovers hidden and meaningful patterns from raw data. Students learn fundamentals of typical data science methods: dimension reduction methods such as principal component analysis and multi-dimensional scaling, clustering methods such as k-means clustering and density-based clustering, and machine learning methods such as deep learning and support vector machine. Students practice applying the data science methods to various applications for energy data such as feature extraction and clustering, anomaly detection and classification, prediction of supplies and prices, and fast optimization of development plans.

M1594.002700

에너지환경기술경영 3-3-0

Electrochemical Systems for Energy and Environment

- 본 강좌는 에너지사업 및 환경 분야에서 이용되는 다양한 전기화학 시스템 전반에 걸친 심도 있는 이해와 응용력을 목표로 한다. 여러 작동 방식의 정적, 동적 전기화학 시스템들을 자체화 배운다. 이러한 전기화학 시스템들이 사용되고 있는 환경계제와 환경계제를 배운 에너지, 유리화 및 저장 장치, 아연화반소 저감을 위한 관련 환경 기술들을 학습한다. 탄소중립 에너지 발전을 위한 차세대 전기화학 시스템과 앞으로의 발전 방향에 대해 논의한다.

This course is designed for in-depth understanding of various electrochemical systems that are widely used in the field of energy resources, and environmental engineering. Fundamentals and constitution of static and flow-type electrochemical systems with diverse operation principles will be covered in detail. Electrochemical systems that are used for energy resources processes such as electrorefining and electrowinning, energy conversion and storage, and carbon dioxide mitigation technology for environmental remediation will be taught. Next-generation electrochemical systems for carbon-neutral energy production and the development direction will be discussed.

M1594.002800

에너지환경기술경영 3-3-0

Management of Energy, Environment, and Technology

- 에너지환경기술경영은 에너지 분야의 다양한 이슈들에 대하여 공과대학이 간과하기 쉬운 경제-환경적 문제를 통하여 학습하는 과목이다. 강의의 주요 내용은 경제성 분석, 산업환경, 그리고 사업평가 기법 등이며 경영형 팀별 실습 및 토론을 통해 팀 수업을 진행한다.

This course addresses joint problems of energy and energy-related issues from the viewpoint of project valuation.
This course covers the physical and mechanical properties of rock as well as stress distribution and deformation characteristics subject to external loads. It also introduces the time-dependent behaviors and non-linear stress-stain relationships. In the laboratory session, students conduct a series of hands-on experiments such as for uniaxial compressive strength, Young’s modulus, Poisson’s ratio of rock, etc.

465.313* 석유가스공학 및 실험 3-2-2

Petroleum and Gas Engineering and Experiment

This course addresses engineering theories on the developments of petroleum, gas, and ground water. Specifically, it covers rock properties, mechanisms for distribution of fluids, fundamental behaviors of hydrocarbon fluids, reservoir engineering, and EOR. This course includes experiments on the topics above.

465.315 지구통계학 3-3-0

Geostatistics

This course covers basic statistics for spatial analysis in the first half. Then, students will learn variogram and its modeling for spatial analysis with separation distance. For the estimation of unknown values, this class addresses several kriging methods such as simple kriging, ordinary kriging, co-kriging, and non-kriging techniques such as polygon method.

465.319 신재생에너지 3-3-0

Renewable Energy

This course covers engineering aspects, principles, background technology, limitations, and cross relationship of each renewable energy. It analyzes economical advantages and disadvantages of renewable energy sources such as solar, wind, tide, geothermal, biomass, etc.

465.320 지질공학 3-3-0

Engineering Geology

This course teaches basic numerical techniques for energy resources engineers. It covers iterative methods to solve non-linear equations, numerical integration, and stochastic simulation for modeling uncertainty. It also covers FDM and methods to solve matrix equations. Students will learn practical numerical techniques by class projects and MS Excel Visual Basic Applications.

465.311* 암석역학 및 실험 3-2-2

Rock Mechanics

This course covers engineering aspects, principles, background technology, limitations, and cross relationship of each renewable energy. It analyzes economical advantages and disadvantages of renewable energy sources such as solar, wind, tide, geothermal, biomass, etc.

465.304 에너지자원 수치해석 3-3-0

Numerical Analysis for Energy Resources

This course covers basic numerical techniques for energy resources engineers. It covers iterative methods to solve non-linear equations, numerical integration, and stochastic simulation for modeling uncertainty. It also covers FDM and methods to solve matrix equations. Students will learn practical numerical techniques by class projects and MS Excel Visual Basic Applications.

465.302* 자원처리공학 3-3-0

Mineral Processing

This course addresses engineering theories on the developments of petroleum, gas, and ground water. Specifically, it covers rock properties, mechanisms for distribution of fluids, fundamental behaviors of hydrocarbon fluids, reservoir engineering, and EOR. This course includes experiments on the topics above.

465.311A* 암석역학 및 실험 3-2-2

Rock Mechanics

This course covers the physical and mechanical properties of rock as well as stress distribution and deformation characteristics subject to external loads. It also introduces the time-dependent behaviors and non-linear stress-stain relationships. In the laboratory session, students conduct a series of hands-on experiments such as for uniaxial compressive strength, Young’s modulus, Poisson’s ratio of rock, etc.

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공과대학(College of Engineering) : 에너지자원공학과(Dept. of Energy Resources Engineering)

통해 지반의 구조를 해석하는 구조지질기법의 공학적 응용, 지층 구조의 공학적 해석기법을 배운다.

Engineering assessment technique and solutions are taught for potential geohazards at energy development and construction sites in terms of both geological phenomena such as weathering and failure of various rock and soil. Engineering application of structural geological techniques and subsurface interpretation techniques are the main subject of laboratory classes.

465.326 양반공학용 및 설계 3-3-0
Rock Mechanics for Mining

양석역학의 기본이론에서 출발하여 보다 심화된 이론들을 공부하며 지하광산의 안정성해석 및 설계에 초점을 맞추어 강의를 진행한다. 주요 주제로는 응력과 변형률, 양반구조와 분류, 양석강도와 변형성 등의 양반공학 이론과 층층암반에서의 굴착, 층층암반에서의 굴착, 채광 및 지보 등이 있다.

This course introduces the advanced principles of rock mechanics as well as fundamental theories applied to stability analysis, design and construction of underground mines. It covers the topics such as stress and strain, rock mass classification, rock strength and deformation, excavation design, mass excavation, stratified or blocky rock mass and mining methods.

465.333 파도와 지진공학 3-3-0
Wave and Earthquake Engineering

본 과목은 파도정전과에 대한 기본 이론을 이해하고 지하 매질에서의 대표적인 파도전과 현상에 대한 특성을 다룬다. 양석동에서 담하 사용되고 있는 파도전과에 의한 파동전파와 양석장에 기초한 파도전과 이론을 이해하고 이를 통해 파동장정적으로 기술되는 지진의 전파 특성을 학습한다.

This course deals with the fundamental theories on the wave propagation and the properties of the earthquake, which is one of the representative wave phenomena. Through the understanding of the wave propagation based on both ray theory and elasticity theory, it deals with the properties of earthquake propagation.

465.408 국제에너지시장분석 3-3-0
Analysis of International Energy Markets

본 과목은 국제에너지시장의 예측 및 분석을 위한 분석기법을 학습하고 에너지시장의 대표적인 특성을 높은 가격변동과 시장의 지역화 문제를 심층적으로 합니다. 시계열 계량경제기법을 위주로 한 분석기법을 학습하며, 실제사례를 활용한 팀별 분석실습과 토론학습을 진행한다.

This course discusses issues on international energy markets such as high price volatility and regionalization. Time-series econometric methods are introduced as the main analytical tool. Rigorous programming, team projects and discussion sessions are provided.

465.424 터널 및 지하공간설계 3-3-0
Design of Tunnel and Underground Space

지하철 및 도로터널과 같은 교통터널을 비롯하여 각종 대단면 지하공간의 설계를 위한 기본이론과 다양한 사례를 학습한다. 터널의 설계와 지보, 환경공학에 관한 usually 다루며 산업용 및 주거용 지하공간의 설계 및 이용 사례를 소개한다.

This course deals with the engineering techniques for design and construction of traffic tunnels and large scale underground spaces such as subways, road tunnels, and underground sports complexes. It focuses on the techniques for tunnel excavation, reinforcement and ventilation, and introduces various designs of underground structures for industry and inhabitation.

465.435 에너지환경공학 3-3-0
Energy Environment Engineering

산업 발전으로 인한 대기오염 및 생활수준의 향상과 함께 에너지 사용량이 급격히 증가하고 있다. 에너지 사용량이 증가함에 따라 환경 문제도 심화되고 있으며, 환경공학에 관한 사회적 순상도 급격히 증가하고 있다. 본 과목은 에너지생산과 사용에 따른 환경 문제를 다루게 된다. 특히 문제가 되는 미세먼지, 산소비, 스모그, 지구온난화가스에 대하여 생태계와 기후계에 대하여 공부한다.

The energy consumption has sharply increased with the rise in the standard of living and growth of economy due to the industrial development. As energy consumption increases, the environmental problem and social loss also increases. This course covers environmental pollutants from energy production and utilization, and introduces various pollution control technologies.

465.441 시추공학 3-3-0
Drilling Engineering

시추는 석유와 가스 그리고 광물자원의 탐사와 개발을 위한 중요한 단계이다. 본 과목은 시추계획, 시추장비, 채광방식, 유정 평가, 유정완결에 대하여 강의한다. 시추장비와 해발장, 유정장, 그리고 유정완결에 대하여 강의한다. 지하수질 및 산업물, 해양수질 및 산업물, 그리고 광물 자원의 탐사와 시추의 특성을 공부한다.

Drilling is important for exploration and development of oil, gas, and mineral resources. This class covers well planning, drilling equipment, casing design, well control, drilling problems and solutions, well evaluation, and well completion. It also covers characteristics of shallow and deep drilling, onshore and offshore drillings, and drilling for mineral exploration.

465.442 자원개발공학 3-3-0
Mining Engineering

자원개발은 광산의 위치 및 형상 확인, 채광법의 선택, 구조 및 지보, 생산, 이용, 부산설비 구축 등의 많은 단계를 포함하며, 각 단계별로 다양한 주제를 학습하여야 한다. 본 교과목에서는 지하 광산, 지표 광산의 채광법을 선정하고 광산을 설계하는데
필요한 지식을 학습한다. 동시에 굴착, 지보, 운송 방법에 대하여 학습한다. 광산 설계를 위한 자동화 프로그램을 구동하여 학생들이 실제로 현장에서 발생하는 생산 과정을 사전에 시뮬레이션 하도록 한다.

The process of mine development involves different stages including determination of position and shape of ore deposit, selection of mining method, excavation and reinforcement, production, transport, and installation of auxiliary plants, which require knowledge in different aspects. This class teaches the knowledge for designing an underground and open pit mining system. An automated mining design software program is used to simulate the mining activities in the designing stage, on which student will obtain hands-on experience.
기계공학부(Mechanical Engineering)

M2794.001000* 고체역학 3-3-0

Solid Mechanics

해석 대상인 고체의 기동에 대한 기본적인 가정을 소개하고 사용될 계산 방법을 도출해서 힘의 영향 조건을 논의한다. 이를 기본 원칙으로 해서 정적력과 부동정력을 해석하기 위한 3차원적 도형 형식, 기하학적 적합성, 운동-변위 방정식을 관계식을 소개한다. 그리고 이 방법을 이용하여 보의 처짐 및 비틀림에 대한 해석을 수행한다.

This course will examine the basic mechanisms of rigid and deformable bodies in the equilibrium state. Topics to be discussed include free-body diagram, equilibrium conditions, stress and strain, shear force and bending moment applied to the interior of solids.

M2794.001100* 열역학 3-3-0

Thermodynamics

본 교과목은 기계공학의 기본 과목의 하나인 열역학의 여러 개념들을 이해함으로써 공학적 용량력의 배양을 목적으로 한다. 이를 위하여 열역학의 기본 법칙들이 열역학 제1법칙과 제2법칙을 멀티페스트 및 개발시스템에 대하여 설명함으로써 열닉스의 기본 지식들을 공식화하여 문제를 해결하는 능력이 배양된다. 열역학적 상태량들의 변화를 계산하고, 복잡한 현상의 이해를 도모하기 위한 기본적인 물리적 개념을 확립시키는 학습이 수행된다.

The aim of this course is to understand various fundamental laws of thermodynamics and to develop the ability to apply them to various thermal systems. Course topics include energy, heat and work, enthalpy, entropy, laws of thermodynamics, thermodynamic properties, analysis of cycle performance and various engineering cycles.

M2794.001200* 동역학 3-3-0

Dynamics

동역학은 운동 중인 물체를 벡터적으로 해석하는 기술의 한 분야로서 물체에 작용하는 힘, 물체의 질량, 그리고 물체 운동관에 존재하는 관계를 다룬다. 즉 주어진 힘에 의해 일어나는 운동을 예측하거나 또는 임의의 운동을 발생시키기 위하여 필요한 힘을 구한다. 먼저, 물체의 크기를 고려하지 않고 모든 질량이 그 질량중심에 집중되어 있는 작은 점으로 가정하고 그 질량중심을 기준으로 원래 위치에서 힘으로 인해 물체의 운동을 계산한다. 그리고 물체의 질량중심에 대한 회전까지를 고려하는 기체의 동력을 공부한다.

This course deals with the motion analysis of point masses and rigid bodies. We will study about kinematics, with a focus on the geometrical relationship between displacement, velocity and acceleration of a body and also examine the relation between forces and mass and the motion of a body.

M2794.001300* 유체역학 3-3-0

Fluid Mechanics

유체역학의 기초 교과목으로서 유체의 성질, 유체 내의 압력분포, 제어적에 대한 적분관계식, 유체접촉에 대한 미분관계식, 카이스케와 상성 및 미터너의 정성유동을 주제로 한다. 이를 통해 유체역학의 기초원리를 이해하고 실제문제에 응용하기 위한 능력이 배양된다.

This course introduces fluid mechanics and their practical applications to several flow systems. Course topics include the characteristics of fluid, hydrostatics, mass and momentum conservation laws, dimensional analysis and internal flows.
methodology for realization and embodiment of conceptual designs. The class will also discuss how to apply theories on element design to practice while verifying if required functions are satisfied.

**Materials and Manufacturing Processes**

The objective of this class is to understand fundamental mechanisms of manufacturing processes covering traditional processes such as casting, cutting, grinding, forging, and mechanisms of manufacturing processes including traditional and composites used in these manufacturing processes. The student will acquire principle knowledge on structures and characteristics of various materials including metal, polymer, ceramic, and composites used in these manufacturing processes.

**Mechanical Vibrations**

Based on statics and dynamics, this course deals with the analysis of position, velocity, acceleration and forces related to the motion of a mechanism that consists of solid members. We will analyze the motion and forces of linkage mechanisms, gears, cams and followers, screws, etc.

**Applied Fluid Mechanics**

In this course, we will discuss the following topics: the properties of fluid; continuity equation; streamlines and stream function; Euler equation; Navier-Stokes equation; Bernoulli equation; engineering applications of the Bernoulli equation; momentum theorem; similitude; the elements of potential flow; lift; analysis of flow in pipes; Reynolds stresses in turbulent flow; boundary layer theory-exact solution and approximate solution; laminar boundary layer; turbulent boundary layer.

**Introduction to Robotics**

This course will examine the various theories related to the analysis and design of continuous time Control System. Topics in this course include the following: time domain and frequency domain analysis of system response; PID Controls; robust Control-Design considerations; the design and analysis of Control Systems in State Space.
MEMS in Mechanical Engineering

본 교과목에서는 MEMS를 위한 마이크로 기계의 역학, 재료, 전기 및 동적 움직임을 비롯하여 유체유동과 열전달 해석을 위한 마이크로 기계공정의 핵심적 요소를 가중해학의 수학적 모델을 구축하는 방법과 실제 시스템의 설계 및 설계에 대하여 공부한다.

이 과목에서는 공학과 수리학의 분야에서 널리 사용되는 유한요소법을 다룬다. 유한요소법은 단일 또는 비단일 구조물의 정적 및 동적 구조진해에 대한 유체유동과 열전달 해석, 전자기장 해석과 같은 넓은 분야의 해석과 설계에 있어 필수 수단이다. 유전자 알고리즘의 개념과 응용예제도 소개한다. 역학, 열전달, 전자기학, 재료학, 기계학 등에 있어서의 해결책과 해결책에 대한 해법을 소개하고, 공학중 전문 해석에 유한요소 해석기술을 적용하여 설계에 이용할 수 있도록 연습과 term project를 수행한다.

In this course we will study the finite element method widely used in fields of engineering and applied mathematics. Examples of the method as a basic tool for analysis and design are as follows: the elastic and inelastic behavior of solids, fluid mechanics, heat transfer and electromagnetic fields. This course will introduce the formulation of finite element procedures by energy principle and the solution techniques by linear algebra. Course requirements include the practice of using the method as a design tool in engineering problems and individual term projects.

Optimal Design of Energy Systems

본 과목에서는 에너지 시스템에 대한 기본적인 개념의 습득과 시스템 설계에 필요한 여러 가지 최적화 기법을 학습한다. 설계학, 설계학 및 설계학의 기본 개념들은 에너지 시스템에 적용하여 시스템 설계기술을 기술할 수 있는 수학적인 모델을 도출하고 도출된 모델에 의거하여 시스템을 최적화하는 방법에 대하여 취급한다. 또한 다양한 에너지시스템을 예로 들어 설계의 고려점 및 최적화 기법들을 다룬다.

This course will deal with the fundamental theories and applications of thermal energy systems. We will practice designing and analyzing energy systems based on our background knowledge of thermodynamics, fluid mechanics and heat transfer. Special emphases will be given on several design tools and optimization. We will also examine diverse examples of optimization.

Environmental Thermodynamics

환경공학과의 기본 및 응용에 대하여 취급하며 냉동 기초 및 응용, 공기조화 기초 및 응용, 실내공기환경 및 공기의 상태 변환, 건물냉난방, 대체에너지, 실내환경문제 등에 대하여 공부한다. 열역학, 유체역학, 열전달기초 및 전자기장은 바탕으로 시스템의 해석 및 설계 방향을 연구하고, 시스템의 응용에 이해하고, 열전달 및 수용량 해석기술을 적용하여 설계에 이용할 수 있도록 연습과 term project를 수행한다.

This course will deal with the basic theories and applications of refrigeration and air conditioning systems. Based on the fundamentals of thermodynamics, fluid mechanics and heat transfer, we will examine the methods of designing and analyzing several systems in refrigeration and air conditioning. We will study the components of refrigeration and air conditioning systems and also examine their performance. Other topics to be discussed include various examples of integrated systems, alternative energy systems, and economic and efficient systems.
M2794.003700 
**Introduction to Sound System Engineering**

This course covers fundamentals of single-degree-of-freedom system, vibrating string, vibration of membranes, the acoustic wave equation and its simple solutions, sound transmission, and sound radiation.

M2794.003800 
**Flow and Design**

- **Flow and Design**

  유체역학, 유체역학, 열역학의 응용과목으로 토보기계의 작동 원리, 설계방법, 운전특성, 성능특성, 성능시험방법 등을 학습한다. 기본 역학의 전산보조 범역, 운동량정리, 열역학 범역을 토보기계에 응용하는 능력을 기른다. 토보기계류에 속하는 셰프, 압축기, 증기기관, 터빈, 수차의 공통 특징을 주로 공부한 후 터빈, 지정량판 및 압축기, 반경류터빈 특성을 다룬다.

M2794.003900 
**Flow in Life Systems**

Flow in Life Systems

- **Flow in Life Systems**

  Flow in Life Systems

  본 과목에서는 생물의 세포 및 세포에서 일어나는 유체역학적 현상에 대해 소개하고, 이를 해석하는 방법을 다룬다. 구체적으로 혈액순환계통과 관련된 내부 유동과, 몸과 기기에서의 생체 추기 및 관련된 외부 유동을 다룬다. 이를 위하여 유체역학의 기본 개념, 발명식에 대하여 개관한 다음, 내부 유동 현상으로서 심장, 뇌맥, 정맥, 망막혈관 내의 유동 등에서 선택된 주제를 다룬다. 그리고 미생물, 물고기, 곤충, 새 등이 유체 내에서 추진하는 외부 유동 현상을 해석하는 기본적인 방법을 학습한다.

  This course introduces fluid-dynamics phenomena encountered in and out of biological organisms and provides analytical tools to understand them. The contents mainly revolve around two themes: internal flows associated with blood circulation, and external flows of air and water associated with bioluminomotion. An overview of governing equations for fluid mechanics is given first, and selected topics of internal flows such as flows in the heart, the artery, the vein, and the capillary are discussed. Also basic analytical approaches are introduced to study external flows in association with bioluminomotion of microorganisms, fish, insects and birds.

M2794.004000 
**Micro-nano Mechanics**

Micro-nano Mechanics

- **Micro-nano Mechanics**

  본 과목에서는 미세구조 물질, 소자, 장치 제조 및 작동에 관련된 기계공학적 원리를 공부한다. 마이크로-나노 구조 물질 제조와 관련된 일공학, 유체공학적 원리를 학습하며 그 응용을 수행한다. 미세구조의 소자 및 장치의 설계에 가공과 관련된 기계공학적 원리를 공부하며 여러 응용 장치들 학습한다. 마이크로-나노 장치와 관련된 측정원리와 방법의 학습도 포함된다. 기계공학적원리 이외에 마이크로-나노 구조의 설계에 필요한 여타의 공학적, 과학적 문제들과 관련들을 소개한다.

  This course will examine the fundamental mechanics of micro-structure and micro-device and also cover the problems regarding the production and operation of micro system. Basic theory of the design, production and measurement of micro-nano system will be discussed and its applications will be introduced.
Integrated Mechanical Design and Analysis

The course aims to enhance students' abilities for the integrated design or analysis of specific machine systems by comprising the basic courses which are taken through the undergraduate study in mechanical engineering field. Students are expected to learn the integrated ability in mechanical design and analysis through presentations, discussions and practices.

Management in Mechanical Engineering 1

This course is intended to enhance students' abilities for problem identification, design and analysis of specific machine systems. Students are going to do problem identification, design and analysis under the guidance of teachers. Students are expected to learn the integrated ability in mechanical design and analysis through presentations, discussions and practices.

Management in Mechanical Engineering 2

This course is intended to enhance students' abilities for problem identification, design and analysis of specific machine systems. Students are going to do problem identification, design and analysis under the guidance of teachers. Students are expected to learn the integrated ability in mechanical design and analysis through presentations, discussions and practices.

Mechanics and Waves

Stress and deformation propagate in the form of mechanical waves when elastic bodies are subject to impacts or dynamic loads. In this case, a beam, the most simple structural element, exhibits considerably different behavior that cannot be observed in its static response. For instance, structural responses can vary significantly depending on frequencies and often no wave propagation takes place at certain frequencies. In this course, we study the generation mechanism of wave phenomena such as refraction, reflection, and diffraction in elastic bodies and examine interesting phenomena occurring in beams under time-varying tensile, bending and torsional loads. Engineering applications and control of mechanical waves will also be discussed.

Mechanical Strengths and Behaviors of Solids

Stress and deformation propagate in the form of mechanical waves when elastic bodies are subject to impacts or dynamic loads. In this case, a beam, the most simple structural element, exhibits considerably different behavior that cannot be observed in its static response. For instance, structural responses can vary significantly depending on frequencies and often no wave propagation takes place at certain frequencies. In this course, we study the generation mechanism of wave phenomena such as refraction, reflection, and diffraction in elastic bodies and examine interesting phenomena occurring in beams under time-varying tensile, bending and torsional loads. Engineering applications and control of mechanical waves will also be discussed.

Biomechanics and Its Applications in Mechanical Engineering

Biomechanics and Its Applications in Mechanical Engineering

This course provides lectures to learn knowledge, attitude and approach methods for the engineers who are interested in business management. Experts working in government service, research, academic institutes, and industries are invited their experience and knowledge in the management of industries related to mechanical engineering.

Mechanical Strengths and Behaviors of Solids

Mechanical Strengths and Behaviors of Solids

This course aims at delivering the integrated design or analysis of specific machine systems. Dynamic analysis is studied to derive the interaction between all these components required for a given motion. As a real practice, students measure a motion using a motion capture camera system and run a commercial program to calculate the joint torques and the corresponding muscle forces which enable the measured motion.
Mechanical Engineering Lab.

This course is to provide the basic techniques for mechatronics system including electronics circuit design, microprocessor application for mechanical engineers. The course begins with basic circuit design techniques such as DC circuit, resistors, capacitors, and RC circuits, transistors, filters, diode circuits, transistors, OP Amplifiers, etc. The micro processor system such as 8086/8088/80196 processor, structure, architecture, I/O interface are also taught. For the laboratory, boards and electronics components are distributed, and are expected to design and implement the Lab assigned designs with 80196. Basic circuit design, assembler programming, digital I/O, stepping motor applications are also demonstrated, and final term project is scheduled for contest.

Mechanobiology

Mechanobiology deals with physical force and energy acting in living systems. This course integrates mechanics, biology and engineering to explore how mechanical interactions play a key role in driving the functions of living systems. A series of molecular players that act as active machines as well as passive mechanical elements are introduced to understand an intimate interplay between mechanics and biology. We also cover a variety of biomedical devices and experimental techniques used to characterize living systems.
Machine Learning for Mechanical Engineering

This course consists of three parts. The first part of the class reviews the fundamental concepts from probability, linear algebra, optimization, and signal processing. The second part of the class introduces the main categories of machine learning, namely, classification, regression, and clustering. The third part of the class handles tutorial for smart manufacturing by covering sensing, robotics and 3D reconstruction. Using actual sensor data, students apply machine learning algorithms.
maintain optimal performance for automotive application. In this course, students will gain system analysis of automotive propulsion systems and learn new technologies to meet future environmental regulations of vehicles.

M328.001200 수소생산과 연료전지응용 3-3-0

Hydrogen Production and Fuel Cell Application

The entire value chain (utilization, production, storage, transportation) of hydrogen energy will be discussed. The first half of the course will emphasize a primary hydrogen utilization system, fuel cell. The fuel cell provides one of the most efficient means for converting the chemical energy stored in fuel to electrical energy. Students will study fundamentals, performance, material characterization, stack, and system design of fuel cells. Then the second half of the course will cover hydrogen production-storage-transportation technologies. Especially, diverse methods for clean hydrogen production will be thoroughly studied. After fundamental lectures, experiments on hydrogen energy (e.g., fuel cell, water electrolysis, etc.) will be performed. In general, students will understand the essential roles of hydrogen energy in future energy and the environment.
Solid Mechanics in Aerospace Engineering 1

**M2329.001900** 항공우주 고체역학 1 3-3-0

**M3229.002600** 항공우주영역학 3-3-0

**Aerospace Thermodynamics**

본 강의는 전기학과 레이더학과의 전기학에 필요한 기초를 다루어 사용자가 직접 적용할 수 있도록 전기학의 기본 법칙들을 전기학 제1법칙과 제2법칙을 범위에 대해 설명한다. 이를 기반으로 변형과 변형의 동역학적 및 기체동역학적 문제를 해결하는 능력을 기반으로 한다. 열역학적 상태방정식, 정리 및 변형에 대한 기본적인 현상의 이해를 도모하기 위한 기본적인 열역학 개념을 확립시킨다.

The aim of this course is to understand various fundamental laws of thermodynamics and to develop the ability to apply them to various thermal systems. Course topics include energy, heat and work, enthalpy, entropy, laws of thermodynamics, thermodynamic properties, analysis of cycle performance and various engineering cycles.

**M2795.001800** 기초공학확률 3-3-0

**Aerodynamics**

유체역학의 기본적인 지식을 바탕으로, 비행체 동역학에 대한 해석기법 및 비행체 동역학에 대한 해석기법을 학습한다. 이를 기반으로, 2차원 에어로드로미션 3차원 유한 날개 주위에서 발생하는 양력, 감마 및 모멘트의 기체동역학적 특성을 이해하며, 양체 비행체 해석 및 설계에 필요한 기본적인 비행원리를 습득한다.

Starting from the fundamental theory of fluid mechanics, this course will deal with the key theories for the lift and drag generation mechanisms of aircraft in the incompressible air. Based on that, the aerodynamic characteristics of lift, drag and moment around 2-D airfoil and 3-D finite wing will be studied, which will become essential element for aerodynamic analysis and design of aircraft.

**M2795.002100** 운동체역학 3-3-0

**Dynamics**

운동체 역학은 운동 중인 물체를 벡터적으로 해석하는 역학의 한 분야로서, 그 결과에 적용하는 힘, 물체의 질량, 그리고 물체의 운동간에 존재하는 관계를 다룬다. 즉, 주어진 힘에 의해 일어나는 운동을 예측하거나 또는 이외의 운동을 발생시키기 위하여 필요한 힘을 구한다. 먼저, 물체의 크기를 고려하지 않고 모든 질량에 그 질량중심에 집중되어 있는 작은 점으로 가정하고 그 점에 대한 운동학을 공부한다. 그리고 그 물체의 질량중심에 대한 회전을 고려하는 강체의 동력학을 공부한다.

This course deals with the motion analysis of point masses and rigid bodies. We will study about kinematics, with a focus on the geometrical relation between displacement, velocity and acceleration of a body and also examine the relation between forces and mass and the motion of a body.
항공우주공학과 관련된 기본 실험을 취급한다. 전자회로를 이해하는 기본적인 지식과 경험 확득, 구조물의 인장, 비틀림, 모멘트 하중을 가해줄 때 실험을 통하여 구조재료들의 가동과 그 특성에 관한 이해, 진공현상에 대한 이해와 충진기 설계 및 기계시스템의 제어방법을 습득하는 데 있다. 또한 실험을 수행하고 자료의 처리, 보고서 작성 방법을 교육한다.

In this course we will do experiments related to aerospace engineering. Course topics include the following: knowledge and experience to understand Basic electronic circuit system, understanding of resonance frequency, Control method of structural materials when torsion, moment and load is applied to them in the preliminary and detail design. Since the practical treatments are conducted by numerical analysis, physical processing and also data processing and how to write reports are instructed.

본 강의의 목적은 우주항공공학실험 1에서 다룬 내용을 기초로 하여, 보다 구체적이고 응용적이면서 계통적 치기의 복잡한 특성에 대한 이해를 배양한다. 에어로다이나믹 표면의 압력 측정, 호소의 속도장 측정 및 분석, 허브리드 사인센서와 용량 및 성능 측정, Intelлект, 유체역학학의 현상을 위한 응용성 실험을 습득하고 실험을 수행하기 위해 원리에 대한 이해를 돕는다.

Based on the studies in the course Aerospace Engineering Lab 1, this course deals with the analysis of the complex properties of more concrete, applicable and systematic equipments. We will do experiments related to aerospace engineering. Course topics include the following: pressure distribution of airfoil, measurement and calibration of temperature for moving airfoil, measurement of flow rate and velocity, heat transfer in solid, tensile and compression test, fatigue test and strain gauge etc.

항공기의 예비 및 초기 설계 시에 활용할 수 있도록 복잡한 구조물들을 단순화하여 비행체 구조물의 전체적인 항공공학 및 대략적인 응력분포를 계산하는데 필요한 방법들을 구조력학적 관점에서 배우게 된다. 실험의 정밀한 과학적 배경은 컴퓨터 수치해석기술을 통해 수행하게 되므로 이 과목에서는 수장생들에게 물리적, 역학적 감각을 키워주는데 주력하면서 간단한 수계산을 실습한 해석적인 방법을 통해 실험 문제들을 다루게 된다.

In this class, methodologies to compute an overall load path and approximate stress distribution will be learned by idealizing a realistic aircraft structures, in order to adopt them in the preliminary and detail design. Since the practical computations are conducted by numerical analysis, physical and mechanical aspects will rather be emphasized by going through simple analysis problems involving low-order numerical computation.
This course will examine the fundamentals of dynamic characteristics of aircraft. It will deal with topics on static and dynamic stability and aircraft conceptual design. After deriving equations of motion, we will study the dynamic characteristics of aircraft. It will deal with topics on static stability and aircraft conceptual design. To enhance the ability to analyze high speed three dimensional viscous flow; Low Reynolds number flow, two-dimensional laminar boundary layer, three-dimensional boundary layers, thermal boundary layer theory of incompressible flow.

M2795.003500 전산유체역학 기초 3-3-0
Fundamentals of Computational Fluid Dynamics

This course will examine the fundamentals of dynamic characteristics of aircraft. It will deal with topics on static and dynamic stability and aircraft conceptual design. After deriving equations of motion, we will study the dynamic characteristics of aircraft. It will deal with topics on static stability and aircraft conceptual design. To enhance the ability to analyze high speed three dimensional viscous flow; Low Reynolds number flow, two-dimensional laminar boundary layer, three-dimensional boundary layers, thermal boundary layer theory of incompressible flow.

M2795.003600 점성 유체역학 3-3-0
Viscous Fluid Flow

This course will be treat flow equation, learned in aerodynamics compressible fluid dynamics, etc. Students will make a one-dimensional and two-dimensional numerical simulation code, learned in this course, to calculate the actual flow conditions.

M2795.004400 고에너지열유체역학 3-3-0
High Energy Thermofluid Dynamics

This course will address advanced topics in compressible fluid dynamics, thermodynamics, and heat transfer of energetic materials. Topics of interest may include combustion, multi phase flows, directed energy (laser) conversion, propulsion, etc. The course will cover thermodynamics of pure substances and mixtures, equations of state, chemical kinetics, transport phenomena, and the governing equations for multicomponent energetic mixtures. The course will also emphasize technologies that reduce emission of greenhouse gases.

M2795.004300 로켓추진 3-3-0
Rocket Propulsion

This course will address advanced topics in compressible fluid dynamics, thermodynamics, and heat transfer of energetic materials. Topics of interest may include combustion, multi phase flows, directed energy (laser) conversion, propulsion, etc. The course will cover thermodynamics of pure substances and mixtures, equations of state, chemical kinetics, transport phenomena, and the governing equations for multicomponent energetic mixtures. The course will also emphasize technologies that reduce emission of greenhouse gases.
Aircraft Conceptual Design

 항공기의 개념설계과정을 자유롭게 다루고 학생들이 각자가 정한 항공기를 AAD와 RDS 프로그램을 통해 실제로 개념 설계하도록 하여 설계에 대한 이해를 증진시킨다.

In this course we will study the process of aircraft conceptual design. Students will be trained to do actual conceptual design using AAD and RDS program.
subjected to transverse shear force. We understand buckling of a structure, derive a governing equation for a buckling load and a buckling mode. Basic theory of structural stability will be introduced. Various analysis methods based on energy principle will be provided. Failure criteria will be discussed in three dimensional space and the detailed aspect of beam bending and torsion will be touched.

**M3229.002900** 항공우주공학관입문 3-3-0

Introduction to Aerospace Engineering

본 과목은 항공우주공학을 전공하는 학생들에게 항공우주분야 전반에 대한 기초적인 개념을 제공하는 과목이다. 항공우주와 관련된 자연현상과 특성, 유무인 항공기, 로켓 발사체 및 인공위성을 살펴보고 시험하는 공학적 원리 및 제반 시스템을 운용하는데 필요한 지식을 제공한다. 기술분야로는 공기역학, 구조설계 및 해석, 항공기 주관 공학, 비행능능, 비행체 항법에 대한 개념과 기초 원리 및 기술적인 이해법, 최신 기술 동향에 대해 소개한다.

This course provides introductory level of aerospace technology for students in the field of science and engineering in general. It covers fundamental engineering knowledge which is required to design and analyze of aircraft, rocket, satellite, and spacecraft technologies. In terms of discipline, it introduces the overview and technical principles and up-to-date issues related with aerodynamics, structural analysis and design, propulsion system, performance and aircraft control and guidance. No prerequisite courses are required.

**M3229.002400** 항공우주 선형대수 3-3-0

Linear Algebra for Aerospace Engineering

본 장의 목적은 인공지능과 통신을 포함한 첨단 항공기, 인공 위성, 발사체, 무인기 등 항공우주분야에 핵심적인 기술 개발에 기초가 되는 선형대수학을 이해하고 이를 다양한 항공우주문제에 응용하는 방법을 제시하는 것이다. 이를 위해 연립방정식, 행렬대수, 벡터공간, 직교성 및 직교행렬, 고유값과 고유벡터, 행렬의 대각화에 대하여 공부하고, 선형대수의 핵심인 행렬로 표현되는 시스템을 다양한 형태로 분해하여 표현하는 방법을 공부한다.

The aim of this course is to understand linear algebra, which is the basis for the development of core technologies in the aerospace field such as artificial intelligence, communications, advanced aircraft, satellites, launch vehicles, and unmanned aerial vehicles, and to present a method to apply it to various aerospace problems. Course topics include systems of linear equations, matrix algebra, vector spaces, orthogonality, orthogonal matrix, determinants, eigenvalues and eigenvectors, matrix diagonalization, matrix factorizations, and applications.

**M3229.002300** 항공우주 진동론 3-3-0

Aircraft and Spacecraft Vibrations

물체의 운동을 고려함에 있어, 강체로 고려하였던 동역학적 관점에 스프링으로 표현할 수 있는 단성 부분을 참가하여 일반적인 N계의 자유도를 갖는 계에 대한 운동을 표현한다. 그리고, 이에 대한 Normal Mode의 개념을 소개한다. 이로써, 운동방정식이 편의로 표현되는 연속체에 대한 수학적 모델링 방법을 소개하여 항공우주 구조물의 동적 모델이 이끌어 내고자 하며, 이와 관련 해석적 방법을 소개한다.

In this course we will describe the dynamic model of aircraft and spacecraft vibration. Course topics include the multi-degree-of-freedom-system, the concept of normal mode, and mathematical modeling methods for the motion of continuum expressed in partial differential equations. Final aim is to develop structural models with dynamic effects, and analytical methods of solution are introduced in addition.
Advanced AI Project

Incorporating projects from industry or university labs, this course is designed to offer students opportunities to gain practical experience in the field of artificial intelligence. Students will work on projects that are relevant to specific industries or research laboratories, enhancing their understanding of AI applications and their real-world impact.

Seminar on AI Core Technology and Applications

This course, provided by industry experts and professors, will introduce students to the latest technological developments and their 'real-world' deployments. We will also explore developments in various industries such as the Internet platform, financial industry, and medical services. Traditional legal issues such as AI’s legal liability as well as novel issues such as algorithmic fairness will be entertained.

Artificial Intelligence and Law

This course seeks to explore the cross-disciplinary legal and policy aspects of artificial intelligence (AI) technologies. Students will be introduced to the latest technological developments, and their ‘real-world’ deployments. Then, we will delve into the complex legal, ethical, and regulatory issues presented by the use of AI technologies. We will also explore developments in various industries such as the Internet platform, financial industry, and medical services. Traditional legal issues such as AI’s legal liability as well as novel issues such as algorithmic fairness will be entertained.
Strategy of Knowledge Management

In response to knowledge-based economy, this course provides theoretical base and practical skill to analyze and manage technological firms. To this end, the curriculum emphasizes the balance and synthesis between fundamentals of strategy theories and practices of case-based application.

Introduction to Technology Startup

This course introduces theories and practices on technology startup to students majoring in technology management or engineering. The purpose of this course is to provide students with the basic knowledge needed to start a technology-oriented business or prepare career path related to the technology start-up ecosystem in the future. Topics include entrepreneurship, business planning, financing, and other related topics such as laws, finance & accounting strategy and intellectual property rights.
Semiconductor Circuit Design Project for AI Applications

AI circuits and components are crucial for digital system design and development. This course provides projects for designing a system for AI applications or services including an IoT (Internet-of-Things), autonomous driving, smart cameras, smart factories, and big data. It covers all relevant procedures ranging from application development, system architecture, system software, hardware design, and implementation. Simulation, FPGA emulation or chip test is carried out to verify the functionality of the designed circuits. A technical report describing the project procedures and oral presentation for the device specification are required in this course.
Understanding of Cellular Communication Standard and Cellular Network

This course provides opportunities to understand cellular network standards and the operational details of commercial cellular networks with the standard documents from 3GPP (and ITU-R). For efficient understanding of 3GPP standards, this course lets the students know the standardization procedures as well as the structure of standards based on the cellular network system architecture including user equipment, access network, core network, and public network with perspectives of user plane and control plane. The scope of the course includes 3GPP standards of interest ranges from LTE to 5G networks with the releases from 10 to 16 (or 17). In order to provide deep discussion opportunities between students on each cellular network system component, several project teams will be formed, and each of them will be asked to present the evolution path of component technologies and correlation between them with the help of standard documents, white papers, and recent research papers.

Understanding of Advanced Cellular Systems

This course overviews advanced cellular communication systems with focus on advanced cellular communication standards and the operational details of commercial cellular networks with the standard documents from 3GPP (and ITU-R). The evolution trends, key features, and core technologies of advanced cellular communication systems are addressed. Students study advanced techniques, such as MIMO, beamforming, mm-wave communications, multiple access techniques, and so on, by leveraging wireless communication principles and theories learned in basic communication courses. This course eventually helps students to deepen understanding about the design and operation principles of advanced cellular communication systems.

Furthermore, to fortify understanding of the principles of the core technologies, students may conduct course projects such as link level simulations for the core technologies. A technical report describing the simulation project procedures and oral presentation of the simulation project results are required.
The Genetics and Lab course is for undergraduate students of the agricultural department. Students will be able to understand the basic genetic mechanisms of maintenance and propagation concerning all living organisms. This lecture focuses on teaching the basic information of Mendelian genetics, quantitative genetics, population genetics, cytogenetics, development genetics, and molecular genetics.

This Introduction to Agricultural Economics course focuses on teaching the basic information of agricultural production and management, agricultural price analysis, agricultural marketing and cooperatives, agricultural resources, agricultural trade, and regional development theories. This course provides basic knowledge for students to comprehend the output results from the computer analysis program. Topics covered include the set up and testing of the hypothesis, F-distribution and analysis of variance, comparison of the treatment means, regression and correlation, and frequency analysis theory.

This course, a study on the correlation between the environment and agriculture, includes these points of interest: (1) agricultural law; (2) international development cooperation and workforce development; (3) international development cooperation and workforce development.

This course aims to provide an basic understanding of the core principle of the international development cooperation and its sub-sector, TVET. The course will begin with a general overview of the basic themes and issues in international cooperation. The next session will cover sub-sector of internal cooperation development: education and TVET. The last session will deal with in-depth understanding of the TVET and exploring current issues.
natural ecosystem and agro-ecosystem, (2) the structure and function of ecosystems, (3) early development and current agricultural production systems, and (4) population growth and food perspectives. The processes of chemical pollution, the geochemical cycle, climatic change and its impact will also be studied in this course. The contribution of industry, urban life, intensive and extensive modern agriculture with air, water and land pollution, and the basic aspect of ecotoxicology will be examined to promote environment-friendly agricultural methods.

M2179.004000 4차 산업혁명과 농업 I 3-2-2

The 4th Industrial Revolution and Agriculture I

This course is composed of agricultural implication of the 4th industrial revolution and case study of some characteristic start up companies to get insights on new business opportunity. Through the group works, the students will understand the key components of agricultural technology such as data aggregation, sensors and analytics, automation and future trends. Finally the students will learn to create business model through the process of value creation, value delivery and value capture.
500.165 Introduction to Agricultural and Regional Development

The course aims to provide introductory knowledge on agricultural and regional development. Every faculty member will give at least one lecture on a specialized topic. This required course for freshmen aims to give basic information on agricultural and regional development and gives a general introduction to agricultural economics and rural development. Every faculty member will give at least one lecture on a specialized topic.

500.169 Introduction to Food and Animal Biotechnology

This course will provide general overview of Food and Animal Biotechnology and basic knowledge and background about biotechnology. Various application strategies of molecular biology and biotechnology for development of Food and Animal Biotechnology will be discussed also. Students will be informed about the direction of future development of Food and Animal Biotechnology and safety.

500.170 Introduction to Forest Sciences

This course is offered for the freshmen of CALS, particularly for those who have interests in majoring Forest Environmental Science or Environmental Materials Science. This course aims to provide introductory knowledges on forest environmental science and environmental materials science. Students will learn about the functions and roles of forests in keeping local and global environment healthy and the fundamental principles and technologies associated with the effective use of forest resources.
In this class, two introductory topics will be lectured that cover landscape architecture and rural systems engineering. Firstly, students will benefit from this introductory course on landscape architecture. Topics include the relationship among man and nature, climate, land, topography, water, vegetation, landscape characters, site planning and development, circulation, landscape planting, visible landscape, habitations, urban design, and regional landscape planning. Typical landscape works of domestic and foreign countries are to be introduced through audio/visual materials. Field trips are also planned as part of the curriculum.

Secondly, rural systems engineering is an essential area for enhancing future welfare and constructing better rural spaces providing engineering technologies. This introductory class will be lectured to assist students for nourishing rural systems engineering concepts including water, air and land management, production system development and rural space planning. This class includes variety of topics highlighting water resources system, environmental systems, rural facilities and information engineering for natural resources management. During the classes, students can take an opportunity to understand how engineering technology can facilitate rural area through a fried trip.
This Crop Genetics course is intended for Ag-undergraduate students to increase their understanding of the basic genetic mechanisms to maintain and propagate living organisms. This lecture is focused on teaching basic knowledge of Mendelian genetics, Quantitative genetics, Population genetics, Cytogenetics, Developmental genetics, and Molecular genetics.

The fundamental activities of plants as a functioning unit is introduced at cellular, plant and crop levels. Processes of cell growth, water uptake, nutrient acquisition, photosynthesis, N-assimilation, respiration, growth and development, hormonal actions, photo-land thermo-responses and stress responses are discussed. There will be an emphasis on the physiological functions that determine yield formation and produce quality as affected by environment, and related to crop improvement.
실험통계 3-3-0

Experimental Statistics

통계의 기본 개념과 확률이론을 바탕으로 통계 분석 결과를 정확히 이해하고 응용하는데 기초가 되는 추정과 가설검정, F-분포와 분산분석을 하는 이유, 처리 간 차이 비교방법, 회귀와 상관, 변도, 분산 등을 강의한다. 또한 실험설계의 기본원리와 방법을 소개하고 결과를 해석하고 응용하는 능력을 배양시킨다.

이론과 응용적 기초와 신규, 연구 등에 대해 기초적인 내용을 강의함으로써 이를 기반으로 다양한 산업적 가치와 주요 작물의 특성을 이해하고 응용하는 능력을 배양시킨다.

5171.307* 작물육종학 3-3-0

Crop Breeding

본 강좌에서는 작물의 품종 육성을 위한 교배육종법, 잡종Vy한육종법, 일부작물육종법, 조직배양육종법, DNA 마커 이용 선발법, 현생재배상품 등의 활용을 찾아 다양한 교배육종의 이론적 기여와 육종, 우량육종자체의 선발방법을 습득하게 하고 실제 품종이 육성되기까지의 전 과정과 이해되며 작물육종의 실제 및 문제점과 과제 등을 논의함으로써 작물육종 실무에 적용할 수 있는 능력을 배양한다.

The objectives of this course are for students to acquire knowledge on theory and practices of plant breeding methods including breeding by hybridization, heterosis breeding, mutation breeding, breeding by chromosome manipulation, tissue culture, DNA marker aided selection, plant transformation, to understand the entire process of plant breeding and the development of new varieties, to discuss the problems and topics occurring in plant breeding procedure, and finally to have the ability to work in plant breeding programs.

5171.309 농업기상학 3-3-0

Agricultural Meteorology

농업기상학은 농작물의 생산과 기상상의 상호관계에 대한 연구를 통하여 농업생산의 안정성 증대에 기여하고자 하는 학문이다. 본 강좌에서는 농경지의 기상환경, 농업기후, 농업기상재해, 사산의 기상기초조절 등에 대하여 기초적인 내용을 강의함으로써 이를 토대로 농업 각 분야에서의 농업기상적기술 활용능력을 함양하고자 한다.

Basic concepts in Agrometeorology, including atmospheric environments for agriculture, measurements in at mospheric environments, agronomic climatology, climatic disaster, and microclimate modification will be discussed in this course. Applied topics include the impacts of global warming, ozone depletion, air pollution, and acid rain upon agriculture.

5171.310* 공예·사료작물학 3-3-0

Industrial and Forage Crop Science

유모 유기 가형식을 확대하고 있는 다양한 산업을 재료로 하는 공예작물에 대한 특성을 연구하고, 유모 유기 가형식에 대한 이해를 통해 질책과 기술, 생물학적 특성을 이해하고, 재배방법, 산업적 가치향상 등에 대하여 설명한다. 식물체의 일, 중기, 뿌리, 가지, 가지의 기본 사료로서 활용하고 조사표로 부르며 사료작물 재배와 초기농업의 기반이 된다. 사료작물학은 가축의 사료로 서 쓸 수 있는 작물들의 종류, 생태, 생리적 특성을 공부하고 유도에 따라 초기조성에 쓸 수 있는 목초리, 기초 조성재를 활용하여 제재하는 체육물, 사료물류 작물들에 대하여 소개한다. 초기 조성에 관계없이 필요한 조성기초, 귀성유기 가형식, 기초조성 재료에 포함될 수 있는 유생작물과 사료용재에 대하여 설명하고, 수확과 이용에 관한 각종 식물, 사료물류를 활용하여 배우고, 또한 조성재 보전하는 것에 주로 쓰는 외부작물의 종류와 사료 환경적 가치에 대하여 설명하고 제재와 이용을 습득한다.

Importance and utility of industrial crops increase because of growth of bio-based industry. The characteristics of industrial crops and their increasing utility will be introduced. And various crop based industry and main industrial crops for the industry will be introduced for their cultivation and increase of their industrial property. Forage crop science starts introduction which has been essential for animal feeds and grassland agriculture. Classes will deal with various forage species, physiology, ecological characteristics of forages and their value as livestock feed in terms of production and nutritional quality. Also, many video presentation materials and practices will help students with better understanding the basic knowledges about forage crops, such as establishment of grassland, nodulation for legume, competition between mixture grasses and anti-quality components.

5171.311 작물유전체학개론 3-3-0

Introduction to Crop Genomics

Forage 작물의 유전체에 대한 이해는 생명과학산업의 기초이다. 본 강좌에서는 작물의 개량을 위한 작물의 구조 및 기능 유전체의 역할을 이해하기 위하여, 유전체의 DNA 구조와, 염색체 수의 단위에서의 유전체 구성, 유전체 분석, 주요 작물 유전체 해독방법 등을 강의한다. 농업적 유전체가 높은 유전력을 가진 작물의 기능을 구하기 위한 기초적인 지식을 익히고, 각 작물 유전체의 농업적 이용에 대한 지식을 습득하고, 최종적으로는 작물의 품종 개량을 위한 유전체 정보의 이용에 관한 기초 능력을 배양한다.

Understanding crop genomics is prerequisite for biounindustrialization in relation to crop science and biotechnology. This is an introductory course on principles and practices of crop genomics. General overview of crop genome will be covered including DNA chemistry and biology, DNA content of a cell and crop, crop genome organization at the level of chromosomal mixture, DNA marker assisted breeding and crop improvement, and crop genome function, structure and analysis. In addition, application of crop genomics will be focused on the crop improvement in the major agronomic traits using DNA technology.
본 강좌는 작물생명과학 관련 실험과 실습으로 이루어진 통년 과목이다. 주요 식량 작물의 과정에서 수확에 이르는 전제의 재배 과정에 대한 실험과 작물의 성장과 발육에 대한 관찰을 통한 작물 특성, 재배기술 등 작물생산에 관련된 기본적인 지식을 습득하게 하여 작물생산 이론의 심화 학습을 위한 기초를 다지게 된다. 또한 작물의 재배, 생리, 생태, 유전, 유전공학 및 생물학분야에 공동적으로 사용되고 있는 기초 실험기술의 역할과 활용능력의 배양을 목표로 하며, 이를 통하여 전문 또는 학생들로서 자라는 작물의 생물학적 특성, 재배환경, 재배육적 및 유전적 특성을, 실험실에서 수행하는 작물의 생리 및 생화학적 분석, 약물제 및 유전자에 대한 실험에 대해 기본적인 능력을 갖추게 된다.

This is an one-year course that teaches not only the basic procedures and techniques related to cultivation and management of crops through more substantial practices and survey in the field and greenhouse conditions, but also the experimental techniques commonly-applicable to cultivation, physiology, ecology, genetics, breeding, and biotechnology of crops as well. Through this course the students can be equipped with the fundamental knowledge and techniques to carry out the experiment on crop science and biotechnology.

5171.313** 작물생명과학실험 및 실습 2 2-0-4
Experiment and Practice in Crop Science 2

5171.314 약용식물학 3-3-0
Medicinal Plants

저근 약용식물이 갖고 있는 기능성 성분과 이들의 생물활성에 대한 관심과 환경이 점증되고 있다. 이러한 생물활성물질은 재배기술의 향상과 육종에 의한 우수한 품종 보급에 의해 더욱 증가할 것으로 보이며 이를 통하여 전문 또는 학생들로서 자라는 작물의 생물학적 특성, 재배육적 및 유전적 특성을, 실험실에서 수행하는 작물의 생리 및 생화학적 분석, 약물제 및 유전자에 대한 실험에 대해 기본적인 능력을 갖추게 된다.

Recently, the use of medicinal herbs has been increasing due to their functional substances or properties in medicinal plants. The identification and selection of chemotypes with absence of compounds with adverse effects have been an important subject in breeding. This course covers the history, kinds, botanical characteristics, major compound and index substances, cultivation and processing methods of the medicinal crops currently cultivated in Korea. And also explain the importance of GAP (Good Agricultural Practice) and their apply to the cultivation of medicinal crops for the safety of the products.

5171.315 농산물품질과학 3-3-0
Crop Quality Science

본 과목은 각각의 작물이 보유하고 있는 영양학적 성질을 이해하고 보다 나은 산물 생산을 위한 생화학적 메커니즘을 이해하는 데 목적을 둔다. 또한 본 강의에서는 단백질, 탄수화물, 지질, 2차 대사산물 등 다양한 영양성분들에 대한 영양학적으로 개선된 작물은 개발하기 위한 환경뿐만 아니라 생물학적 재배란 지식 및 방법, 그리고 이런 방법에 의해서 개발되고 생산된 환경뿐만 아니라 생물학적 재배란 지식 및 방법에 대해서도 고찰한다. 본 과목은 포장제작뿐만 아니라 포장재 개발을 위해서 필요한 지식을 습득하기 위해서 산물에 대한 성분들의 분석 및 분석방법, 구조, 기능 등에 대해서도 심도 있게 다룬다. 귀중한 표본으로 본 과목은 중요한 학습이 되며 산물을 포장 개발에 관한 많은 방법에 대해서 다양한 각도에서 접근하는 시각을 낼고 실질적으로 작물에 도입하는 방안을 수립한다. 따라서 본 강의는 수강생들에게 농산물 품질 개선에 필요한 다양한 접근 방법과 원리 이해 및 실험적인 방법론을 제공한다.

This course is aimed at understanding of biochemical mechanisms for an improvement of crop inherent nutritional quality. This course also introduces production of transgenic plants with enhanced protein, carbohydrate and lipid synthesis, transfer of technology to produce crops with increased nutritional value, increased knowledge on pathways controlling plant metabolite biosynthesis and quality assessment of transgenic manipulation and commercialization. This lecture will span a broad range, representing areas such as a quality improvement as well as structure, function, purification and analysis of ingredients. This lecture will ultimately elucidate how students approach the numerous questions related to improvement of crop quality such as seed and/or grain quality from a variety of angles and suggest how it will be applied to the field of crop such as rice, corn, soybean, potato and barley etc. In this way, this course will provide principles and experimental techniques for optimizing nutritional quality of crops.

5171.406** 잡초과학 3-3-0
Weed Science

눈의 관련된 많은 방법에 대해서 다양한 각도에서 접근하는 시각을 낼고 실질적으로 작물에 도입하는 방안을 수립한다. 따라서 본 강의는 수강생들에게 농산물 품질 개선에 필요한 다양한 접근 방법과 원리 이해 및 실험적인 방법론을 제공한다.

Principles of weed science are taught including weed taxonomy, weed propagation, weed physiology and ecology, various methods of weed control, herbicides in relation to their modes of actions, effects on the plant growth and environment. Emphasis is on recent technological progress in weed management for sustainable crop production. Sessions including identification and ecology of weeds, herbicide ap-
plication and evaluation, selectivity of herbicides and screening for different crops, and herbicide behavior in soil, and identification of herbicide resistant weeds and crops will also be given.

Undergraduate Thesis Research in Crop Science and Biotechnology

This course aims to level up the quality of the research and the thesis, required for the acquisition of the bachelor's degree by undergraduate students in Crop Science and Biotechnology Major, in one of the following selectable areas: (Courses for Non-major Students)

5171.002 Introduction to Crop Science

This course outlines the basic principles of crop production including soil fertility, weed control, tillage, cultivar selection, row spacing and other planting considerations, crop rotation, and environmental concerns. We will also learn seed, weed, and crop identification.

5172.201* Floriculture and Lab.

This course is designed to offer the student a general background in the principle of fruit tree growth and development. With the concepts of structure, physiology, and functions of various fruit tree organs, this includes cultural and environmental control of growth and development, dormancy, flowering, and fruit setting, and techniques of propagation and planting, training and pruning, orchard soil management, pest control, physiological disorders, and fruit harvest and utilization. Characteristics of important fruit tree species and cultivars of fruit tree breeding will also be covered. In addition, this course provides experimental techniques for understanding the fruit tree growth and fruit development.

5172.203* Pomology and Lab.

This course is designed to offer the student a general background in the principle of fruit tree growth and development. With the concepts of structure, physiology, and functions of various fruit tree organs, this includes cultural and environmental control of growth and development, dormancy, flowering, and fruit setting, and techniques of propagation and planting, training and pruning, orchard soil management, pest control, physiological disorders, and fruit harvest and utilization. Characteristics of important fruit tree species and cultivars of fruit tree breeding will also be covered. In addition, this course provides experimental techniques for understanding the fruit tree growth and fruit development.
tion, germination, and dormancy will be physiologically and genetically explained at a basic level. This will help students understand the importance of growth and development in yield and quality of major horticultural crops.

5172.301* 
Vegetable Science and Lab.

This lecture teaches basic theories and practices about successional molecular biologic experiments and tissue culture methods. Students will select a specific gene utilizing bioinformatics tools, and confirm whether the selected gene expresses as expected in vivo by above methods. The latest molecular biological experiments and tissue culture methods such as molecular cloning, PCR, preparation of growth media, in vitro culture, and gene transfer to plant tissues will be practiced. Furthermore, this course provides informations about current status of plant genome researches and functional genomics research.

5172.304 
Plant Propagation

This course covers (1) importance of horticultural breeding including physiological and biochemical considerations as well as molecular cloning, PCR, preparation of growth media, in vitro culture, and gene transfer to plant tissues will be practiced. Furthermore, this course provides informations about current status of plant genome researches and functional genomics research.

5172.302A* 
Horticultural Crop Breeding

This course covers (1) importance of horticultural breeding for prosperity of the industry; (2) global status of seed business (size of market and breeding companies) including practical application of biotechnology; (3) importance of genetic diversity and ways to increase them; (4) ways to improve selection in breeding including use of molecular markers; (5) explanation of various breeding methods; (6) production of F1 hybrid seeds using male sterility or self-incompatibility; (7) legal protection for plant varieties; and (8) the future of horticultural crops breeding.

5172.303 
Plant Tissue Culture and Lab.

This lecture teaches basic theories and practices about successional molecular biologic experiments and tissue culture methods. Students will select a specific gene utilizing bioinformatics tools, and confirm whether the selected gene expresses as expected in vivo by above methods. The latest molecular biological experiments and tissue culture methods such as molecular cloning, PCR, preparation of growth media, in vitro culture, and gene transfer to plant tissues will be practiced. Furthermore, this course provides informations about current status of plant genome researches and functional genomics research.
The lab exercise provides students with the opportunity of markers and genomics information for crop improvement. Other topics are use of molecular technology are discussed. Other topics are used.

This course provides principles and applications of biotechnology in horticultural crop breeding. Topics include procedures for gene introduction and control of gene expression, ripening (compositional changes, color, flavor, textures, nutritional changes) and temperature (refrigeration, heat source, injury, mechanism, precooling).

This course covers theories and measurement techniques for plant physiology and growth research. Subject concerns include photosynthesis, water potential, root activity, other environmental factors for crop growth such as light intensity, light spectra, temperature, carbon dioxide, and discussed.

This course provides diverse information for landscape plants, which include conifers, shade trees, flowering trees and shrubs, hedges and ground covers, and turfgrasses. Function, classification, identification and characteristics of each plant, selection and use, planting, plant care, urban forestry, turfgrass species, establishment and management will be provided by lecture with visual aids. Field tour will be experienced using various multimedia tools will be experienced.
Plants are fixed organisms, yet they live in an extremely wide range of geographic locations under diverse climates. Plants are able to adapt to varying environmental conditions for growth and development. Therefore, understanding the plant response to diverse environments is important for the improvement of crop production and management. The objective of this course is to review the physical (temperature, light), chemical (air, water) and biological (living organisms) factors that compose the plant environment and to examine the influence of each of these factors on the plant life. This course will also survey the plant responses and adaptation strategies under stressful conditions to illustrate the plasticity of plant-environment interactions.

M2744.005000 Undergraduate Research in Horticultural Science and Biotechnology 1

M2744.000600 Undergraduate Research in Horticultural Science and Biotechnology 2

This course aims to provide the senior students with a chance of research in the laboratory in the areas of Vegetable Science, Pomology and Environmental Plant Physiology, Floriculture and Landscape Plants, Horticultural Crops Postharvest Biology and Technology, and Protected Horticulture and Plant Factory. The students are to learn experiment skills and knowledge necessary for independent research in the labatory. The students choose the topic of undergraduate thesis, and perform the experiments under the guidance of a supervisor.
산업인력개발학전공
(Vocational Education and Workforce Development Major)

5173.201 산업인력개발론 3-3-0

Introduction to Vocational Education and Workforce Development

이 교과목은 향후 다양한 산업인력개발 분야에서 활동하는 데 필요한 기초능력을 육성하는 데 그 목적이 있다. 학생들은 이 교과목을 통해 무한경쟁시대와 지식기반경제의 핵심이 되는 인적자원의 중요성을 인식하고, 산업인력개발의 사회적 상황, 이론, 프로세스, 정의, 철학, 목적, 원리를 이해하며, 산업인력개발 담당자로서의 역할과 그에 필요한 능력을 숙지하고, 우리나라 뿐 아니라 외국의 산업인력개발 실태를 파악할 수 있게 된다.

This course is designed to develop students’ basic competencies required to be engaged in the fields of vocational education and workforce development. It enables students to recognize the importance of human resources which are vital to unlimited competitive times and a knowledge based economy. Additionally students will understand the social context, theories, processes, definitions, philosophies, goals, and principles of vocational education and workforce development. Furthermore students will have a thorough knowledge of roles and abilities required for practitioners in the fields of vocational education and workforce development and grasp the actual state of vocational education and workforce development in foreign countries as well as in Korea.

5173.202* 산업인력개발론 3-3-0

Life, Career and Vocation

자신의 삶에서 진로와 직업이 얼마나 중요한지를 이해하고, 자신의 행복한 삶을 위한 올바른 진로계획 수립절차를 파악하고, 이를 기초로 자신의 진로를 설계하고 이를 위한 준비를 할 수 있는 능력을 개발하고자 한다. 주요 내용으로는 행복한 삶, 직업세계에 대한 이해, 진로와 직업의 개념과 의의, 그리고 진로 계획 및 준비를 다룬다. 이 수업을 통해 학생들은 실제적인 진로를 위한 준비를 하여도 도움을 받을 수 있다.

In this course, students will learn the importance of career and vocation in their lives. In addition, they will have an opportunity to plan and prepare for their own careers. This course involves happiness of life, understanding all aspects of world of works, concept and importance of career and preparation and career of preparation. After this course, students go into the world of work prepared to meet the challenges of successful employment.

5173.203 프레젠테이션과매체개발 3-3-0

Presentation and Media Development

이 과목은 모든 직업 분야에서 목 필요능력의 하나인 프레젠테이션을 효과적으로 하기 위해서 필요한 이론과 실제를 배우고, 산업교육의 기본 개념과 원리, 내용을 잘 정리하여 비디오 또는 프로젝트, 스크린, 슬라이드 등의 사용방법을 익힌다.

This course will cover the theory and practice to present effectively in the vocational education field. Students will develop the abilities to plan, construct and utilize all educational media so to deliver the concepts, principles and content in vocational education to others. This course will cover the methods that utilize audio - visual equipment - OHP, VCR, personal computer, LCD projector, screen, slide projector etc-diversely used in the vocational education field.

M1671.000700* 산업인력개발통계분석 및실습 3-2-2

Statistical Analysis and Practice in Vocational Education and Workforce Development

이 교과목은 산업인력개발 관련 현장 및 연구에서 관련 자료들을 통계적으로 처리할 수 있는 능력을 갖추는 것을 목적으로 한다. 이 강의에서는 자료의 유의성, 예측 방법, 두 가지 이상의 변수들 간 관계, 통계적 추론과 가설 검증, 상관분석, 회귀분석, 분산분석 등의 방법들을 다룬다. 또한 이러한 분석을 위한 통계분석 페키지를 실제로 활용하는 능력을 기르도록 한다.

This course introduces the quantitative analysis of data for undergraduates majoring in vocational education and workforce development. The course covers the use of tables and graphs, the methods of summarizing and describing univariate distributions, and examining relationships between two or more variables, as well as statistical inference and hypothesis testing, correlation, regression, and analysis of variance. Also students will be required to perform statistical analysis using appropriate statistical packages.

5173.302A* 산업인력개발교수학습방법론 3-3-0

Teaching and Learning Methods in Vocational Education and Workforce Development

이 교과목은 학교, 기업, 기타 산업인력개발기관에서 교육훈련을 담당하는 전문가가 갖추어야 할 교수-학습능력을 개발하는 데 목적이 있다. 특히 산업인력개발에 많이 사용되는 PBL, OBL, CBT,도체도, OJT, 제도제도 등 다양한 교수법학습방법론의 이론과 실제를 다룬다. 이 교과로 통해 형성학습의 중요성과 다양한 계층의 학습자 특성을 이해하고, 여러 교수방법을 습득함으로써 다양한 인력개발 상황에 적합한 교수방법을 활용할 수 있는 역량을 개발할 수 있도록 한다.

This course is designed to develop teaching and learning
개용성 프로그램 개발에 필요한 실무적인 기초능력을 배양하는 데 그 목적이 있다. 학생들은 이 과목을 통해 산업인력양성 프로그램 개발에 필요한 실무적인 기초능력을 배양하게 됩니다.

프로세스 향동하고, 산업인력양성 프로그램의 개발 설계를 파악하고, 산업인력양성 프로그램 개발 절차에 따라 실습함으로써 기초적인 수준의 산업인력양성 프로그램 개발을 배울 수 있게 된다.

이 과목은 산업인력개발 전문가로서 청소년을 체계적으로 교육/鄘창의 필요성에 대한 학문적 이론 및 실제적인 지식을 습득하여 평생교육사로서 청소년을 체계적으로 교육/鄘창할 수 있는 기본적인 자질 및 전문능력을 개발함으로써 발전하고, 학생들에 대한 접근이 선호된다.

이 과목은 산업인력개발 현장에서 평가하는 데 요구되는 기초능력을 배양하는 데 그 목적이 있다. 학생들은 이 과목을 통해 산업인력개발 평가의 정의, 산업인력개발 평가의 철학, 정의, 목적, 이론, 프로세스를 이해하며, 산업인력개발 평가에 대한 구체적인 방향을 설정하여 활용할 수 있게 된다. 특히, 조직, 프로세스, 개인에 미치는 영향이 어떻게 될 것인가라는 관점에서 산업인력개발을 평가하는 방법들을 제시한다.

이 과목은 다양한 산업인력개발기관에서 종사하는 전문 교육자 혹은 인력개발업무를 담당하는 전문가에게 요구되는 사찰, 전문성, 역할 등을 이해하고 관련 능력을 합당하게 배울 수 있게 된다. 전문 학교, 정부 기관, 기업체, 단체 등에서 활용하는 다양한 인력개발 전문가 진로 및 사례, 전문성 발달 과정 및 이론, 관련 교육훈련 프로그램, 역할 모형(전문가상) 등을 다룬다. 특히 개별 학생들이
게 효과적이고 능력 있는 인력개발전문가로 성장하는데 기여를 제공할 것이다.

This course is designed to provide understanding of, and to develop competencies, expertise, and roles needed for educators, trainers, or practitioners in vocational education and HRD institutions. It will deal with various expert careers and cases, process and theories of the expertise, related education and training programs, and ideal role models in vocational schools, governmental institutions, industries, and organization agencies. It will provide individual students with an opportunity to become an effective competent human resource development practitioner.

5173.403 산업인력개발행정 및 정책 3-3-0

Administration and Policy in Vocational Education and Workforce Development

이 과목은 산업인력개발에 관한 행정과 정책의 관련 이론과 실제를 다룬다. 산업인력개발행정의 조직 수준은 중장, 지방, 단체기관 및 개별사업과/프로그램까지 다룬다. 또한 산업인력개발행정의 개념, 조직, 담당자 및 리더십, 영역, 과정, 인사, 재정, 시설, 평가 등을 다룬다. 현관 국가 및 지방 수준의 산업인력개발정책의 성장, 현황, 전반 및 효과성과, 대안적 및 개발 등을 다룬다.

This course is designed to deal with theories and practices related to both administration and policy for vocational education and human resource development at the program, local, provincial and national levels. It will also cover general concepts, organizational structure, administrative leadership, scope and contents, personnel, finance, facilities, accountability, assessment and so on. In addition, this course will focus on decision making, current status, diagnosis and impact evaluation, alternative development of the policy of vocational education and human resource development at the local and national levels.

M1671.000900 산업인력리더십개발 및 코칭 3-0-0

Workforce Leadership Development and Coaching

변화하는 경영환경에서 비바람직한 조직의 리더십으로 혼히 ‘코치’로서의 리더가 부각되고 있다. 구성원의 영감을 불러일으키고 그를 동동이 줄 수 있는 리더로서의 역할이 강조되는 것이다. ‘산업인력 리더십개발 및 코칭’은 산업인력개발 분야에서 미래의 리더로서 자리를매김할 수 있도록 다양한 소통 전략을 학습하고 리더십에 대한 이해를 심화시키고자 한다. 스스로에 대한 이해, 심화, 리더십의 개념에 대한 이해 및 실생활에의 적용은 수강생들로 하여금 산업인력개발의 진정한 리더로서의 자질을 갖게 할 것이다.

How do leaders become leaders? It is generally believed that coaching can inspire and motivate people to learn, change and be effective leaders. This course is designed to deliver various communication strategies which is necessary to foster a future leader in a field of vocational education and workforce development. Raising self-awareness, understanding the essence of the concept of leadership and implementing communicative strategies would enable students to learn to inspire not only themselves but also others.
변화, 농업계 특성화고 학생들의 해당 진로 설계 등을 학습한다.

The main purpose of this course is to nourish students’ abilities required to teach the career and the occupation subject which can be selected by agricultural high schools. Students will study the history and the background of career and vocational education in agricultural high schools, the changes of the vocational world which is related to each vocational subject matter, the ways of career design by agricultural high school students toward those vocational world, and so on.

이 교과는 학교에서 가르쳐지고 있는 산업 교과에 관한 종합적 인 이해와 효과적인 지도를 위한 교수–학습 방법을 탐구하고 현
장 적응 능력을 기르는데 목적을 둔다. 교육실습에 나가기 전에, 학생들은 교수학습의 원리, 다양한 교수학습 방법, 교수능력, 교수 설계, 지도안 개발, 수업 진행, 수업 평가 등을 다룬다. 특히 이 교과는 학생들에게 연구수업 기회를 제공하여 실제적인 수업 진행 능력을 가를 것이다.

This course is designed to develop basic and practical knowledge and competence of vocational subjects to teach students effectively. Before student teaching, students will learn principles of teaching and learning, various methods of teaching and learning, teaching skills, instructional design, developing lesson plans, instruction implementation and evaluation. This course will develop instruction implementation abilities of students by providing them with micro–teachings in the class.

이 강좌는 장차 중등학교에서 식물자원/조경, 동물자원, 농공, 식품가공, 농산물유통 등의 과목을 지도할 교사 후보생이 갖추어야 한 담당 교과 관련 논리 및 논술 지도 역량을 배양하기 위한 과목으로서 농업생명과학에서의 창의성 발달을 목표로 한다.

본 강좌를 통해 수강생들은 신문이나 인터넷을 통해 농업생명과학관련 소재나 자료를 알고 정리하면서 자신의 주장에 대한 이론적 근거나 객관적인 지식을 논제와 관련지어 적절히 활용하는 능력을 배양할 수 있다.

This course provides experiences in terms of logic and essay writing for future teachers in the field of Plant Resources & Landscaping, Animal Resources, Agricultural Engineering, Agricultural Products Distribution, or Food Processing.

The students will be able to make full use of data obtained from scanning newspapers and internet websites to support rationale of their opinion.

이 교과목은 학부 졸업예정자들이 산업인력개발학 분야의 연구를 직접 수행할 수 있는 능력을 배양함을 주된 목적으로 한다. 학생들의 관심 연구 주제에 대해 전공 교수진을 지도교수로 배정하여 해당 지도 교수의 지도 아래 체계적이고 과학적인 연구 수행 방법을 습득하도록 한다. 이 과목의 이수를 통해 학생들은 자신의 학사 졸업 논문을 작성할 수 있다.

The subject is designed for the senior undergraduate students to develop research competencies in the field of vocational education and workforce development. Students are expected to learn how to conduct systematic and scientific research on their own interest under the guidance of a supervisor. Students could draw up a thesis required for the bachelor’s degree by completing this subject.
of pesticides.

519.303* 식물영양화학 3-3-0

Plant Nutrition Chemistry

This course will address the following topics especially with the chemistry emphasis: 1) absorption, translocation, and physiological role of the plant nutrients required for plant growth and development, 2) fertilizers as the source of plant nutrition and development and utilization of fertilizers, 3) plant and microbe interaction in the aspect of nutrient absorption and metabolism, 4) photosynthesis and plant interaction with light in the aspect of photomorphogenesis, and etc.

519.306* 생명유기화학실험 2-0-4

Organic Chemistry Lab, for Life Science

This lab. course is designed for students to acquire basic knowledge of organic chemistry through laboratory practice with emphasis in application and examples drawn from chemistry in life. The laboratory work thus includes basic organic chemical operations as well as organic chemical aspects of natural products chemistry, pesticide chemistry and biochemistry. Specific topics are as follows. (1) Purification and separation, (2) Identification of organic compounds through chromatography and NMR, (3) Syntheses.

519.309 식물분자생리학 3-3-0

Plant Molecular Physiology

The contents and the direction of the plant nutrition physiology has been changed enormously due to the application of the fast-developing life science technology at the molecular level to the area. Accordingly, this course will address diverse topics of plant nutrition physiology to the students at the molecular level. In addition, the possible biotechnological application in plant nutrition will be also introduced.
이 과목에서는 학생들이 실험을 통해 생명과 환경 분야의 과목 과정에서 소재를 연구할 수 있는 기회를 제공하고자 한다. 이 과정을 통해 학생들은 유전에서의 화학현상에 관한 이론과 원리를 이용한 실험과 화학반응에 대한 기본 지식을 이해하게 되며, 이에 실험의 전반과 제한적 실험을 위한 표준혼합산식의 작성 및 기기분석이 가능한 중요성을 알게 된다.

이 과목은 제공되며 학생들이 실험을 통해 관련 분야의 과목 과정에서 소재를 연구할 수 있는 기회를 제공하고자 한다. 이 과정을 통해 학생들은 유전에서의 화학현상에 관한 이론과 원리를 이용한 실험과 화학반응에 대한 기본 지식을 이해하게 되며, 이에 실험의 전반과 제한적 실험을 위한 표준혼합산식의 작성 및 기기분석이 가능한 중요성을 알게 된다.

이 과목은 제공되며 학생들이 실험을 통해 관련 분야의 과목 과정에서 소재를 연구할 수 있는 기회를 제공하고자 한다. 이 과정을 통해 학생들은 유전에서의 화학현상에 관한 이론과 원리를 이용한 실험과 화학반응에 대한 기본 지식을 이해하게 되며, 이에 실험의 전반과 제한적 실험을 위한 표준혼합산식의 작성 및 기기분석이 가능한 중요성을 알게 된다.
daents are expected to acquire practical understanding of how to deal with biological macromolecules such as DNA and proteins.

**M1678.000300** 고급응용생명화학 1-1-0

**Advanced Topics on Applied Life Chemistry**

This course presents the research topics for undergraduate students in the major of Applied Life Chemistry. The objective of this course is to provide students with an up-to-date understanding of topics in Applied Biochemistry (Structural Biology, Biochemistry in microorganisms, Molecular Biology, Biophysical Chemistry, Biochemistry, Organic Synthesis for Biology, Biochemistry in microorganisms, Molecular Biology, understanding of topics in Applied Biochemistry (Structural

This course provides an understanding of physical chemistry for non-chemistry majors, with an emphasis on thermodynamics and kinetics. Students will learn problem solving skills. This course covers the following: introduction to thermodynamics; phase equilibrium, free energy and chemical equilibria, and electrochemistry; introduction to quantum mechanics and spectroscopy; and adsorption-desorption and ion exchange reactions.
519,002 유기화학 3-3-0
Organic Chemistry

유기화학의 기본개념을 강의한다. 유기화학 학습에 필요한 결합과 원소의 기본적 성질, 물질의 물리화학적 성질에 대하여 강의하고, 유기 합성물의 종류에 따라 합성법과 성질과 반응을 제시하며, 유기구조분석에 대한 기본개념을 학습하게 한다.

This course presents the basic principles of organic chemistry, including properties of elements composing organic molecules, and physico-chemical concepts in organic chemistry. Lectures on syntheses and reactions of organic molecules according to the class of compounds, and basic organic structural analysis will follow.

519,003 생화학 3-3-0
Biochemistry

생명현상을 이해하기 위하여 생물체 구성성분의 화학적 성질을 살펴보고 이들의 분해 및 대사과정을 강의한다.

This course covers the chemistry of biological substances and their transformations in living organisms. The major areas of biochemistry are covered comprehensively.

519,006 분석화학 및 실험 3-2-2
Analytical Chemistry & Lab.

화학분석법으로서 가장 자주 이용되는 화학량적 방법과 비화학량적 방법들의 원리 및 문제점, 그리고 그 응용적 측면을 강의하고, 나아가서 실험실습을 통해 화학분석 능력을 키우는 데에 초점을 둔다.

Basic principles for qualitative and quantitative chemical analysis are studied in detail. Application and limits of each method will be discussed through examples and case studies. Experiments will be held simultaneously in order to develop chemical analysis capacity in students.

응용생물학전공(Applied Biology Major)

519,251 일반생태학 3-3-0
General Ecology

이 과목에서는 지구를 포함한 생태계의 구조와 기능, 생명과 환경이 어떻게 상호작용 하는가 등의 지구의 생명유지에 관한 필수적인 생태과정( ecological processes)에 대하여 공부하고 이를 바탕으로 지구환경보전에 대한 우리의 전략을 마련 할 수 있는 기초를 확립한다.

This course introduces undergraduate students to the microbial world with a special emphasis on bacteria. The basic concepts and principles of cell biology, genetics, cell growth, ecology, and immunology will be covered. Fungal systematics and various aspects of viruses will also be taught.

519,252* 식물병리학총론 3-3-0
Introductory Plant Pathology

식물병을 이해하기 위한 기본 과목으로 식물병의 발생원인, 발생 메커니즘 및 방제에 관한 기본이론을 다룬다. 이들에 식물병을 일으키는 병원체들에 대해 설명하고 이들을 서로 비교・검토한다. 또한 역사적으로 대단히 피해를 입었던 식물병을 중심으로 발생 원인 및 그 중요성에 대한 고찰을 하고 앞으로의 대책에 대한 내용을 다룬다.

Introductory plant pathology will introduce the causal agents, environmental factors, pathogenesis, and control for plant diseases. Plant diseases caused by different causal agents will be introduced and discussed on their characteristics. In addition, historic epidemics in plant diseases will be reviewed for their significance in economic and social impacts.

519,354* 응용곤충학 및 실험 3-2-2
Applied Entomology & Lab.

곤충은 식량 생산 및 인간의 보건에 직접, 간접적으로 영향을 미치고 있으며 한편으로는 미래의 식량자원 및 생명기반 신소재로서 중요하다. 본 과목에서는 농림해충 및 위생해충의 종류 및 그 중요성을 습득하게 하여 핵심적인 해충관리를 설계할 수 있도록 한다. 또한 생물학적 및 약리학적 측면에서 곤충을 응용하여 새로운 가공용 신소재의 개발에 기여하게 한다.

This course reviews the types and importance of agricultural and medical insect pest species, and provides basic concepts required for the establishment of efficient pest management systems. Also discussed are various topics concerning natural product chemistry, molecular entomology, and insect pathology, and the application of such techniques to utilize insect resources as new biomaterials.
5192.350*  

**Clinical Plant Pathology & Lab.**

The course aims to provide a broad overview of plant disease, general characteristics of symptoms, factors related to disease occurrence, and control. It consists of an overview of plant disease, general characters of symptoms, factors related to disease occurrence, and control. It includes a study of the current state of knowledge in environmental microbiology related to agriculture through lectures and readings from the literature. Emphasis will be placed on the understanding of insect diversity in the world, related to human society, especially the insect pests on agriculture and forestry, and their damage. Students will learn the insect function in the environment related to human society, especially the insect pests on agriculture and forestry, and their damage.

5192.353  

**Environmental Microbiology in Agriculture**

This course will examine the current state of knowledge in environmental microbiology related to agriculture through lectures and readings from the literature. Emphasis will be placed on the understanding of insect diversity in the world, related to human society, especially the insect pests on agriculture and forestry, and their damage. Students will learn the insect function in the environment related to human society, especially the insect pests on agriculture and forestry, and their damage.

5192.355  

**Agricultural Plant Physiology**

This course is designed to provide a broad overview of the physiology of plants, including seed germination, vegetative growth, maturation, and flowering. This course has concentrated on seed plants and their representative physiological aspects. This course is for students who are curious about what plants do and what physical and chemical factors cause them to respond as they do, and will motivate many others to perform research to solve present and future problems.

5192.357A  

**Plant Anatomy and Lab.**

This course will examine the current state of knowledge in plant anatomy, general characters of symptoms, factors related to disease occurrence, and control. It consists of an overview of plant disease, general characters of symptoms, factors related to disease occurrence, and control. It includes a study of the current state of knowledge in environmental microbiology related to agriculture through lectures and readings from the literature. Emphasis will be placed on the understanding of insect diversity in the world, related to human society, especially the insect pests on agriculture and forestry, and their damage. Students will learn the insect function in the environment related to human society, especially the insect pests on agriculture and forestry, and their damage.

5192.359A  

**Insect Physiology and Biochemistry**

This course is designed to provide a broad overview of the physiology of plants, including seed germination, vegetative growth, maturation, and flowering. This course has concentrated on seed plants and their representative physiological aspects. This course is for students who are curious about what plants do and what physical and chemical factors cause them to respond as they do, and will motivate many others to perform research to solve present and future problems.
will encouraged to participate in short-term projects that are related to the topic.

5192.452 자원생물소재학 3-3-0

Biorescources Science

...secticide target site and mode of action, metabolism, in-toxicology, insecticide classification and property, in-course will focus on various topics including basic principle insecticides and to develop novel pest controlling agents. The knowledge necessary to ensure the safe and effective use of between insects and insecticides, thereby to acquire the principles and practical problems related with the interaction chemical properties of insecticides and the basic toxicological...
곤충 생명산업의 연구동향과 전망에 대해서 강의한다.

This course provides understanding of the principles and the application of insect biotechnology. This class will introduce current research trends and prospects of insect-bioindustry such as insect-bioinformatics, RNAi technology, transgenic insect technology, insect biofactory and microbial insecticides using entomopathogens.

5192.462 균학 3-3-0

Mycology

This course is an introduction to the biology of all the groups of fungi and some related organisms, with consideration of the taxonomy. It provides an overview of the classical and molecular aspects of fungal genetics, and an introduction to fungal development and physiology.

5192.463* 응용생물학실험 1 3-0-6

Applied Biology Lab. 1

응용생물학 연구에 필요한 기초 실험법을 현장에서 실습을 통하여 습득하도록 함.
Teach basic experimental techniques to study applied biology by lab rotation.

5192.463* 응용생물학실험 2 3-0-6

Applied Biology Lab. 2

응용생물학 연구에 필요한 기초 실험법을 현장에서 실습을 통하여 습득하도록 함.
Teach basic experimental techniques to study applied biology by lab rotation.
Agricultural Economics

The main objectives of the course are to introduce basic theories and applications of firm management for maximizing revenues of the agricultural firm Major topics of the course include theories of dynamic optimization, interaction between production technologies, cost-minimizing and profit-maximizing input and output choice, elasticities of substitution, and scale, short and long term cost theories, decision making under uncertainty, linear programming methods, and productivity analysis.
the economy and environment, market failure in natural resource use, scarcity of natural resources, management of non-renewable resources, water resources, land, forestry and fisheries, and issues of food security, population and sustainable development.

5201.305A 농림수산유통의 이론과 실제 3-3-0

Theory and Practice in Agricultural & Food Marketing

Cultural firms are analyzed using microeconomic tools. Organization issues and business strategies of food and agricultural input industry, processing and marketing industry are analyzed using a food system approach. An applied industrial economic effects of technological innovation.

5201.311 인적자원경제학 3-3-0

Economics of Human Resources

Technological change and diffusion process, and the socioeconomic factors. In the context of economic analysis, this course analyzes the meaning and measurement of technological development, sources for technological change and diffusion process, and the socioeconomic effects of technological innovation.

5201.401 경제발전과 농업 3-3-0

Economic Development and Agriculture

Cultural and economic development policies at national and international level. Although the topics have rather general application, specific focus will be on agricultural trade issues. With some exceptions, partial equilibrium models will be employed throughout the course. The course puts emphasis on improving the ability of students to apply the methods learned in the class to the real trade issues.
5201.403A 시장경제와 농식품정책 3-3-0

Market Economy and Agro-food Policy
한국 농식품산업이 지속하고 있는 과제와 그 대응 정책을 이해하고, 농식품정책 분석방법론을 탐구한다. 이를 위해 먼저 국민경제량의 상황에 따른 농식품 경제의 현황과 과제를 보완하는 효율성향적 정책을 학습하고, 구체적으로 많이 사용되고 있는 농식품 분야의 가격지지정책, 소득정책, 무역정책, R&D정책, 생태 환경정책 등에 학습한다.

This class provides the basic theory and methodology of agro-food policy and studies the justification of utilizing the agro-food policy. The main contents of this course include the history of agro-food policy, agro-food policy for mitigating the various market failures, agro-food price and income policy, agro-food trade and R&D policy, and agro-food consumption policy in the era of WTO system and FTA.

5201.404 환경경제학 3-3-0

Environmental Economics
환경과 인간의 경제행위가 어떠한 관계를 맺고 있는가를 고찰하고, 환경의 이용과 보전 간의 조화를 이루어 나갈 수 있는 원리를 연구하는 것을 그 목적으로 한다. 환경경제의 이론적 심층에 의해 환경의 과도한 억압이 발생되는지를 살펴보고 사회적으로 바람직한 환경정책을 유도하기 위한 여러 정책수단을 공부하며 환경오염이 가져다주는 사회적 비용과 관계의 분석방법론도 공부한다.

Theories and applications of environmental economics Topics include externality and market failure, theories of environmental policies, benefit-cost analysis of environmental policies, evaluation of Korean environmental policies, and issues of sustainable development, trade and environment, and the global pollution.

5201.405 상품선물과 옵션의 이론과 실제 3-3-0

Theory and Practice in Commodity Futures and Options
본 과목은 선물시장의 정의 및 기능, 국내외의 상품시장의 운영방법, 선물 및 현물가격 간의 관계법, 상품시장에서의 가격위험을 관리할 수 있는 해법 방법론, 왼손, 상품선물시장규제에 관한 이해에 초점을 둔다.

A comprehensive course focuses on the basics of commodity futures and options markets as well as strategies firms follow to managing their price risks Attention will be paid to the role of futures markets in a market economy as well as use of futures contracts in firm asset management Emphasis will be placed on the mechanics of futures trading, basis, fundamental and technical dimensions of commodity prices, hedging strategies, futures market regulation, and commodity futures market performance.

5201.408 농촌개발의 이론과 실제 3-3-0

Theory and Practice in Rural Development
본 과목의 목적은 농촌개발의 이론을 이해하고 이를 실제 농촌개발에 적용하기 위한 다양한 기법들을 습득하는 것이다. 본 과목에서는 다양한 농촌개발의 이론 및 모형, 지역성장과 지역격차의 동태적 분석을 습득하고, 이러한 이론이 구체적으로 어떻게 농촌개발에 적용이 되는지를 다양한 국내외 사례를 중심으로 학습한다. 또한 지역별로 서로 다른 농촌의 특성을 살린 농촌개발계획의 수립과 농촌관광이나 도시자본의 유치 등 농촌지역의 경제 활성화를 위한 전략 마련 등 종합적인 농촌개발계획수립을 위한 기법들을 습득하도록 한다.

The main objective of this course is to have a comprehensive understanding of the management system of agroindustry firms and the social career related to the jobs after graduation. Students will explore the career opportunities in agribusiness and applied economics through field study.

5201.411 농산업경영실습 2-2-0

Seminar in Agricultural Economics 2
농업학계를 장려한 종업 예정 학생들의 전공 관련 분야의 진로와 기회에 대한 이해를 높이고 종업 및 사회진출을 준비할 기회를 제공하기 위한 과목이다. 이를 위해 다양한 농산업경영 현장을 접할 수 있는 기회를 제공한다. 또한 본 과목은 국내 유수 기업에 진학한 최신 연구실 및 경영전문의 강의와 기업현장 방문 등으로 이루어진다.

The objective of this course is to have a comprehensive understanding of the management system of agroindustry firms and the social career related to the jobs after graduation. Students will explore the career opportunities in agribusiness and applied economics through field study.

M2649.000200 글로벌 농식품산업의 이해 3-3-0

Understanding Global Agri-food Industry
농식품과 농식품시장은 세계 경제에서 중요한 역할을 수행하고 있으며, 글로벌 농식품산업은 수직적 통합, 시장구조의 변화를 통해 세계화, 집중화의 방향으로 재편되고 있다. 이러한 상황에서 글로벌 농식품기업의 규모화와 사회분업, 농식품의 질적 측면, 비만, 건강 및 영양과 관련된 중요한 이슈가 있다. 본 강의는 이러한 글로벌 농식품산업의 중요성을 연구구조적 인증과 이해를 돕는 데 있으며, 글로벌 농식품산업 및 시장의 경제적 관점에서 분석할 목적으로 한다. 특히푸드시스템의 전반에서 본 글로벌 농식품산업의 규모바열화, 글로벌 농식품산업 클러스터, 글로벌 농식품산업을 구성하고 있는 주요 글로벌 식품기업에 대한 사례연구를 통한 글로벌 농식품시장의 이해 등에 강의의 초점을 맞춘다.

The role of agri-food industry in world economy has been increasing considerably. The global agri-food industry promotes its role by intense globalization and concentration via virtual integration and changes in market structure. In this regard, the relationship between the concentration of global agri-food industry and food security, the quality of agri-food, obesity, and nutrition is important. This course focuses on the importance of global agri-food industry and analyses global agri-food industry and global agri-food markets from a viewpoint of economics. Specifically, this course deals with global agri-food industry from a perspective of food system, globalization of food industry, cluster of global agri-food firms, and case studies of major global agri-food firms.
programs in various topics including agriculture, health, education, environment, and natural resources. Students will study various topics in impact evaluation and its practice in development economics. Also, this course provides practical guidelines for research design and implementation of impact evaluation in the field and covers topics regarding how to collect and manage survey data. Introducing recent impact evaluation studies and analyzing real data to practice impact evaluation of international development programs, students will enhance their understanding of impact evaluation theories and practice.

M2649.00100 경제원론 1 3-3-0

Principles of Economics 1

본 과목은 시장경제 사회에서 해결해야 할 다양한 현실적 경제 문제를 체계적으로 분석하고 이해하는 능력을 배양하는 것이 목표이다. 이를 위해 소비자 행위와 의사결정 과정을 학습하며, 최적 생산을 위한 생산자 의사결정과 시장형태별 차이를 학습한다. 소비자 이론과 생산자 이론을 기반으로 시장모형의 결정과 관련 요인들을 분석하며, 생산자소 시장으로서의 노동시장과 소득 분배 문제를 다룬다.

The objective of this course is to develop the ability to think analytically about the economic force at work in society. In specific, this class analyzes a framework underlying consumer behavior and decision-making, and explains the producers’ decisions for optimal production and the impact of different market structures on producers’ behavior. Based on the theories of consumers and producers, this course analyzes the determination of market equilibrium and the related factors in a market economy. This course also analyzes the labor market and income distribution.

M2649.001200 경제원론 2 3-3-0

Principles of Economics 2

이 강좌는 국민경제 전체 차원에서 발생하는 다양한 경제문제를 이해하고, 분석하는 능력을 배양하는 것이 목표이다. 기상경제적 측면에서 한 국가의 경제 현상에 대해 분석하고, 특히 다음과 같은 주제를 주요로 강의한다: 국민소득, 물가, 이자율, 실업률, 고용, 임금, 소비, 투자 등은 어떻게 결정되며 그들간의 상호관계는 무엇인가? 국민소득은 어떠한 원리에 따라 결정되고 분배되며? 국민소득, 물가 경제성장을 결정하는 주요 변수는 무엇이이고 정부의 금융 및 재정 정책의 경제적 영향과 결과에 대해 탐구한다.

This course cultivates the ability to analyze various economic problems that arise at the level of the national economy. The class focuses on the following topics: How are national income, prices, interest rates, unemployment rates, employment, wages, consumption, and investment determined and what are the relationships between them? By what principle is national income decided and allocated? By what process does the economy experience growth? What effect does the government’s economic policy have on economic activities and how are we to evaluate the merits and demerits of those economic policies? Also the class explores the main variables that determine national income, inflation and economic growth.

M2649.000700 국제개발과 농업 효과성평가 3-3-0

Impact Evaluation of International Development and Agriculture

이 과목은 농업을 비롯한 보건, 교육, 환경, 자원 등 다양한 주제의 국제개발협력 프로그램의 효과성 평가하는 경제학적 방법론을 배우고 실제 사례연구를 통해 이에 대한 이해를 향상시키는 것을 목적으로 한다. 효과성평가 방법론과 다양하게 실제 국제개발 협력 사업에서 효과성평가 연구를 설계하고 적용하는 방법에 대해 배우고, 설문조사를 수집하고 관리하는 과정과 방법에 대해 학습한다. 다양한 최근 효과성 평가 사례 분석과 실제 자료를 활용한 실습을 통해 국제개발 효과성평가의 이론과 적용에 대해 공부하고자 한다.

The purpose of this course is to learn economic research methods to evaluate the impact of international development
산업생명과학대학(College of Agriculture and Life Sciences)  
농경제사회학부(Dept. of Agricultural Economics & Rural Development)

M2649.001300 미시경제이론 3-3-0

Microeconomics

본 과목은 농업자원환경·지역경제학 등의 응용경제학을 강점
하는 학생들이 수강하여야 할 미시경제 기초이론과 그 응용 예제
을 강의하며, 학생들은 이러한 개별 경제주체의 합리적인 의사결
정과 사정의 형성 및 역할에 관한 이해를 갖추도록 한다. 생산
자행위론, 소비자행위론, 시장골동과 조정, 평행생산성과 경제
적 행위, 불확실성 및 정보비대칭 하의 의사결정을 다룬다.

이 과목은 농식품산업을 포괄하는 국가경제 전체의 작동원리를
이해하는데 필요한 기초 이론을 공부한다. 우선 주요 미시경제 원
소들anon을 찾고 이들에 영향을 미치는 재정

This course is designed for the students majoring in applied economics. The primary objective of the course is to understand the basic concepts of microeconomics and their applications. The course covers the topics in consumer and producer choice, market equilibrium and strategic behavior, and uncertainty and information asymmetry.

M2649.001400 거시경제이론 3-3-0

Macroeconomics

This course studies the basic theories necessary to understand the working principle of the national economy including the agro-food industry. First, we find key macroeconomic

This course covers the topics in consumer and producer choice, market equilibrium and strategic behavior, and uncertainty and information asymmetry.

M2649.001500 경제통계학 3-3-0

Introductory Statistics for Economists

경제학은 단지 이론에 그치는 것이 아니라 사회 문제를 실증적
으로 분석하고 해결할 때에 비로소 그 학문적 가치가 발휘된다.
실증 분석의 핵심은 경제 관련 데이터를 어떻게 수집하고 표현하
며 처리 및 분석하여 그 경제적 의미를 찾는 것에 있으며, 본 과목
은 이에 대한 기초 통계학 이론과 기법을 다룬다. 구체적으로 기
속통계학, 상관관계, 회귀분석, 확률이론, 가설 검정에 기반한 추론
통계학 등을 강조적으로 학습한다. 또한 실현에 힘쓰는 한 R이
나 Python 등의 컴퓨터 통계 패키지를 활용하여 실증 분석 능력을

Data plays a crucial role in applying economic theories to empirical analysis, and statistics provides tools for data collection and analysis with its economic implication. This course covers introductory statistical theories and methods necessary for economic analysis. Topics include descriptive statistics, correlation, regression analysis, probability theory, inferential statistics with hypothesis testing, and etc. If time allows, students will also learn how to use R or Python for empirical analysis. As statistics is a prerequisite for econometrics, students are strongly encouraged to build statistical knowledge through this course.

M2649.001600 경제수학 3-3-0

Mathematics for Economics

대 경제학에서 수학이 차지하는 비중은 상당하다. 경제 현상을
만나 그해석하려는 것은 간직한 이해에 도움이 될 수 있지
만, 표현의 정확성과 높은 수학적 조건의 경우 그해석을 도전할 수
중인 것에 한정이 되어 있다. 반면, 수학을 활용할 경우 그

This course is designed for the students majoring in applied economics. The primary objective of the course is to understand the basic concepts of microeconomics and their applications. The course covers the topics in consumer and producer choice, market equilibrium and strategic behavior, and uncertainty and information asymmetry.

M2649.001800 기후 변화와 국제 식량 안보 3-3-0

Climate Change and Global Food Security

기후 변화의 경제학적 중요성이 커지고 있는 가운데, 경제

기후 변화의 경제학적 중요성이 커지고 있는 가운데, 특히 자연
과 인간이 이어진 관계를 저지르는 농업은 기후 및 날씨로부터 가진 위험
에서 저지르는 농업은 기후 및 날씨로부터 가진 위험

The economic importance of climate change is hard to overstress. Agriculture, as its production crucially depends on nature, consistently faces climate change risks. In this course, we focus on the interaction of climate change and global food security through the lens of economics and sustainability and its economic and policy implications. The objective of the course is twofold: i) to understand how climate risks affect global food production and food security, and ii) to explore agricultural policies and interventions that aim to build climate resilience, improve food security, and promote agricultural development.

M2649.001900 기후변화의 경제학 3-3-0

Economics of Climate Change

이 과목은 기후변화의 성격을 탐구하고 문제의 경제학적 해결

This course covers introductory statistical theories and methods necessary for economic analysis. Topics include descriptive statistics, correlation, regression analysis, probability theory, inferential statistics with hypothesis testing, and etc. If time allows, students will also learn how to use R or Python for empirical analysis. As statistics is a prerequisite for econometrics, students are strongly encouraged to build statistical knowledge through this course.

M2649.002000 기후변화의 경제학 3-3-0

Economics of Climate Change

This course covers introductory statistical theories and methods necessary for economic analysis. Topics include descriptive statistics, correlation, regression analysis, probability theory, inferential statistics with hypothesis testing, and etc. If time allows, students will also learn how to use R or Python for empirical analysis. As statistics is a prerequisite for econometrics, students are strongly encouraged to build statistical knowledge through this course.
석한다. 현재대와 미래대를 모두 고려할 때의 최적의 온실가스
농도가 어느 정도이어야 하는지를 검토하며, 이를 달성하기 위한
검증노력을 유도할 수 있는 정책수단을 공부한다. 그리고 기후변
화에 대한 적응조치의 종류와 이를 도입하기 위한 경제적 수단과
그 효과도 분석한다. 특히 기후변화가 식량의 생산과 소비에 미치
는 영향과 바이오에너지화를 포함하는 재생가능 에너지원의 정
환문제를 중점적으로 다룬다. 이 올라, 기후변화에 대응하기 위한
국제협력의 과정과 성과 및 관련 이론을 소개하며, 기후변화의 경
제학적 분석에 사용되는 경량적 분석수단도 소개한다.

This course will explore the economic characteristics of climate change and obtain the general understanding of eco-
nomics solutions of the problems. The course will address the
causes and impacts of climate change, and analyze its costs
and benefits. More attention will be paid to the impacts on
food production and consumption. The optimal path of
greenhouse gas emission under the welfare consideration of
the current and future generations will be discussed. The im-
plementation policy instruments of climate change mitigation
and adaptation will be assessed. More specifically, the policy
instruments inducing transformation toward bioenergy and
agriculture, food and bio industries. The materials to be cov-
ered in this course include economics, geography, sociology, and political science.

지역정보학전공(Regional Information Studies Major)
5202.202 지역개발론 3-3-0
Rural Development
본 과목은 다양한 지역개발과정에서의 발생하는 생물학은
물 취급과 토양화하여 수상생들에게 지리개발에 관한 품질은
사람을 제공하는 것이다.

The purpose of this course is to provide students with the
historical debates and evidences from various regional develop-
ment schools with particular emphasis on the challenges
within the wider scope of economic, social and political fac-
tors that affect regional development practice. In addition,
the course will look at several trends that have shaped inter-
national development discourse over the past years.

The first part of this course emphasizes the understanding
of these comprehensive development issues which enable stu-
dents to discern diverse theories in regional development.
After learning the basic economic analysis techniques and
histories and practices of regional development in Korea, the
final part of this course will place particular emphasis on the
rural development policies armed with rural development
practices in developed countries. In this year, this lecture also
contains regional development experiences of North Korea
that North Korea has had.

5202.203A 지속가능 지역계획론 3-3-0
Sustainable Regional Planning
지역계획론은 효과적인 지역개발을 위해 필요한 계획과정에 대
하여 다루는 과목으로서 경제학, 지리학, 사회학, 행정학 등과 같
은 분야는 주제가 포함된다. 지역계획론에서는 지역의 경제적 공
간적 변화로 인해 발생하는 문제를 다루며 효과적인 지역계획의
방향에 대해서 탐구한다.

The purpose of this course is to provide students with the
background planning theory. This course includes economics,
geography, sociology, and political science.

5202.205* 공간경제의 이해 3-3-0
Fundamentals of Spatial Economics

공간의 생성, 발전, 성장 및 입지, 공간시장의 적정 규모이론, 공간 구조 및 토지이용, 집적화 및 클러스터, 주택 및 토지시장
분석, 인구 전망 및 공간경제 분석기법 등을 다룬다.

Origin and development of space, spatial growth and loca-
tional decision, agglomeration economics and clustering, mod-
el of mono-centric urban area, rural economy and special-
ization, economic development policies and public sectors, economic analysis of housing and land markets, population forecasting and spatial economic methodology

5202.206 농식품브랜드경영의 이해 3-3-0
Brand Management for Food Product
농식품 브랜드는 기존의 벌크 판매에서 브랜드 경영에 기반한 판
매로 전환되고 있다. 본 과목은 농식품 브랜드의 중요성을 인식하고,
농식품 브랜드가 소비자에게 어떠한 가치를 제시하는 것이며, 기초 지식과 전략을 제시한다. 이와
함께 다양한 농식품 브랜드의 맛, 포장, 가격 등을 수업 시간에
실제 사례로 보는 신타 중심의 학습 방향을 지향한다.

Sales of Food & Agricultural products have been changed to
brand management based sales methods from bulk sales. The main goal of this course is to recognize the importance
of brand management in the area of food business, and to
provide a deep understanding of the value proposition of
food product brands. This course focuses on various branding
practices of food products, including tastes, packaging, pricing,
etc.

5202.301 지역정보시스템 3-3-0
Regional Information System
본 과목은 지역정보시스템을 이해하고 적용하며, 지역개발 및
지역계획 수립과정에 응용하는 것이 목표이다. 본 과목은 중장
항등은 지역을 분석하는 기술을 익혀 많은 분야에 다양하게 활
동할 수 있는 기술을 제시한다.

This course examines various areas of advanced GIS ap-
plications such as dynamic segmentation, surface modeling,
spatial statistics, and network modeling.

5202.309 식품 및 바이오비즈니스경영진단 3-3-0
Consulting Methods for Bio and Food Business
본 과목에서는 농산업, 식품산업 및 바이오산업에서의 비즈니
스 활동을 진단할 수 있는 기본적인 원리와 방법을 학습한다. 이
들 위에 기반한 경영학 지식 - 조직관리, 마케팅, 브랜드 경영
및 광고, 성과평가, 정보 경제 등을 학습하고, 각 비즈니스 활동에
대한 분석과 설계를 할 수 있는 다양한 방법들을 학습한다. 본 교
과목은 식품 및 바이오브랜드의 소비자 중심의 경영 전략과의터로서의 기반적 소양을 가르친다.

The objective of this course is to provide students with the
fundamental understanding of consulting methods for ag-
riculture, food and bio industries. The materials to be cov-
ered are at the undergraduate level of business management
knowledge, including organization management, marketing,
brand management and advertisement, performance evaluation
and information management. Students will practice the meth-
5202.405 공간경제모형론 3-3-0
Spatial Economic Models
본 강의는 미시와 거시자료의 계량분석에 필요한 학부수준의 기초지식을 담고 있다. 이 강의의 주된 내용은 이항 로짓모델, 준위 로짓모델, 다항로짓, 조건부로짓, 종합로짓모델, 공간상호관계모형, 공간로짓모형 등이다. 이 강의에서는 상기의 모형에 대한 이론적 습득 이외에 SAS, MATLAB, LIMDEP 등과 같은 통계패키지의 사용에도 주안점을 두고 있다.

이 Course provide students with a basic knowledge about individual and spatial data analysis. The contents of this course are binary logit/probit ordered logit/probit, multinomial logit, conditional logit, nested logit/probit, spatial autocorrelated model, spatial logit model, etc. This course particularly emphasizes diverse empirical application with such diverse statistical packages as SAS, MATLAB, LIMDEP.

5202.409 지속가능성 경제론 3-3-0
Economics of Sustainability
본 수업에서는 지속가능한 개발과 실험의 분석과 평가를 위한 경제학의 개념과 이론을 소개 한다. 환경과 사회적 환경의 이에 대한 정책과 이를 극복할 수 있는 방안과 이들의 서비스에 대한 가치를 배우고자 한다. 또한 기업과 정부 그리고 각 시민 단체의 기초와 지속가능한 발전의 역할이 무엇인지 알아본다.

이 Course, economic concepts and theories for analyzing and evaluating sustainable development and practices will be introduced. Students will study causes and potential solutions to environmental and social degradation, and learn the value of these services. Students will also study the functions of businesses, governments and civic groups and the role of sustainable development.

5202.410 공간경제 계량분석 3-3-0
Quantitative Analysis for Spatial Economics
본 강의에서는 공간 경제학 분석이 필요한 계량방법론을 이해하고 적용하는데 주안점을 두고 있다. 강의에서 다루는 주요 주제로는 1) 공간경제모형의 개념과 정책적 해석, 2) 콤플렉스 분석, 공간 지표, 상호작용 및 경제적 모델 등의 부분군형 방법론, 3) 종합적 방법론과 미시상품선언 등이 있다.

The emphasis of this course is to learn how to actually apply quantitative methods to spatial economic context of ‘real world’ scenarios. The major subjects include i) development of spatial economic model and policy implementation, ii) partial approaches such as complex analysis, spatial measures, and interaction/potential models, and iii) comprehensive approaches and spatial micro-simulation.

5202.414 식품마케팅 및 정보경영사례연구 3-3-0
Case Studies in Food Marketing and Information Management
본 교과목의 목표는 학생들에게 비즈니스 분석 기법을 식품 마케팅 및 정보경영 분야의 다양한 비즈니스 케이스에 적용하는 것이다. 수업시간 내내는 케이스는 식품 분야뿐만 아니라 농업 경영, 바이오 및 의약 비즈니스도 포함하고 있으며, 이 교과목을 성공적으로 마친 학생들은 해당 분야의 비즈니스 분석가로서 활동할 수 있는 기본적인 소양을 갖춘다.

The objective of this course is to provide students with opportunities of applying business analysis methods to diverse business cases in the area of food marketing and information management. The cases to be handled will not be limited to the food business area, but also cover agriculture, bio and catering business. Students who successfully complete this course will have fundamental knowledge and experiences so that they can carry out their career as a junior level of business analysis.

5202.415* 지역정보학연구 2-2-0
Research in Regional Information
본 교과목에서는 3, 4학년 학생들이 지역정보 분야의 연구를 수행할 수 있는 역량을 기르기 위한 이론, 방법 그리고 최신 주제를 학습하게 한다. 학생들은 적절한 연구를 수행할 수 있도록 교육의 지도를 받으며, 자신만의 주제를 선정하게 하여, 이에 중점을 두는 연구를 통해 관련사를 수용할 수 있도록 한다. 본 교과목은 상호작용이 중요함으로써 학생들은 지역정보 분야의 종업 분야를 응용할 수 있는 역량을 가질 것이다.

The main objective of this course is to provide a comprehensive understanding of research in the area of regional information for senior students. Students learn theories, methods and current topics in the area of regional information. Students choose his/her own topic for research or may choose a case study after relevant industry field work. Advisor will guide students research so that they can develop it for their thesis.

M1683.000100 농식품 산업 정보 경영 3-3-0
Information Management for Agro-Food Industry
본 교과목은 농식품 분야를 위한 정보 경영을 어떻게 할 것인가에 대한 이론에 대한 학습과 실무적 관점을 학습을 진행한다. 농식품 분야에서의 수과 및 경영 및 홍역을 위한 데이터베이스 아르바이 개발과 관련된 것만을 위한 체계적인 방법론을 배운다. 다양한 사례 연구를 통한 실무적인 지식과 경험을 쌓는다. 본 교과목을 통한 농식품 분야 경영자들은 합리적 의사결정을 할 수 있는 지원 시스템을 설계할 수 있는 능력을 배양한다.

This course presents theories and practical application of information management for the food industry. Students will learn methods for data collection, store, and retrieval from the perspective of the practitioner. Also data modeling methods for database design will be explored with various case studies. The main goal of this course is to train students to develop capability of designing relevant information management systems facilitating managers' rational decision making in the area of food industry.

M1683.000200 농식품전자상거래 3-3-0
E-Business in Agro-Food Industry
학부 과정에서의 농식품 전자상거래를 위한 기초적인 영역에 대한 이론과 실제를 학습하고, 농식품 전자상거래의 특성과 현황에 대한 이해를 제공한다. 또한 농식품 전자상거래의 기술적, 경제적 면면의 이해를 통해 전자상거래를 위한 기술적, 경제적, 사회적 각 영역의 이해를 할 수 있다.

This course is to provide students with a basic knowledge and understanding of e-business in the agro-food industry. The course will cover the technical, economic, and social aspects of e-commerce in the agro-food sector.
This class provides students with basic theories and technologies for e-business management in agro-food industry. Basic concepts and histories of e-business, current status and characteristics of e-business in agro-food industry, internet marketing, CRM and SCM, e-business design, e-business system development, law and regulations related to e-business, theories and technologies of mobile-commerce are the major components of this class.

M1683.000400* 농식품정보체계론 3-3-0
Information System for Agro-Food Industry

This introductory course for the agro-food information system (AIS) covers general theory and practice. We will study the concept and needs of AIS, types and frontiers of AIS, organizational perspectives of AIS, and the development and current status of AIS. This course also covers the technical approach to AIS including H/W, S/W, and N/W. We will discuss recent issues in AIS, including decision support perspectives of AIS, rural GIS, e-Business in agro-food industry, AIS development and evaluation, and AIS policy and regulations.
Wildlife Science and Practice

This class will help students to understand what forest ecosystems consist of, how trees interact with other plants and with surrounding environments, and how trees respond and adapt to changing environments. This knowledge will give students some answers how to manage forest resources to maintain sustainability.

Conservation Biology and Lab.

Bojan Selanik was an ecological scientist who worked on the preservation of biodiversity. He was known for his work on the impact of human activities on ecosystems, and for developing innovative methods to study and protect endangered species.

By combining theory with practical experience, students in this course will gain a comprehensive understanding of conservation biology, including its theoretical foundations, practical applications, and ethical considerations. The course will cover topics such as population ecology, genetic diversity, habitat fragmentation, and conservation strategies. Students will learn how to apply these concepts to real-world situations, and will have the opportunity to participate in fieldwork and laboratory exercises.

This course is designed for students who are interested in pursuing careers in conservation biology, environmental science, or related fields. It is suitable for students with a strong background in biology, chemistry, or related disciplines. Those with experience in research or fieldwork are encouraged to apply.

For more information, please contact the course instructor at bojan.selanik@university.edu.

Keywords: conservation biology, biodiversity, ecological science, fieldwork, laboratory exercises.

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Recovery, Ecological management, Disturbance, Habitat management Discussion sections are intended to provide you with an opportunity to discuss some of the issues raised in lectures with a smaller group of your classmates using exercises and practice using several computer programs, such as RAMAS, EXCEL, or POPULUS Weekly meetings will include time to review lecture material as well as more focused discussions of other specialized topics.

**5241.216**  
**Forest Resources Assessment and Practice**

This lecture consists of two parts: forest measurement and resources assessment for forested landscape. The first part covers the concept of national forest survey, measurement techniques for standing trees and forest stands, basic statistics for timber inventory survey, site productivity, growth-and-yield and log scaling. In the second part, covered are the basic concept and approaches of forest resources assessment, forest monitoring and evaluation, and GIS as the basic tool for integrating and synthesizing various spatial and temporal information.

**5241.218**  
**International Field Study in Natural Environment Management**

This course provides students with opportunities to participate in field practicum in management of natural environment such as forests, wetlands, and ranges in foreign countries. One form of the field study is the field practicum of forest resources management offered by Hokkaido University, Japan. The other form is a field trip to tropical forests organized in collaboration with educational and research institutions in foreign countries such as Indonesia. The students are expected to learn the current issues in natural environment management at an international level.

**5241.219**  
**Forest Soil and Lab.**

본 강의는 산림토양에 대한 기본적인 지식을 제공하는 것을 목적으로 한다. 학생들은 산림토양의 특성과 이용의 방법과 계층을 배우며, 산림 생산성 유지와 산림토양 관리 방법에 관한 자식을 습득한다. 이 과목은 산림토양의 물리적, 화학적, 생물학적 성질에 관한 성적과 식물성, 식물성과의 관계, 지형지구, 산림생산성, 산림관리 및 토양재 미치는 영향, 지속가능한 산림 관리에 관한 토양 관리에 대해 다룬다. 실습을 통하여 토양 내 pH, 수분, 유기물 함량, 측정과 여러 화학 물질의 분석 방법을 익히며, 산림토양의 숨과 토양, 구조 판별 및 기본적인 산림토양의 분류 방법을 배운다.

The course aims to provide a basic knowledge of forest soil. The course examines the physical, chemical and biological Properties of forest soil, the relationship between forest soil and vegetation, and forest soil productivity, and introduces the basic principles of forest site classification. Forest practices (harvesting, site preparation, stand tending) are examined to provide an understanding of their effects on soil properties. The forest soil management in terms of sustainable forest management is reviewed, along with methods to restore damaged forest soils. Field trips and laboratory exercises provide experience in techniques for assessing forest soil properties and classifying forest soil. The course emphasizes development of students’ ability to interpret soil characteristics related to ecosystem function.

**5241.220**  
**GIS in Forest Resources and Practice**

산림자원정보학 및 실습은 지리정보시스템(GIS)의 기본 개념과 다양한 응용분야의 적용에 대하여 학습하는 과목으로, 이를 위하여 강의, 개인 실습, 토론, 및 team project 수행 등의 학습방법으로 진행한다. 산림자원정보학 및 실습은 1) 공간자료의 구조, 지도 및 인터페이스, 지도 작성, 코스트, GIS 소프트웨어를 활용한 공간자료의 생산, 주제도의 작성, 정보 및 공간정보기법에 대한 학습, 2) 산림경제학의 예측 및 사용, 산림유역의 관리와 같은 산림자원의 효율적 관리를 위한 GIS의 적용 방안에 대하여 학습한다.

This course deals with the basic background of Geographic Information Systems (GIS) and its applications to the forest-sector. This course will utilize lectures, practices, class discussion and team project to accomplish the course objectives. The objectives of this course are 1) to introduce students to the fundamental concepts of GIS such as spatial data structures, map projections, and coordinate systems, 2) to teach students how to utilize GIS software to import spatial data, create custom maps, query spatial database, and perform basic spatial analysis, and 3) to demonstrate how GIS can be used to manage the forest resources including the mountain disaster prevention and mitigation planning, forest road design, and forest watershed management.

**5241.311**  
**Ecological Economics and Practice**

생태경제학 및 실습은 경제학과 식물의 경제학적 가치에 대한 이해를 위한 교과목으로, 이를 위하여 강의, 개인 실습, 토론, 및 team project 수행 등의 학습방법으로 진행한다. 학습방법은 스펙터럼, 경제학적 가치를 활용한 산림자원의 관리와 같은 산림자원의 효율적 관리를 위한 GIS의 활용 방안에 대하여 학습한다.

The course deals with the economic principles of natural resources management while the principles of ecosystem function.
tem health are introduced in the first place. The biophysical, philosophical, and economic theories are reviewed and applied to real issues in sustainable forest management. Some real cases are presented to show the analytical tools for assessing the biophysical, socioeconomic impacts of forest resource management and valuing ecosystems while the ecological economic implications of economic use of ecological resources are discussed.

**Forest Protection and Lab.**

Silviculture deals with the theory and practice for the establishment, management and sustainable use of forests for the benefit of present and future generations. It involves the selection, establishment, care, and harvesting of trees and forests, and includes the study of the growth, development, and physiology of trees and the ecosystems in which they grow. Silviculture can be divided into two main categories: silviculture for timber production and silviculture for biodiversity conservation.

4. Silviculture for biodiversity and conservation of species. Silviculture for timber production includes the theory and practice for seed production, treatment and storage, seeding production, nursery management, planting method, and tending such as thinning and pruning, natural regeneration, silvicultural systems and forest dynamics caused by stand treatment. Lecture also includes forest ecosystem management for sustainable forest management for wildlife, recreation, and biodiversity. Characteristics of propagation and tending methods of Korean native trees are also discussed. Finally, tropical forestry and major topial tree species are introduced to the students.
5241.321 수목생리학 3-2-2

Tree Physiology

This course teaches what kinds of physiological principles are underlying in tree growth. Following topics are covered: a relationship between tree structure and function, morphological, cytological, and biochemical interpretation of photosynthesis, respiration, carbohydrate and protein metabolism, water relations, flowering, and stress physiology.

M1698.002300 산림복원공학 및 실습 3-2-2

Forest Restoration Engineering & Practice

Forest lands are degraded and denuded due to natural and anthropogenic causes such as wildfire, landslide, and hillslope development, and thereby ecological and engineering methodologies can be needed for ecologically restoring the degraded forests. This course is intended to provide the engineering concepts of ecological restoration and rehabilitation for degraded forest lands, including field survey, planning, implementation and monitoring for the forest restoration project. Particular emphasis is placed on the application of erosion control engineering to denuded forest lands, and the implementation of ecological engineering for recovering the degraded forests, caused by wildfire and landslide.

M1698.00600 산림정책학 및 실습 3-3-0

Forest Policy and Practice

This course provides a broad scope of background for forest management including current situation of domestic and international forestry environment, old and new paradigms of forest management, basic concepts for implementing multiple-use forest management and sustainable forest management, financial analysis for project evaluation, the concept of landscape-level, forest-level and stand-level forest planning, and forest management science for decision-making.

5241.412 아생등물보호관리학 및 실습 3-2-2

Wildlife Conservation and Management and Practice

This course is intended to provide the basic principles underlying conservation and management of wildlife; to introduce the social issues, legal institutions, and international conventions affecting wildlife; and to discuss options for conservation of endangered species and management of game animals. This course emphasizes that wildlife are most effectively managed when wildlife habitats, populations, dynamics, and behavioral characteristics are considered simultaneously. Additionally, knowledge gained by examination of past causes of population decline and extinction can be used to limit or prevent declines in current and future wildlife populations. Because habitat destruction is the main cause of wildlife declines in the modern world, students will analyze local, national, and international environmental issues surrounding land use; class discussion will focus on the challenges associated with preservation of critical habitat for migratory birds. Upon completion of this course, students will have the breadth of ecological and social knowledge to effectively conserve and manage wildlife and their habitats.

5241.413* 산림자원경영학 및 실습 3-2-2

Forest Resources Management and Practice

This course is intended to provide the basic principles underlying conservation and management of wildlife; to introduce the social issues, legal institutions, and international conventions affecting wildlife; and to discuss options for conservation of endangered species and management of game animals. This course emphasizes that wildlife are most effectively managed when wildlife habitats, populations, dynamics, and behavioral characteristics are considered simultaneously. Additionally, knowledge gained by examination of past causes of population decline and extinction can be used to limit or prevent declines in current and future wildlife populations. Because habitat destruction is the main cause of wildlife declines in the modern world, students will analyze local, national, and international environmental issues surrounding land use; class discussion will focus on the challenges associated with preservation of critical habitat for migratory birds. Upon completion of this course, students will have the breadth of ecological and social knowledge to effectively conserve and manage wildlife and their habitats.

5241.415 도시수목보호관리학 및 실습 3-2-2

Arboriculture and Lab.
This class teaches the maintenance techniques of urban forests and shade trees. Biological approaches to maintaining street trees, park trees, and other shade trees will in-clude following topics, such as structure and growth of trees, health of street trees, shrubbery management, physiological damage, disease and pest management, wound treatment, tree surgery, pesti-cide, equipment maintenance. After completion of this class, students will be prepared to apply for a qualification certificate, equipment maintenance. After completion of this class, students will be prepared to apply for a qualification certificate, equipment maintenance.
eral insect pests on forest, garden, and street trees, and learn several control methods for managing the population of forest insect pests. For this purpose, morphological and ecological characteristics of each developmental stage, overwintering stage, and damage habit of forest insect pests will be introduced with the basic knowledge of insect taxonomy, morphology, physiology, and ecology. This course also introduces several kinds of control methods such as chemical, biological, physical and silvicultural control methods practically used in field.

M1698.001600 산림경영조사 및 분석 3-2-2

Forest Landscape Inventory & Analysis

This course focuses on forest plants that are naturally growing in forests and cultivated at local forestry farms. The students will learn about the traditional knowledge and the genetical and physiological characteristics of valuable woody plants. Additionally, they are going to study on how to identify the edible and medicinal forest plants and how to extract and utilize the functional materials. This course is practically connected to dendrology, forest genetics, forest ecology, and forest protection. Through this course, the students will get a deeper understanding of forest edible and medicinal plants and inspiration for future potential utilization as valuable resources.

M1698.002400 생태수문학 및 실습 3-2-2

Ecohydrology & Practice

Ecohydrology is an interdisciplinary area that focuses on water and ecological systems. This course will introduce the quantitative description of hydrological processes and atmosphere-vegetation-soil relations occurring in ecosystems. Students will learn about the field measurements and analytical methods for ecohydrological system analysis, and the influences of disturbed-ecosystems on hydrological processes.

M1698.002500 산림경관보전계획 3-3-0

Forest Landscape Conservation Planning

This course is designed for the scientific understanding and practical conservation of forest landscape. It understands theories and methods including landscape ecology, ecological network, habitat modeling, and gap analysis, and examines examination records.
the applicability of these theories in Korea. This course aims to have a variety of perspectives for systematic conservation plans by studying quantitative evaluation methods and monitoring systems such as climate change vulnerability and ecosystem service assessments.

**M1689.002500**

**Landscape Management and Practice**

This course intends to understand the interplay between landscape patterns and processes, the characteristics of landscape spatial pattern, where it comes from, and how it changes over time based on the principles of landscape ecology and conservation biology for sustainable management of forest landscapes. The goals of this course are to quantitatively analyze and evaluate landscapes and to solve problems that can be encountered when managing landscapes. This course provides lab sessions on landscape definition, landscape quantification, spatial pattern analysis, landscape connectivity analysis, protected area selection, and meta-population models, etc.

**5242.203**

**Wood Anatomy and Lab.**

This course deals with fundamental identification and histology using optical microscope, SEM, and image analyzer, and also macroscopic characteristics (three primary surfaces, earlywood and latewood) of wood, composition and structure of wood cell wall (layering of a mature cell wall), softwood structure (longitudinal tracheids, longitudinal parenchyma cell), hardwood structure (vessel element, vessel arrangement, fibers, rays), and reaction wood.

**5242.204**

**Wood Physics and Lab.**

This course intends to provide basic principles on chemistry and engineering to enhance the power of understanding on chemical engineering process of environmental materials, such as chemical analysis of biomass components, pulping chemistry, papermaking process and bioenergy conversion process of lignocellulosics. The contents of this lecture are mainly composed of fundamental theories about instrumental analysis/analytical chemistry for wood component analysis and fluid unit operation/mass balance for pulping/papermaking process as well as bioenergy.

**5242.302**

**Pulping Technology and Lab.**

Pulping processes of the process of densification, the mechanical properties of wood, the subject consists of specific gravity of wood and cell wall substance, porosity and solidity of wood, moisture movement in wood, hygroscopicity, shrinking and swelling, thermal and electrical conductivity, acoustical properties, strength and stiffness of wood, and factors affecting mechanical properties.
기술의 발전과 제조 방식의 변화로 인해 산업의 발전이 급속히 이루어지고 있습니다. 특히, 자연 재료를 이용한 물질들은 환경친화적이고, 지속가능성을 추구할 수 있는 중요한 자원이 되고 있습니다.

**5242.303** 바이오복합재료와 실험 3-2-2

Bio-Composites and Materials Lab.

이 과목에서는 목재의 절삭공정을 다룬다. 목재 절삭 가공은 재생의 성질, 절삭 기구, 2차원 절삭과 회전절삭, 박피, 목재의 절삭 작용, 재제기계의 설계, 재제생산선 및 품질, 평삭가공, 형삭가공, 전삭가공, 친공가공, 단판절삭, 데어가공 차량 등이 포함된다.

This course deals with properties of workpiece, debarking, cutting mechanism, orthogonal cutting and peripheral milling, cutting action of saw teeth, performance of sawmill, lumber manufacturing and quality, jointing and planing, shaping, boring, veneer cutting, sanding and chipping.

**5242.304** 목재절삭가공 및 실험 3-2-2

Wood Machining Processes and Lab.

제자공정론 3-3-0

Papermaking Processes

제자공정론을 구성하는 핵심 원료 및 공정과 이에 사용되는 설비에 대해 강의한다. 평가공정, 리파이닝 공정과 스קר린 및 클리너 등으로 구성되는 지료조성공정 및 설비를 살펴본다. 또 해드박스, 와이어 파트, 프레스, 간편 및 캐리는 패키지 공정의 설비 및 털원료를 얻어내고 설계 및 관리조절을 통한 관리자조직을 이론에 대해 강의한다.

This course deals with the papermaking technology with emphasis on stock furnish, processes and machinery. It covers introduction of the stock preparation processes consisted of pulping, refining, screening and cleaning processes, and introductory discussions of papermaking materials. The papermaking processes and their operating principles ranging from headbox, wire part, presses, dryers and calenders, reel, winders and on-line measurements will be studied. Cylinder formers, multiply forming, tissue forming technology and papermill economics will be discussed. Emphasis is on the fundamentals of stock preparation, paper machine operation and evaluation of the finished product.
staged chemical extraction processes, especially physiologically active chemicals and various functional compounds can be obtained from wood extracts by consecutive series of solvent extraction. This course will deal with extraction process and analysis, investigation of effective chemicals from extractives, biosynthesis of flavonoids and terpenoids, and example of extractives utilization.

5242.313*  환경지류과학실습 및 세미나  3-1-4
Field Practice and Seminar in Wood and Paper Industry

The purpose of this subject is to have an experience on the major related industries through on-the-job training, it also enhances the exchange between the academic field and the real world industry. The students can obtain various real world experiences and knowledges. In addition, the invitational lecture, Writing and presentation skills for undergraduate students, Korean/English resume, cover letter and interview skill workshops will be held for the competitiveness of students.

5242.402  입산환경 및 지류재활용공학  3-3-0
Environmental Control and Recycling of Fiber Resources

The aim of this course is to obtain the knowledge on the principles and measurement techniques of paper properties, and requirements of paper and paperboard as packaging materials. It covers measurement and characterization of the structural, chemical and optical properties, effects of environment on the properties of paper and board and the interrelationship between paper manufacturing process and properties. And it includes the properties of paper and board used in packaging, utilization, and converting process.
Adhesion, Coatings Science and Lab.

목재 및 물질재료분야를 포함한 실험 및 산업분야에서 광범위하게 사용되고 있는 접착제, 접착제(pressure sensitive adhesives) 등을 다양하게 다루며, 병목 및 도료 및 도막을 포함하여 목재, 플라스틱, 금속 등 다양한 분야에서의 피복물에 도달한 도막의 각종 물성에 대한 지식을 넓히며 각종 실험방법을 학습한다.

This lecture treats the adhesives and pressure sensitive adhesives which were broadly used in wood, wood-based materials, livings and industry. Students can learn various properties and experimental methods. This lecture also treats coatings used in wood, plastic and metallic materials. Students can also learn various properties and experimental methods.

Paper Coating/Imaging Science and Lab.

그린 재료공정과 관련 분야의 과학 및 기술을 학부 졸업예정자들 이 실제로 인구들로 실험과 연구를 통해 이해하는 것을 목적으로 한다. 학부 졸업예정자들은 각 연구실에서 실험을 수행하고 실험결과를 분석하여 유의한 결론을 도출하여 발표할 수 있도록 한다. 수행한 실험 결과를 정리하여 학기말에 구두 발표 및 포스터 발표를 통해 평가를 받고 이를 졸업논문으로 인정받는다.

The objective of this course is to provide a comprehensive understanding of research in the area of Environmental Materials Science for senior undergraduate students. They are subject to enroll this class for their graduation where they learn how research activities are conducted and how to analyse the results. Attendees should carry out an experimental in the designated laboratory and discuss the experimental results with major advisor. And their research results should be assessed through oral and poster presentations, which are recognized as a graduation requirement thesis.

Lignin Materials Processing

리그닌은 생물로스 다음으로 풍부한 바이오자리바이오로스로 변화하는 종이 시장과 바이오 리파이너리 공정에서 엄청난 양의 부산물로 얻어지고 있다. 그러나 리그닌은 생물로스에 비해 구조 및 특성이 복잡하여 고분자 재료로서의 이용에 한계가 있어 지금까지 산업 공정에서 많은 공급기 위한 에너지원으로 주로 활용되고 있다. 본 강의에서는 리그닌의 종류 및 특성에 대한 기본전적을 습득한 후 리그닌의 화학적 개질 및 이를 이용한 리그닌 소재화 공정에 관해 공부할 것이다.

Lignin is the second most abundant biopolymer after cellulose, and large amounts of lignin were obtained from paper market and bio-refinery process. However, lignin has complex structure and characteristics compared with cellulose; therefore it has been only used as an energy source for supplying heat in an industrial process. In this lecture, we will learn the basic knowledge about lignin types and characteristics, and then study the chemical modification of lignin and the multi-dimensional fabrication process of it.
식품생명공학전공
(Food Science and Biotechnology Major)

5251.301* 식품화학  3-3-0

Food Chemistry

식품 구성성분의 물리화학적 및 기능적 성질과 가공, 저장, 이용 중에 일어나는 화학적 변화를 다룬다.

In this course, students will study the chemical aspects of food composition, the physicochemical and functional properties of food constituents, and the chemistry of changes that occur during processing, storage, and utilization.

5251.302* 식품미생물학  3-3-0

Food Microbiology

식품분야에 필요한 미생물학 지식 습득을 위하여 미생물 구조와 생리에 대한 기본 지식을 강의하고, 식품에 관련된 여러 가지 미생물에 대한 특성을 논한다.

In this course, students will discuss the structures and metabolism of microorganisms in order to acquire basic knowledge of food microbiology. In addition, they will study the features of various microorganisms related with food.

5251.303 식품생명실험  2-0-4

Food Microbiology Lab.

미생물의 생리, 생화학구조, 유전자 특성을 이해하고 미생물을 식품분야에 이용하는데 필요한 기본 Technique를 익힌다.

In this course, students will study the basic principles and laboratory techniques of food analysis, with an emphasis on qualitative and quantitative measurements for the chemical, physical, and instrumental examination of various foods.

5251.304* 식품공학  3-3-0

Food Engineering

식품산업에서 사용되는 각종 단위조작의 원리와 응용을 이해하기 위하여 물질과 관련된 기본적인 이동현상에 대하여 강의한다.

In this course, students will study the principles and application of unit operations important to the food industry. The topics will cover sterilization, dehydration, evaporation, freezing, distillation, extraction, size reduction, mixing, sedimentation, centrifugation, packaging, process measurement control and automation.

5251.309* 식품위생학  3-3-0

Food Hygiene

안전한 식품의 생산을 보장하기 위하여 생물학적인, 화학적인, 그리고 물리적인 위해인자들을 진단하고 제어하는 공정에 대한 기본지식을 제공한다.

This course is designed to provide information on procedures to control biological, chemical, and physical hazards and assure the safety of foods. Topics include discussions on the government regulation, Hazard Analysis Critical Control Point (HACCP) concept, good manufacturing practices, prerequisite programs, and the application of current technologies in reducing the risk of food borne illnesses. Case studies and exercises are used to demonstrate and apply the key principles that are discussed.

5251.402* 식품생물공학  3-3-0

Food Biotechnology and Bioengineering

식품분야에 이용되는 여러 가지 생물공학적 지식과 기술원리를 강화하고 실제적 이용 예를 논한다.

In this course, students will be introduced to principles of biotechnology and bioengineering applied to various foods, and to examples of such applications.

5251.403* 식품생명공학실험  2-0-4

Food Biotechnology Lab.

식품생명공학 분야의 기초를 습득할 수 있는 실험과정이다. 본 과목의 목표는 학생들에게 식품효소학, 가능성 식품학, 발효학, 식
This is an introductory laboratory course in food biotechnology. The goal of the course is to familiarize students with the foundations of food enzymology, functional foods, fermentation, food microbiology, and food safety, particularly, their fundamental concepts at molecular level. Students will be encouraged throughout this course to develop the ability to think like a food scientist involved in the presumed research and development unit of food-biotechnology industry.

Food Processing and Preservation 1

Food Processing and Engineering Lab.

In this course, students will study the basic laboratory techniques required for food processing.

Food Processing and Preservation 2

Food Processing and Engineering Lab.

In this course, students will study the basic laboratory techniques required for food processing.

Food Biochemistry Lab.

The objective of this course is to provide students with the fundamental understanding of food enzyme technology. The materials to be covered are at the undergraduate level and applications to food science and industry will be discussed. The topics include the basic concept and general nature of enzyme proteins, cellular biosynthesis for enzyme biomolecule, important parameters that affect enzyme activities, and basic knowledge of enzyme kinetics, isolation and purification techniques of enzymes, and enzyme modification by genetic engineering/protein engineering.

Food Enzyme Technology

The objective of this course is to provide experimental methods related to food safety. The course covers detection and confirmation methods of foodborne pathogens, and currently used rapid methods for detection of foodborne pathogens. At molecular level, toxicity of foodborne pathogen will be studied in vivo and in vitro. Also, this course covers thermal and non-thermal sterilization methods to control foodborne pathogens.
5251.412* 기능성식품학  3-3-0

Functional Foods

기능성식품이란 결핍된 영양을 보충하거나 영양의 균형을 통해 건강의 유지, 증진 및 만성질환 예방 효과를 갖는 식품을 일컫는다. 이 교과목에서는 질병 예방에 있어서 기능성식품의 역할 및 최근 기능성식품의 개발 현황을 강의한다. 또한, 기능성식품의 정책 및 법규에 관하여 강의한다.

Functional food is a healthy food claimed to have a health-promoting or disease-preventing property beyond the basic function of supplying nutrients. This class focused on the role of functional food in the prevention of various human diseases and the recent research trend on the development of functional foods. This class also provides the impact of this research on policy and regulation of functional food.

M1701.000100* 식품응용수학  3-3-0

Applied Mathematics for Food Science

공학수학의 필수내용인 일계상미분방정식, 선형상미분방정식, 미분방정식의 근사해법, Sturm-Liouville 정리, Laplace 변환, 벡터 미분과 적분 등을 배운다. 또한 식품공학을 비롯한 모든 과학 분야에 적용 가능한 확률 이론 및 통계학의 기본 개념을 다룬다.

Students will learn the essentials of engineering mathematics: the first-order differential equation, the linear differential equation, the series solution of the differential equation, the Sturm-Liouville theorem, the Laplace transformation, the vector derivative and the integral. The course also covers the basic concepts of probability theory and statistics applicable to all scientific fields including food science and biotechnology.

M1701.000200* 식품생화학 1  3-3-0

Food Biochemistry 1

식품 생화학 1은 식품 과학 연구에 필수적인 생체 분자와 반응과 성질의 화학적 기초를 이해한다. 구체적으로 단백질과 단백질의 3차원 구조를 바탕으로 단백질의 화학적 기능을 파악한다. 유전자를 구성하는 DNA와 RNA의 합성과 반응을 이해하고, 제조된 DNA 기술의 화학적 원리를 이해한다. 효소를 이해하고, 효소의 반응과 효소를 이용한 기술을 이해한다. 단백질과 지질의 반응과 신진대사를 이해함으로써 기능성 식품의 작동 원리를 이해할 수 있는 기초를 제공한다.

Food Biochemistry 1 understands the chemical basis of the response and properties of biomolecules essential to food science research. Specifically, the chemical functions of proteins are identified based on the three-dimensional structure of proteins and proteins. Understand the synthesis and response of DNA and RNA that make up the gene, and understand the chemical principles of recombinant DNA technology. To understand enzymes, to understand enzymes' reactions and techniques using enzymes. By understanding the response and metabolism of carbohydrates and lipids, it provides the basis for understanding the operating principles of functional foods.

M1701.000300* 식품생화학 2  3-3-0

Food Biochemistry 2

식품생화학 2는 생명체의 물질조성 및 생물에서의 물질간의 반응 등을 화학적 방법으로 이해하고 이를 바탕으로 하여 생명체의 물질대사 및 이에 따른 에너지 생성, 그리고 광합성 등에 이르기까지 이론적인 부분을 습득하여 식품을 구성하는 생명체의 물질변화 및 에너지 생성, 가공과 관련된 생화학적 반응을 이해하도록 하여 전반적인 식품의 생화학적 현상을 공부하려 한다.

Food Biochemistry 2 is a lecture to teach the biochemical metabolism for carbohydrates and generation of ATP from the metabolites by the electron transport chain. And, this class includes photosynthesis of the plants and carbohydrate biosynthesis. In addition, amino acid biosynthesis is taught in this class. Therefore, this class is focused on the biochemical metabolism as well as biosynthesis of key elements to understand the biochemical process and metabolism in the live organisms as food resources and elements.

M1701.000400 식품분석화학 3-3-0

Applied Mathematics for Food Science

식품 분석화학은 학생들이 식품관련 생체 분자에 대한 분석화학 및 기기분석에 관련된 기초 개념 및 적용을 배우게 되며, 또한 최첨단 관련 기술분야의 동향 및 데이터분석 내용을 포함함.

Food analytical chemistry is designed to give students an understanding of the analytical and instrumental chemistry for biomolecules. Emphasis is given to the basic concepts and application of the major analytical and instrumental technology. Discussions will focus on cutting edge technologies and statistics.
동물영양학 전공
(Animal Science and Biotechnology Major)
5252.201A* 동물해부생리학 입문 및 실습 3-2-2

Introduction to Animal Anatomical Physiology and Practice
본 과목은 지금까지 동물비교생리학 및 실험을 전공필수과목으로 지정하여 운영하였으나, 최근의 학문발전 동향과 해당부문
이에, 그리고 전공특성 학생들의 효과적 전공관련 지식 습득을
위하여 동물해부생리학 입문 및 심습으로 교과목 명칭 및 내용을 변
경하여 운영한다. 본 교과목은 동물의 해부학적 특성과 이와 관련
된 생리학적 기능을 연계 학습하여 생명유지 및 항상성에 관한
기초적 지식을 제공하는 것이 목적이다. 전공의 다양한 교과목을
효과적으로 이해하는데 필수적인 terminology, 동물의 기본적 해
부학적구조, 생리학적 기능, 그리고 생명유지 및 항상성에 필요한
대사과정이 소개될 것이다. 이 과목의 특성은 고려하여 학생들의
능동적인 수업참여 유도를 위한 문제중심형 학습(problem-based
learning) 기법을 변형 도입하여 학습효과를 극대화 할 예정이다.

The purpose of this lecture is to efficiently instruct animal
biotechnology-related sciences by understanding of basic
knowledge on animal anatomy and physiology. This lecture is
replaced with Comparative Animal Physiology, which is
designed by the consideration of current trend in animal
and veterinary science and level of difficulties in non-medical
major. In this lecture, anatomical terminology and basic body
structure, which are essential for learning animal science and
technology, were initially instructed. Knowledge on anato-
my-related body function and metabolism are subsequently
provided for full understanding homostatic function of animal
body. PBL-modified teaching method is employed for acti-
vating the participation of students in this class. Quiz, pre-
sentation, assignment, report, note organization and attend-
ance are major evaluation parameters.

5252.202A* 동물유전학 및 실습 3-2-2
Animal Genetics & Lab.

동물유전학은 동물의 유전현상을 이해하고 어떻게 평가짓는 방법에 대해
이론을 공부하고 필요할 수 있는 학문분야이다. 따라서 본 과목은 유전학자
의 개념과 유전적 현상을 이해한 학생일 때의 기초학습을 바탕으로 다루어진
다. 이 과목은 동물세포 및 생식세포의 특성에 대한 이해를 바탕으로 동물세포
의 유전자 발현 조절 및 발현 수준 조절, 염색체유전, 성연관 유전, 발생과정의 유전적
특성, 가축의 유전자 발현 및 발현도와 동물사료의 배합 등을 제공하는
동물영양학 전공의 다양한 교과목을 지원하는 학문으로서 학생들이
동물유전학을 이해하면서 동물영양학을 이해하는 기회를 제공한다.

In this course, students will study inheritance in animals
and the application of genetic principles for the improvement
of domestic animals. In terms of genetics, they will examine
the nature of DNA, genes and genomes, division of animal
cells, expression of genes and the control of such expression,
chromosome inheritance, sex-related inheritance, genetic control
of development and differentiation, and application of genetic
engineering to farm animals and laboratory experimental
animal. In terms of regulation of gene expression, students
will examine the epigenetics and loss and gain of gene func-
tion on the effects of phenotype. Students will have a capa-
bility to understand the application on genetic improvement
in animal, poultry and experimental animal.

5252.301* 동물영양학 및 실습 3-2-2
Animal Nutrition and Lab.

동물영양은 살아있는 동물과 사료의 관계를 규명하는 학문이라
고 할 수 있다. 즉 동물의 유전자 발현 및 형성과정에 관여하는
사료의 성분, 소화, 대사, 배설 및 다양한 종류의 합성 등이 포함된
다. 동물사료의 성분은 동물의 요구와 생계적 수준이 다르기
때문으로 다양하다. 따라서 동물영양학을 이해할 때 동물들은
이론적, 실형적 사료에 대한 최근의 이해, 동물사료의 배합 등을 공부하게 될 것이다. 따라서 학생들은 동물영양학을 이해할 때 동물들은 이론에 비해 더욱 균형된
영양을 섭취하여 균형적으로 동물성 식품생산을 위해 식품생산
도 구준히 증대될 것이다.

Animal nutrition interprets the relationship between fodder
and living animals and covers the intake of food, digestion,
metabolism, excretion, and all syntheses essential for the
maintenance, growth, and reproduction of animals. The demand
for food from animals continues to grow as human popu-
lations increase and economic status improves. In this class,
students will be introduced to the function of animal nu-
trition in modern agriculture and society, nutrients, the prin-
ciples of nutrition, the role of animal nutrition metabolism,
and the formulation of diets with various available feedstuffs.
As students acquire knowledge of animal nutrition, animals
will be better-fed than ever and the efficiency of animal pro-
duction will be raised, resulting in improved foodstuffs.

5252.302* 동물세포공학 및 실험 3-2-2
Animal Cell Biotechnology and Lab.

동물세포공학 및 실험은 동물세포 세포 및 생식세포의 특성에
대한 지식을 학생들에게 제공하고 생명공학 연구 분야의 영역에
가깝게 이해할 수 있는 기회를 제공한다. 본 과목에서는 유전자 발현의
생리 현상과 연계하여 동물세포의 특성에 대한 이해를 바탕으로 학생들은
홍성을 배합 및 배합조절 지식을 학습하게 될 것이다.

Lecture of animal cell biotechnology & Lab. provides the
knowledge on the biological character and physiology of animal
cells in various tissues and the knowledge on the technolo-
gies to manipulate gametes and embryos. Through this
lecture, the students can acquire the physiological character
of various somatic cells, the origin and the development
of gametes and the principle of cell and genome biotechnologies.
In addition, the student can experience in the peer skills
in the area of cell and developmental biotechnologies.

5252.303A 동물유전정보학 및 실험 3-2-2
Bioinformatics and Genomics of Animal & Lab.

본 과목은 실험 데이터를 모아 놓은 데이터베이스 및 데이터의
해독에 필요한 프로그램에 대한 수수로 바른 해독으로 인한 및
동물의 생물체네트워크 연구를 바탕으로 생명공학을 이해하는
학문이다. 따라서 본 과목에서는 유전자 표현자인식을 이용한 동물분자

육종, 사람의 유전정보를 바탕으로 동물의 증가 비율, 가정 비율, 단일 염기다형(SNP)의 해독기술, 특정 염색체영역에 있는 유전자 및 질병의 검출 및 Lab informatics 등에 대하여 강의한다.

In this course, students will study the management, analysis, and interpretation of massive amounts of data obtained from experiments on genomics and life phenomena based on the sequence of nucleotide pairs in humans and animals. The topics will cover these areas: the molecular breeding of animals using genetic markers; comparative genome mapping; topics will cover these areas: the molecular breeding of animals using genetic markers; comparative genome mapping; the sequence of nucleotide pairs in humans and animals. The purpose of this course is to understand industrial utility of microorganisms, human/animal microbiome, and microbe-host interactions, based on the basic knowledge. Furthermore, this course will offer students to learn not only the basic microbiological methods for laboratory and industrial microorganisms but also microbiological technologies applied to the related animal industry.

5252.304 동물유전공학 및 실험 3-2-2
Animal Genetic Engineering and Lab.

이 과목에서는 동물유전공학의 기본적인 범과 응용적인 범에 대하여 소개할 예정이다. 예를 들어 분자생물학기법의 기본이 되는 염기조합, 유전자 클로닝, PCR 기법, blotting 기법 등을 소개하고 응용적인 범에는 동물생물학과 학문적 측면에서 현재 생명공학의 접근방법과 응용에 대하여 과장 중에 소개할 예정이다.

This course will provide basic and applied aspects of Animal Biotechnology. This will include basic Molecular Biology such as restriction enzymes, gene cloning, PCR, blotting, etc. Also, the concepts and applications of current Biotechnology to Animal Science and industry will be dealt with during the course.

5252.305 동물자원과학실습 3-2-2
Animal Science and Technology and Lab.

본 과목은 식품·동물생명공학부에서 동물생명공학을 전공하는 학생들에게 전통동물뿐만 아니라 실험동물을 대상으로 동물의 생 산, 사망, 관리, 환경, 임기조합, 경제동물과의 관계를 이해하는 기초적인 기법을 이용한 발효과정의 조절, 다양한 연구용 및 산업용 미생물의 종과 이들의 배양법/복싱/숙주의 관계 등에 대해서 실습하고 관련 동물산업에 응용할 수 있는 미생물 활용에 대한 개념 및 과정을 익힌다.

In this course, students will acquire basic knowledge of biology of microorganisms by learning molecular biological characteristics of microorganisms as well as their microbial identification, genetic features, metabolism and growth. The purpose of this course is to understand industrial utility of microorganisms, human/animal microbiome, and microbe-host interactions, based on the basic knowledge. Furthermore, this course will offer students to learn not only the basic microbiological methods for laboratory and industrial microorganisms but also microbiological technologies applied to the related animal industry.

5252.306 동물생명공학실습 3-2-2
Animal Biotechnology Lab.

동물생명공학 분야에서 기본적으로 다루어야 할 유전자정보분석 기술, 세조합 DNA기술, 세포배양기술, 수정한 배양 및 조작기술 등을 체계적으로 실행할 수 있도록 과목에 대한 이해를 높이고자 한다. 본 과목은 동물생명공학분야에서 공통적으로 필요한 실험기법을 학생들에게 교육함으로써 생명공학 전반에 대한 이해를 심화시키기 위하여 개설되었으며 기존의 동물세포배양을 확대하여 강의를 진행한다.

To better understand related classes Animal Biotechnology Lab introduces systematically fundamental aspects of lab skills such as animal bioinformatics, recombinant DNA technology, cell culture techniques, and embryo culture & manipulation techniques. This lecture is programmed for understanding basic techniques in the field of animal biotechnology.

5252.307A 동물번식학 및 실험 3-2-2
Animal Reproduction and Lab.

동물번식학은 동물이 생식세포를 통하여 번식하는 과정을 연구하는 기초학문이다. 본 과정에서는 번식생물학 기법의 기초생물학 기법을 학습하고 생명공학의 기본적인 기법을 익힌다. 폐경 및 발정기, 수정과 배 생산, 페스던 및 배 생산을 소개할 예정이다. 또한 번식생물학을 이용한 기법으로 반려동물의 생식으로 인공수정, 수정과 배 생산, 폐경 및 발정 기법 등을 소개할 것이다.

Reproductive Physiology is the basics of how animals can reproduce through gametes. In this class, the basics of reproduction, such as basic anatomy, endocrinology and gamete biology will be discussed. Also, the physiology of sexual maturation, estrus cycle, fertilization, development, pregnancy and implantation will be covered and applied to reproductive technology, such as artificial insemination, embryo transfer, gamete manipulation and cure.

5252.308A 동물이화생물학 및 실험 3-2-2
Animal Microbiology and Lab.

본 과목은 미생물의 분류와 유전특성, 미생물 대사 및 성장을 비롯하여 이들의 분자생물학적 특성과 같은 미생물학의 절반적인 이해를 돕기 위한 강의이다. 강의 후반부에서는 미생물의 산업적 활용과 함께 인체/동물 만약 및 미생물-숙주의 상호작용에 대한 기본적인 생물학적 이해를 돕기 위한 강의이다.

In this course, students will acquire basic knowledge of biology of microorganisms by learning molecular biological characteristics of microorganisms as well as their microbial identification, genetic features, metabolism and growth. The purpose of this course is to understand industrial utility of microorganisms, human/animal microbiome, and microbe-host interactions, based on the basic knowledge. Furthermore, this course will offer students to learn not only the basic microbiological methods for laboratory and industrial microorganisms but also microbiological technologies applied to the related animal industry.

5252.309A 반추동물영양학 및 실험 3-2-2
Ruminant Nutrition and Lab.

반추동물영양학은 미생식 및 충실한 반추동물에 있어 영양소의 소화, 흡수, 대사, 배설에 관련된 기초개념을 다루는 과목으로서 다양한 성숙 및 생리 단계별로 그 특성을 비교한다. 또한 소화와 적응 관계에 있는 반추위내 발효과정의 이해, 전통적, 현대적 기법을 이용한 발효과정의 조절, 동물생식성함을 이용한 미생물균군에 대한 이해 등을 통해 반추동물에 있어 소화학적 환경에 관한 다양한 접근방법을 탐색한다. 사료실험, 제제대사, 환경과의 상관관계, 대사능성 등에 대한 이해를 통해 반추동물생산에 영향하는 요인을 분석할 수 있는 가로관의 주요 내용이다.

Ruminant nutrition and physiology deal with the basic concepts of the digestion, absorption, metabolism, and excretion of nutrients in various production stages of both pre-ruminant and adult ruminant animals for efficient ruminant production. Major topics covered are digestive organs, microbial fermentation; manipulation through conventional and
동물면역학 및 실험 3-2-2

Animals Immunology and Lab.

동물과 관련하는 기관에 참여하는 기관, 세포, 분자들의 특성을 중심으로 면역시스템의 전반적인 내용을 다루고자 한다. 면역에 대한 기본적인 원리를 바탕으로 근본적으로 질병에 대응하는 면역작용과 숙주 보호 기전에 대해 이해시키고자 한다. 본 강좌에서는 항원/항체, 보체, 주 조직 적합 복합체, 항원세포, B 세포와 T 세포 수용체, 항체의 형성과 반응, 세포면역, 세포간의 작용, 면역 반응의 조절을 분자 및 세포수준에서 설명하고자 한다. 수강생들은 본 강좌를 통해 면역학에 대한 새로운 식별법을 익히고 면역학의 기초를 알면 이들에 응용 범위, 즉, 면역체어, 백신, 면역 치료, 자가면역에 대한 이해도를 높일 수 있을 것이다. 본 과목을 수강할 수는 생체학, 분자생물학, 세포생물학, 유전자공학을 미리 이해할 것을 권장한다. 본 강좌는 영어강의로 진행된다.

전반적인 내용을 다루고자 한다. 본 강좌에서는 현재 면역학의 기본원리와 스케일을 담은 이론적 이해를 제공하며, 이에 바탕으로 전반적으로 생물체의 면역작용을 이해하고 이해하는 것이 전반적인 내용을 다루고자 한다. 본 강좌에서는 전반적으로 면역체계의 주요 기관, 세포, 분자들의 특성을 중심으로 면역시스템의 전반적인 내용을 다루고자 한다. 면역에 대한 기본적인 원리를 바탕으로 근본적으로 질병에 대응하는 면역작용과 숙주 보호 기전에 대해 이해시키고자 한다. 본 강좌에서는 항원/항체, 보체, 주 조직 적합 복합체, 항원세포, B 세포와 T 세포 수용체, 항체의 형성과 반응, 세포면역, 세포간의 작용, 면역 반응의 조절을 분자 및 세포수준에서 설명하고자 한다. 수강생들은 본 강좌를 통해 면역학에 대한 새로운 식별법을 익히고 면역학의 기초를 알면 이들에 응용 범위, 즉, 면역체어, 백신, 면역 치료, 자가면역에 대한 이해도를 높일 수 있을 것이다. 본 강좌는 영어강의로 진행된다.

동물성장발달학 및 실험 3-2-2

Animal Growth/Development and Lab.

동물의 형질전환학은 기초 생명학의 고유로는 응용에 가까운 연구 방법을 제공해 준다. 본 과목에서는 형질전환 혈구 변형을 위한 기초로 기초 분자생물학 기법, 조기발생 및 세포생물학에 바탕으로 강의하기에 보다 구체적이고 세포생물학의 기초를 제공하기 위한 기본법으로 전핵주입법, 핵이식 기법 및 유전자 적합과 배아의 기능을 이용한 기법들에 대하여 자세히 소개하고 강의 후반기에서는 이러한 방법들이 생명학과 농업 및 산업분야로의 응용에 대하여 다루기 예정이다.

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동물 실험기법을 익히고 면역학의 기초뿐 아니라 이들에 응용 범위, 즉, 면역체어, 백신, 면역 치료, 자가면역에 대한 이해도를 높일 수 있을 것이다. 본 과목은 단계적으로 수강생들은 본 강좌를 통해 면역학에 대한 새로운 식별법을 익히고 면역학의 기초를 알면 이들에 응용 범위, 즉, 면역체어, 백신, 면역 치료, 자가면역에 대한 이해도를 높일 수 있을 것이다. 본 강좌는 영어강의로 진행된다.

동물성장발달학 및 실험 3-2-2

Animal Growth/Development and Lab.

본 과목은 경제동물뿐만 아니라 모델동물의 내분비학을 분자수준에서 설명하고자 한다. 동물성장발달학 및 실험 3-2-2

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Animal Growth/Development and Lab.
Domestic Animal Production and Practice

This course offers an overview of breeding, feeding, management and features of farm animals based on industrial aspects. The course deals with three types of domestic animals: poultry, small animals and large animals. In the first part, students will study and practice breed improvement, breeding, facilities and management of poultry. The contents of the second part is the breeding, reproduction, feeding, management and disease control of pigs, sheep and goat. At the end, students are expected to have a basic understanding of genetics and statistics.
This lecture is a team teaching of the lectures working in the fields of agriculture and life sciences, and medical sciences.

**M1702.000300**

Introduction to diseases of production animals

The concept of “Probiotics” that can be applied on the entire field of animal industry including animal production, animal environment, and animal-originated foods. Especially, the purpose of this course also covers the interaction between host and microbiome in animal and human health with new concept of animal welfare in eco-friendly animal industry. Therefore, students can understand the importance and application of microorganisms including probiotics in animal industry.

**M1702.000400**

Research on Animal Biotechnology

This course deals with fundamental knowledge and concept of “Probiotics” that can be applied on the entire field of animal industry, including animal production, animal environment, and animal-originated foods. Especially, the purpose of this course also covers the interaction between host and microbiome in animal and human health with new concept of animal welfare in eco-friendly animal industry. Therefore, students can understand the importance and application of microorganisms including probiotics in animal industry.

**M1702.000500**

Animal Industry and Probiotics

This course deals with fundamental knowledge and concept of “Probiotics” that can be applied on the entire field of animal industry, including animal production, animal environment, and animal-originated foods. Especially, the purpose of this course also covers the interaction between host and microbiome in animal and human health with new concept of animal welfare in eco-friendly animal industry. Therefore, students can understand the importance and application of microorganisms including probiotics in animal industry.

**M1702.000600**

Total Quality Management and Ethics of Animal Products

This course deals with fundamental knowledge and concept of “Probiotics” that can be applied on the entire field of animal industry, including animal production, animal environment, and animal-originated foods. Especially, the purpose of this course also covers the interaction between host and microbiome in animal and human health with new concept of animal welfare in eco-friendly animal industry. Therefore, students can understand the importance and application of microorganisms including probiotics in animal industry.
to animal science and biotechnology research. This class is intended to provide an understanding of the synthesis and response of DNA and RNA that make up the genes, and the chemical principles of recombinant DNA technology altering genetic material outside an organism to obtain enhanced and desired characteristics in living cells and organisms. By learning the enzyme reactions and related technology, metabolism and utilization of proteins, carbohydrates and lipids, students are expected to understand the operating principles of live animals and animal-derived products.

M1702.001100 동물생화학 2 3-3-0

Animal Biochemistry 2

동물생화학 2는 생명체의 조성 및 생명체 내 물질간의 반응 등을 화학적 방법으로 이해하고 생명체의 물질대사 및 이에 따른 에너지 생성에 이르기까지 이론적인 부분을 습득한다. 또한, 미생물, 동물세포 및 동물체의 에너지 대사, 소화흡수 기전 및 가공에 관련된 생화학적 현상을 학습하고자 한다.

This course is a lecture to teach biochemical metabolism mainly for protein, lipid, and carbohydrates, and generation of ATP from the metabolites by the electron transport chain together with biosynthesis of carbohydrate and amino acid, digestion and absorption. Therefore, this class is intended to provide an overview of the key concepts of biochemical process and metabolism in the live animal, animal food, and animal biotechnological resources.

M1702.001300 면역과 질병 관련 최근 사회변화 이슈 3-3-0

Emerging issues affecting changes of society by immunology and infectious diseases

본 과목은 학부 학생들을 대상으로 하며, 최근 동물생명공학분야 중에서 특히 화두가 되는 면역 및 단백질 공학이 사회에 미치는 이슈들을 다루고자 한다. 전공 필수 교과목들을 이해하기 전 또는 이수 후 학생들은 현실적인 문제들에 대해서 고민을 하게 되므로 본 과목은 보다 실용적이고 이슈 중심의 학습을 제공하고자 한다. 본 강좌를 통해 새로운 및 또는 사회적으로 주목 받고 있는 이슈들, 특히 미생물, 병원균-주주 반응, 백신 등과 같은 면역 및 단백질 공학 분야와 관련된 뉴스, 기사, 논문 및 보고서들을 활용하고 학생들이 사회에 진출하여 부딪히게 될 문제(질)들을 정리하면서 답을 찾기 위해 서로 논의하는 것을 목표로 한다.

이 강의는 면역 및 단백질 공학 분야 전반에 대한 이해도를 높이기 위하여 선정된 주제를 수업 전에 미리 학습한 후 강의시간에는 이를 소그룹 토의 또는 개의 및 그룹별 발표를 통해 수업 효 과를 극대화하고자 한다. 이러한 토론의 장은 전공과 관련하여 앞으로 다가올 주요 문제들에 대한 인식과 그 해결 방법에 대한 이해를 넓히고자하며, 전공의 미래 발전에 긍정적인 전망을 제시할 수 있을 것으로 사료된다.

This course, for undergraduate students, is intended to deal with the issues of immunology and protein engineering, which are recent hot topics of animal biotechnology that affects the society. Before or after completing the required courses in the major, students often concern about realistic problems, and therefore the present course aims to provide more practical and issue-based learning. This course will take advantage of dealing with new and/or socially-focused issues, especially by utilizing news, articles, papers and reports in the field of immunology and protein engineering. The subject include, not exclusively though, microorganisms, pathogen-host reactions, vaccines, etc. The purpose of this class is to discuss the issues and find answers-to-be to each issue of which students will likely face as they enter the society.

Furthermore, this lecture aims to maximize the effectiveness of the lessons through small group discussion or (individual and group) presentations during the lecture hours after the pre-learning of selected topics in order to improve understanding of the overall field of immunology and protein engineering. Such discussion is intended to broaden students’ understanding of major issues that will come up in the future and how to solve them, and therefore to provide them a positive outlook for the future development of the major.
바이오시스템공학전공(Biosystems Engineering Major)

5261.221* 생물재료학 3-3-0

Material Engineering for Biological Application

이 과목은 식물재배, 동물, 또는 생명재료와 같은 재료의 기초적인 특성, 재료의 물리적 특성, 동력과 열전달, 압축, 비틀림, 물체 내부응력과 평형, 처짐, 모아원(Mohr’s circle)과 같은 재료학 기반과의 개념을 다루며 이를 응용하기 위한 기초 능력을 배양한다.

This course provides basic material engineering knowledge for managing and processing animal, plant and other biological material. This course deals with structural characteristics of bio products and materials as well as basic engineering concepts such as physical properties of material, strain and stress, axial deformation and torsion, stresses in object and its equilibrium, deflections of object, Mohr’s circle and stress analysis, virtual work etc.

5261.222 동력학 3-3-0

Dynamics

이 과목은 정체, 강체, 운동, 혼, 일, 역력, 운동량 등 동력학의 기본 개념을 다룬다. 정체와 강체의 평면 및 공간 운동에 대한 기본원리를 소개하고, 뉴턴의 제2법칙, 일력, 역력, 운동량의 원리를 적용하여 정체 운동과 강체에 이를 응용한 운동방정식의 유도 과정을 다룬다.

This course treats basic concepts of Engineering Dynamics including vectors, particles, rigid bodies, forces, works, impulses and momentums. It introduces plane and space motions of particle and rigid bodies, their force-motion relations, and derivation of equations of motions using principles involving Newton’s Law of Motions, work, energy, and impulse and momentum.

5261.223C 생체분자기전 3-3-0

Introduction to Biomolecules

이 과목은 생명체 바이오시스템 공학 전공에서 대상으로 하는 생명자료, 농축산 식품 및 동물 시스템의 주요 구성 요소에 대한 화학적 및 물리화학적 특성을 개략적으로 소개하고, 이를 통하여 공학적 활용을 위한 생물 시스템에 대한 이해를 증진시키는데 일차적인 목표를 두고 있다. 주요 생체 구성 물질인 단백질, 탄수화물, 염소, 핵산을 중심으로 하여 화학적 구조와 다양한 유도식, 운동 사례 등을 다룬다.

This class primarily focuses on the chemical structure and physicochemical properties of biological substances composing plant and animal systems that are objectives in Biosystems Engineering Major. Through the lecture, students are expected to understand better the biological systems and their applications. Topics cover major biological components such as protein, carbohydrates, lipids, and nucleic acids with their structure, various derivatives, and industrial applications.

5261.226* 유체역학 및 기계 3-3-0

Fluid Mechanics and Machinery

이 과목은 바이오시스템공학전공에서 필요한 유체역학의 기초만을 선정하고 이를 응용하기 위한 기초를 제공하기 위한 것이다. 유체의 종류와 특성, 유체내의 압력분포, 운동량보존, 에너지보존, 차원해석, 관통 운동에서의 압력강하, 잠긴 물체에서의 압력, 압축성 유동과 같은 기초적인 유체역학 개념을 소개하며 이에 기초하여 유체 운전기의 원리, 퍼즐, 승공기, 공기압축기의 작동원리와 설계에 관한 이론을 소개한다.

This course provides basic fluid mechanics and its application for biosystem engineering. Topics of this course are fluids and their properties, pressure distribution in fluid, conservation of energy and momentum, viscous flow in duct and tube and pressure drop, drag and lift in immersed objects, and compressible flow. Based on the basic concept, this course also introduces principles and design of fluid measurement devices, pumps, fans, air compressors etc.

5261.228* 바이오열역학 3-3-0

Bio-thermodynamics

열과 일, 에너지에 대한 기초 개념을 이해하고 열에너지의 이용에 대한 이해를 국대화를 위한 열역학 시스템의 공학적 설계능력과 성능분석을 위한 기초과학 이론을 습득하고, 이를 농산물 저장, 건조, 운송, 콜드-체인 등에 적용하고, 생명공학이나 폐기물, 자연환경 에너지의 분산, 폐기물 처리 등에 적용하는 능력을 배양한다.

Concepts of work, energy and heat, basic engineering technology related to thermal system are covered. Applications are focused on environmental energy equilibrium, and measurement coupled with thermodynamics of enzyme-catalyzed reactions and metabolism. Engineering design concepts for storage, drying, transportation, and cold-chains of agricultural and animal products, biological food resources, and waste treatment are introduced.

5261.321 생체열·물질전달 3-3-0

Heat and Mass Transfer in Bioproducts

농산물 및 식물성 재료를 비롯한 생명체 내에서 일어나는 열전달과 물질전달을 다루는 과목으로, 열전달과 물질전달에 필요한 전도, 대류, 복사, 확산, 분리의 기초지식을 이해하고 이에 바탕을 두고, 생물체 내에서의 열전달과 물질전달의 원리와 방법을 배우고, 원리와 방법을 이해하고 식물체나 동물체의 생물체 내에서의 열전달과 물질전달을 이해한다.

This course deals with heat and mass transport phenomena in Bioproducts. Topics are theories on conduction, convection, radiation, diffusion, and separation as well as applications to various bio-process, such as heating, sterilization, drying, and distillation. Also, bio-transport phenomena in Bioproducts such as seeds, plants, animals, tissues or cells are covered.

5261.322* 전기전자학 및 설계 3-2-2

Application of Electrical and Electronics Engineering and Lab.

전기전자공학의 기초인 직류 및 교류의 회로 분석, 반도체, 다이오드, 트랜지스터(BJT, MOSFET), 주파수차단, Op-Amp 등의 기초학적 및 PSpice를 이용한 전기전자회로 분석기법을 습득하여, 농업생물시스템의 제어, 계측, 자동화 및 자동화, 기기분석에 필요 한 전기시스템의 이해, 전기전자회로 설계, 구성 및 적용능력을 배양하는 것을 목표로 한다.

Theories, principles and characteristics of DC circuit, AC circuit, semiconductor, diode, transistor, and OP-amp are covered. Experimental practices are emphasized for practical applications in agriculture. Circuit analysis using PSpice is...
conducted and compared with real circuits. Engineering ideas for instrumentamation and control of agricultural and biosystems are strongly based on this class.

5261.323 생체물성공학 및 실험 3-2-2

Engineering Properties of Bioproducts and Lab.

This course deals with the various kinds of agricultural and biosystems control, transfer function, mathematical modeling, block diagram and signal-flow-graph, root-locus technique, stability of linear control system, and frequency domain analysis. Based on the control theories, this course provides basic design technique for control systems of agricultural machinery, modeling and optimal control of bioprocess systems through practice and laboratories.

5261.328A 농업기계분석과 설계 3-2-2

Analysis and Design of Agricultural Machinery

This course addresses engineering principles and design of agricultural machinery. Specific topics will include tillage, pumping, spraying, granule metering, conveying bulky independent material, and cutting/threshing/mixing of bio-materials.

5261.329 정밀농업시스템공학 3-3-0

Precision Agriculture System Technology

This course deals with various information technologies (ITs) primarily used in precision agriculture and biosystems automation, including the global positioning system(GPS), geographic information system(GIS), and variable rate applicators(VRA), as well as statistical methods, such as regression analysis and analysis of variance(ANOVA), used to effectively analyze data on biosystems samples. Students are expected to enhance their practical abilities in biosystems IT and data analysis by actually taking biosystems samples and analyzing them.

5261.330 기계요소설계학 3-3-0

Design of Machine Elements

This course deals with the various kinds of agricultural power sources, the components/thermodynamics/principles of operation, and performance and tests of internal combustion engines. We will also study the components, traction theory and performance, and testing of agricultural tractors.
This course covers the basic principles and theories necessary for machine design including material failure, material strength, stress and strain, safety factor, design stress, etc. by applications of mathematics, engineering mechanics, mechanics of deformable bodies and material science. It also treats the methods of design and selection of important machine elements including threads, screws, bolts, nuts, keys, pins, shafts, bearings, gears, brakes, clutches, couplings, belts, chains, and welds.

5261.402
Biosensors, Bio-instrumentation and Lab.

5261.423
Microprocessor Application

5261.424
Post-Harvest Process Engineering and Lab.

5261.425
Bioenvironment System Design

5261.427
Practice in Biosystems Engineering

5261.429
Biomechanics and Lab.
real-world applications in biomedical engineering field. Also, objective measuring tools, such as kinematic analysis and electromyography are covered. Engineering mechanics, fluid mechanics, and biology related courses are prerequisites.

5261.430 Seminar in Biosystems Engineering

This course provides information of industries status and current technologies in biosystems engineering to students and gives students chances of discussing their interests and questions with the invited experts in various biosystems engineering. This course aims to help students to understand real situations of our society and industries and to make decision in their own future plan; studying further in graduate schools or finding a job opportunities.

5262.278* Introduction to Biomolecular Engineering

Introduction to Biomolecular Engineering

This course provides the professional knowledge of the mechanics of biomaterials. The fundamentals would be the same as common "mechanics of materials" courses. However, the focus will be on biomaterials more specifically. Biomaterials include of cotton, silk and wool And also some general purpose synthetic polymers such as nylon, polyester and acrylic will be discussed.

5262.280A* Mechanics of Biomaterials

Mechanics of Biomaterials

This course is focused on the chemical, morphology-structural properties and characteristics of biomaterials. Natural materials have been applied for a variety of areas including biomedical application, drug delivery, food and cosmetics. In addition, it is understood to be an strategic area in future biotechnology. This course covers a comprehensive contents from the physical, chemical, mechanical properties, manufacturing procedure and applications of a variety of biomaterials which can be obtained from the nature as well as synthetic biomaterials.

5262.364A* Polymer Materials and Processes

Polymer Materials and Processes

This course provides the professional knowledge of the processing from the raw materials to products and applications based on the principles of fiber and polymer materials science. First, the structural characteristics of fibrous polymer materials(microscopic, morphological, fine structure) are given in the lecture for the structure-property relationship. Second, the physical and chemical structure, chemical reaction, property and application of fiber materials are covered for natural polymeric fibers (cotton, flax, wool and silk) and synthetic
polymeric fibers (nylon, polyester etc.).

**5262.365** 고분자화학 1 3-3-0

**Polymer Chemistry 1**

The students will discuss the radical and ionic polymerization mechanism of vinyl polymers as well as practical uses and new application fields.

**5262.366** 고분자화학 2 3-3-0

**Polymer Chemistry 2**

In this continuation of <Polymer Chemistry 1>, students will explain the step and ring-opening polymerization of non-vinyl polymers. Topics will cover synthesis mechanism and the application of principal materials such as polyester, poly-ester, and polyamide as well as the synthesis procedure of thermosetting materials such as phenol, urea, and melamin. Also studied will be natural and other polymers.

**5262.377** 바이오소재실험 1 2-0-4

**Biomaterials Lab. 1**

This is an undergraduate lab. course of Fiber and Polymer Materials and Properties of Biomaterials. The experiments are carried out on achieving the general knowledge of fibers, such as tensile strength, tearing strength and elasticity. Synthesis, structural characteristics, properties and functionalities of protein-based materials would also carried out in this course. Students are evaluated based on the report of experimental results.

**5262.378** 바이오소재실험 2 2-0-4

**Biomaterials Lab. 2**

This is an undergraduate lab. course of Fiber and Polymer Physics and Polymeric Protein-Based Materials. The experiments are carried out on achieving the general knowledge of physical properties of fibers, such as tensile strength, tearing strength and elasticity. Synthesis, structural characteristics, properties and functionalities of protein-based materials would also carried out in this course. Students are evaluated based on the report of experimental results.
be defined. Chemical structure, microstructure, macrostructure of polymeric materials will be introduced. Dealt in this course will be tensile properties, fiber length variation and weak-link effect, elastic recovery, viscoelastic properties of polymeric materials. Mechanical models and some theories will be introduced to discuss the physical properties with experimental data collected.

5262.382* 생체재료설계기초 및 실습 3-2-2
Fundamentals in Biomaterials Design and Lab.

To develop a novel biomaterials, it is necessary to understand the basic requirements in each applications. In this course, the students will gain fundamental knowledges on the specific requirements in each applications. There are two main applications of biomaterials; biodegradable and bio-compatible materials. This course will provide basic mechanisms of biodegradation and biocompatibility, and how to incorporate such properties into materials.

5262.470* 기능성바이오소재 3-3-0
Functional Biomaterials

기능성바이오소재는 일반 바이오소재에 기능성을 부여하여 특정 목적에 적합한 기능과 성능을 갖도록 설계된 소재이다. 본 강의에서는 용도별 특성과 요구하는 성능을 파악하고 이를 바탕으로 현재 다양한 용도로 사용되는 기능성 바이오소재에 대하여 살펴보고자 한다. 구체적으로는 고분자 생체재료, 금속생체재료, 바이오세라믹, 탄소노즐브 복합재료, 조직공학 및 약물전달용 고분자 나노의약품, 통합사, 인공관부, 바이오세라믹, 인공혈관, 의료용 접착제 등이다.

Functional biomaterials are modified biomaterials possessing proper functions for specific applications. In this lecture, various functional biomaterials and their properties and performance by use are explained. They contain polymeric biomaterials, metallic biomaterials, bioceramics, carbon nanotube composites, biomaterials for tissue engineering and drug delivery systems, sutures, artificial skins, biosensors, vascular grafts, and bioadhesives.

5262.472* 생체고분자합성 3-3-0
Synthesis of Biopolymers

생체 내에 존재하는 다양한 구조의 proteins, polysaccharides, nucleic acids 또는 polymers와 같은 생체고분자의 기본적인 특성과 실제 합성 과정에 적용되는 반응을 이해할 수 있도록 한다. 또한 이러한 생체고분자의 각종 산업 및 의학적 응용 분야에 대해서도 알아보고자 한다.

Basic properties and bio/chemical reactions for synthesis of biopolymers with diverse structures such as proteins, polysaccharides, nucleic acids, or polymers would be explained. Application fields of the biopolymers to various industries and medicine would also be lectured.
조경학전공(Landscape Architecture Major)

5271.211A  조경도로잉 매체 3-1-4

Landscape Drawing and Media

이 스튜디오에서는 조경설계의 바탕이 되는 기본적인 드로잉 테크닉을 연습할 뿐만 아니라 다양한 주제의 단기 프로젝트를 통해 경관 표현 및 재현 매체를 식별한다. 전통적인 드로잉뿐만 아니라 아더에 그래프, 폼프, 콜라주 등과 같은 최근의 복합적·통합적 매체를 비롯한 다양한 매체를 다룬다.

This studio aims to develop fundamental drawing techniques for landscape design. It also experiments media for representation through various short-term projects. The studio focuses not only on traditional drawing but also the emerging integrated media such as diagram, mapping, collage and montage.

5271.212A*  조경식물재료학 3-3-0

Landscape Plant Materials

이 과목에서는 다음과 같은 내용에 대한 이해 및 기술을 강의 및 학습관련에 대해 습득한다.
(1) 식물의 일, 줄기, 잎, 꽃, 조소, 수피, 전체적 특성 등에 의한 주요 조경 식물의 심비학적
(2) 조경설계의 적용과 조경 식물의 생태적 역할
(3) 특권 조경에 대한 조석 식물의 이용에 관한 중요자생 및
(4) 조경시물 묘료와 조경 식물의 생태적 특성 및 환경적 응용에 대한 기초적 지식
(5) 조경에서 식물과 나무 이용에 대한 관계 및 실험에 대한 실험적 지식
(6) 문헌 및 조선지식의 한 주요 조경 식물의 식별방법을 읽는 능력

Students will develop understanding and skill in the following areas through lectures and field observations:
(1) Identification of selected landscape plant species on the basis of leaf, stem, fruit, flower, dormant twig, bark and whole plant characteristics.
(2) Ecological roles of selected plants in cultivated landscape environments.
(3) Basic knowledge of ornamental characteristics and environmental adaptability of important native and introduced plant species relating to their use in specific landscape situations.
(4) Correct usage of scientific names and terminology to describe plant taxa.
(5) Develop a working knowledge of potential limitations and hazards associated with the use of certain plant species in the landscape.
(6) Ability to obtain cultural and descriptive information on plant materials from literature and human resources.

5271.213*  조경컴퓨터그래픽 3-1-4

Computer Graphics for Landscape Architecture

조경설계를 위한 컴퓨터그래픽을 기초로한, 하드웨어 및 소프트웨어에 분야로 나누어 학습하며, CAD소프트웨어를 활용한 2D와 3D 모델링, 설계, 분석기법 등을 학습한다. 수업은 주로 실습과 과제를 통해 이루어지며 OS, 워드프로세스 등 컴퓨터에 대한 기본지식이 요구된다.

This course introduces students to the use of computer

Programs in landscape architecture. It emphasizes on understanding and use of charting, two-and-three-dimensional computer-aided drafting and design technology for executing landscape design development, evaluation, and presentation tasks.

5271.214A*  공간디자인 3-1-4

Space Design

환경설계를 위한 기초로서 공간디자인의 요소, 원리, 과정 등을 학습한다. 일반의 공간디자인 프로젝트 심을 통하여 이론과 기법을 익히며, 창의력과 기술의 개발에 초점을 맞춘다.

The elements, principles, and processes of spatial design as a foundation for environmental design. Emphasis is on the development of creativity and skills through the application of theory and techniques in a series of spatial design projects.

5271.215  조경재료 및 시공 3-2-2

Landscape Materials and Construction

포장, 비행장, 바닥, 계수시설, 가로시설물(벤치, 휴지함, 안내 표지, 조명기기 등), 수경시설, 환경조조 등 조경시설물의 특성적 표현요소 및 구성기법과 사항에 대한 이론과 실습을 발전한다.

Landscape materials for paving, cut or fill slope stabilization, drainage and irrigation, street furniture (bench, litter bin, sign, lighting fixture, etc.) water features, sculptures and so on are studied for creative and innovative designs of landscape structures.

5271.221B*  GIS와 계량분석 실습 3-2-2

Practice of GIS and Quantitative Analysis

본 과목은 조경(환경)계획, 설계시 기초가 되는 GIS와 계량분석 방법을 이해하고 습득하는 것을 목표로 한다. 본 강좌의 내용은 크게 두 부분으로 나누어진다. 첫째 부분은 GIS에 대한 기본적 내용을 포함한다. GIS에 대한 개념의 이해를 GIS를 이용한 지형분석, 적정성을 실습을 통해 방법을 익히고 습득하는 것이다. 둘째 부분은 계량분석으로 조경의 사회조사에 필요한 실문조사작성으로부터 기본통계요약까지 포함한다.

This class aims for students to comprehend Geographic Information System (GIS), which is the basic tool for landscape design, and the method of quantitative analysis. The first session is about GIS. It includes not only the basic concept of GIS but also the way to apply GIS to specific spatial analysis. Students can absorb it by actual practice of terrain and suitability analysis. The second session is about quantitative analysis which contains the basic statistical analysis. In this session, students can also learn how to write questionnaires needed for investigating people's growing awareness of landscape.

5271.224A*  조경공학 3-2-2

Landscape Engineering

조경계획과 설계에 필요한 공학적 기술사항의 기초 강의로, 설계, 경지조사 설계, 토석계측, 교통시설 설계, 지표 지하 배수시설, 기초구조물학, 목조재료 설계, 포장, 관수시설, 조경설계, 수경(수부) 설계, 소장재료 등。

Introduction to engineering techniques needed for landscape planning and design: site grading and earth works,
transportation and circulation design, site hydrology, storm water management and erosion control, the strength of materials, basic statics and mechanics, construction details of simple structures, landscape irrigation design, outdoor lighting design, design of pools and water features, and so on.

5271.225*  경관생태학 3-3-0

Landscape Ecology

The objective of this course is to discuss the scientific and analytical data production methods and principles required for successful landscape planning and design that harmonizes human beings and the surrounding nature as ecosystem elements. This course consists of two major parts. The first part covers the approaches and understandings to the landscape ecology. The various concepts and approaches in landscape ecology, and basic landscape ecological principles from the spatial unit of landscape to Biotope will be covered throughout the course. In the second part, various landscape ecosystems and the applications will be specifically discussed. Based upon the principles in ecological regional classification and regional landscape system, the landscapeecological application to rural and urban ecosystems will be discussed. Field studies and GIS/remote sensing studies are the integral part of this course to give a concrete and practical description of landscape ecology.

5271.226*  서양조경의 역사와 이론 3-3-0

History and Theories of Western Landscape Architecture

This course aims to explore cultural history of landscape architecture in the Western world to study mainstreams of landscape styles and to rediscover the historicity for contemporary landscape practice. It also explores critically some theoretical issues of landscape architecture and their design implications.

5271.227*  조경생태분석 3-3-2

Ecological Analysis in Landscape Studies

This course offers methods to measure environmental ecological factors, and skills to analyze collected data. Carbon, energy and water cycles in vegetation, soil, atmosphere and water body will be covered. Application of the environmental ecological analysis on the landscape planning and management will be discussed.

5271.311*  조경계획 3-1-4

Landscape Architectural Planning Studio

This course offers methods to measure environmental ecological factors, and skills to analyze collected data. Carbon, energy and water cycles in vegetation, soil, atmosphere and water body will be covered. Application of the environmental ecological analysis on the landscape planning and management will be discussed.

5271.312  식재설계 3-2-2

Planting Design

This course is a design studio for practicing the integrated environmental design techniques and newly-emerging ecological planting design methods, the ecology, environment conditions and habitat environment of trees are understood in depth and ecological planting design techniques are covered.

5271.313A  통합환경설계 3-1-4

Integrated Environmental Design

This course offers methods to measure environmental ecological factors, and skills to analyze collected data. Carbon, energy and water cycles in vegetation, soil, atmosphere and water body will be covered. Application of the environmental ecological analysis on the landscape planning and management will be discussed.
도시공간에서 공원을 바라보는 시각을 독립적으로 하기 위해 생태관련한 지식을 배우는 것을 주된 내용으로 다룬다. 이를 위해 기존의 도시공원설계의 문제점을 파악하고, 이를 해결하기 위한 방안을 새롭게 제시하는 기법들을 이용하여 제시하도록 한다. 특히 공원녹지의 관리성 확보를 위한 녹지내포트워크 계획과 녹지와 물환경과의 관련성 등을 종합적으로 학습하고, 이를 사례연구를 통해서 실제 적용해 보도록 한다.

The course aims to seek ecological techniques that widen perspectives on parks in urban area. To this end, problems in existing urban park green area are identified and ways to resolve them are presented utilizing newly emerging techniques.

한국조경의 역사와 이론 3-3-0

History and Theory of Oriental Landscape Architecture

이 과목에서는 동양조경의 이론 및 역사를 다룬다. 인류의 역사, 자연, 문화, 기후 등에 의한 조경의 역사적 인류학적 특성, 기후 등의 자연과 조성에 관한 연구에 중점을 두고 있으며, 이 과목은 한양대 강의 및 현장조사로 구성된다.

Students learn the history and theory of the landscape from its origins to present in the Eastern civilizations on relation to nature (physical environment, climate etc.) and culture (religion, arts, technology, etc.). The course attempts to establish how Oriental Landscape Architecture has arrived at its present state of evolution and also investigates how to apply the major thoughts to current and future landscape planning and design. The course comprises a series of lectures, each of which will be illustrated with slides, and field trips.

조경설계 1 3-1-4

Landscape Architectural Design Studio 1

본 과목은 조경설계과정과 그 기법을 한층 더 발전시키고 다자인접속의 관점에서 그 맥락을 이해하는 것을 목표로 하며 그 내용에는 랜드스케이프 개발과 다자인 관련 공작의 기법, 요소 그리고 재생의 형태를 구현하고 통합하는 원리와 개념적 전략, 그리고 이를 실제 조경설계에 적용하는 내용을 포함한다.

The course aims to further develop landscape design processes and skills and to undertake the application of design theory to design projects. The content includes development and designing Landscape; principles and conceptual strategies for organizing and articulating landscapes, surfaces, elements, and materials; and application to landscape design exercises.
architecture. It is focus on learning calculation method each process of landscape construction. The cost estimating of landscape architecture provides necessary knowledge to carrying out landscape architecture design as based on knowledge which learned lessons such as landscape architecture planning, landscape architecture design and landscape architecture construction. This course helps knowledge to apply the realistic design. The second part is on the management of landscape architecture. We study on the present condition and future prospect of landscape architecture, management of design office, professional ethics and relevant laws and we invite the landscape architects for discussing management of landscape architecture and how to apply knowledge in school.

M1707.000100 문화경관론 3-3-0
Cultural Landscape Theory

M1707.000400 졸업작품스튜디오 2 3-1-4
Graduation Work Studio 2

M1707.000500 조경 계량분석기법 3-3-0
Econometric Methods in Landscape Planning

While aesthetic and environmental functions have long been recognized as a central as well as a unique role of parks and open spaces, the lack of economic justification has always made them viewed as a secondary component of urban environment. The purpose of this course is to discuss basic level of statistical methods to quantitatively assess the influences of environments (natural or artificially created) to human life from multiple angles; physical and mental health, real estate values and retail revenue, etc. In this course, students will learn research methods from data collection, hypothesis testing, and basic econometric techniques from linear regression analysis to survival analysis. R software is used for practice.
Applied Engineering Mathematics 1

This course deals with mathematical principles, methods, and modeling. The aim of the course is to develop an awareness and an appreciation of the role of mathematics in engineering. The course includes ordinary differential equations, complex analysis, and numerical methods.

Applied Engineering Mathematics 2

This course covers frame modeling technique including 2D frame and 3D surface modeling. It also covers matrix methods. The topics in the course are design and drawing of rural systems components using computer aided design technique. The topics in the course are applied engineering mathematics 1 and 2.

Statics

This course introduces basic and advanced mathematics used in engineering. The aim of the course is to develop an awareness and an appreciation of the role of mathematics in engineering. This course deals with mathematical principles, methods, and modeling including ordinary differential equations, integral algebra and vector calculus, fourier analysis and partial differential equations, complex analysis, and numerical methods.

Computer Aided Design

This course introduces basic and advanced mathematics used in engineering. The aim of the course is to develop an awareness and an appreciation of the role of mathematics in engineering. This course deals with mathematical principles, methods, and modeling including ordinary differential equations, complex analysis, and numerical methods.

Computer Drawing for Rural Design

Computer Aided Design (CAD) is introduced in this course. The aim of the course is to develop a student's ability to creatively design structures.
for engineering problems, and using the Internet. After this class, each student should be able to create a simple or slightly complex software system with the program languages and related knowledge acquired through this semester.

M1708.000100

Water Treatment Engineering & Lab.

This course will provide the principles related to environmental pollution issues in rural environment, characteristics of water pollution, water quality analysis, and water treatment technology to undergraduate students major in the Rural Systems Engineering and to undergraduate students interested in environmental engineering. The topics covered in the course will include water pollution phenomenon, analytical methods for water quality, water regulations and laws, drinking water treatment techniques, wastewater treatment techniques, drinking water processes, and wastewater treatment processes.

5272.312* Applied Structural Analysis


This subject is application of engineering fundamentals to the selection and design of equipment and system to carry out production operations in rural system construction. It consists of introduction and overview of materials, agricultural construction resources, and field operations required for constructed facilities, critical path method and PERT scheduling techniques for construction management and scheduling networks, resource allocation leveling and optimization.

5272.325* Design of Rural Water Resources

This course will provide the principles related to environmental pollution issues in rural environment, characteristics of water pollution, water quality analysis, and water treatment technology to undergraduate students major in the Rural Systems Engineering and to undergraduate students interested in environmental engineering. The topics covered in the course will include water pollution phenomenon, analytical methods for water quality, water regulations and laws, drinking water treatment techniques, wastewater treatment techniques, drinking water processes, and wastewater treatment processes.
Based on the engineering techniques including rural water resources system components, planning and design of dam structures lectured in the rural water resources systems engineering class, practical design capability for rural water resources and dam structures through the term project will be implemented to develop the applicability as the rural water resources system engineers. Fundamental understanding on the “Rural Water Resources Systems Engineering” is essential for this class.

5272.415* 지역기반조성공학 및 설계 3-2-2

Rural Infra-Structure Engineering and Design

Rural Infra-Structure Engineering and Design

Introduction to analysis and design of sub-structures including field investigation, shallow foundation, mat foundation, retaining wall, pile, pier, and caisson, etc. Also, this course covers advanced techniques of ground, soft-ground improvement and soil-reinforcement method, etc., which are applied to rural infra-structure. Fundamental understandings on the engineering mathematics, soil mechanics and soil resources engineering are essential for this class.

5272.416* 지역시스템공학 2-2-0

Rural Systems Engineering

Rural Systems Engineering

This course concerns the conservation of natural resources based on the biological and engineering principles. The hydrological cycle, sediment and nutrient transport processes in rural and agricultural lands are to be covered exclusively. Engineering methods to estimate soil losses, sediment yields, and other nonpoint source (NPS) pollutants from fields and watersheds, and to reduce NPS loads are also discussed. Terracing, land drainage, agricultural management practices, and other viable alternatives to control NPS loading are explored. It also offers present state-of-the-arts in natural resources conservation projects such as land consolidation, reclamation, and agricultural and rural development projects. It consists of lecture and discussion, and project-based practices to help apply theories and principles to the design problems related to NPS pollution management.

5272.414* 생물환경조절공학 및 실습 3-2-2

Bio-Environment Control Engineering and Lab.

Bio-Environment Control Engineering and Lab.

This class, we deal with all the environmental factors and an outline for controlling management for complex designed systems related to environmental producing systems. We must keep in mind how well we can balance out the physical surroundings with bio-systems because it is important to be aware lots of matters connected with the subjects such as physics, biology, engineering methods and so on. Also various examples of applications are included in this class.
Based on the engineering techniques including rural system components, modeling and design of rural system structures lectured in the rural systems engineering class, practical design capability for rural system structures through the term project will be implemented to develop the applicability as the rural system engineers.

5272.423* 그린지역계획론 3-3-0
Green Rural Planning

This course will provide a basic theorem for rural planning. The topics covered in the course will include introduction of rural planning, evolution of rural planning, water supply and wastewater disposal planning, traffic and rural road planning, planning of rural key settlements, planning of natural resources for the utilization and protection in rural region, basic planning of rural and industrial developments in rural regions, activation planning.

5272.424* 농촌지리정보시스템 및 원격탐사 3-2-2
Rural Geographic Information Systems and Remote Sensing

This course will provide a basic theorem for rural planning. The topics covered in the course will include introduction of rural planning, evolution of rural planning, water supply and wastewater disposal planning, traffic and rural road planning, planning of rural key settlements, planning of natural resources for the utilization and protection in rural region, basic planning of rural and industrial developments in rural regions, activation planning.

M1708.000200* 지역시스템공학전공 학사논문연구 3-0-6
Undergraduate Research in Rural Systems Engineering

This course aims to provide the senior students with a chance of research in the laboratory in the areas of Aero-Environmental & Energy Engineering, Rural Water & ICT Convergence Engineering, Environmental Functional Materials & Water Treatment Engineering, Rural Water Resources Systems Engineering, Rural Infrastructure Engineering, Rural Environment Conservation Engineering, and Multiphysics Structure & Systems Engineering. The students learn experimental methods and knowledge necessary for independent and creative research in the laboratory. The students also choose the topic for undergraduate thesis, and perform the experiments under the guidance of a supervisor.

M1708.000300* 관개배수공학 및 실습 3-2-2
Irrigation and Drainage Engineering and Practices

This course will provide the principles necessary for the rural water resources management including description and design of irrigation systems to supply water in suitable time and quantity, and drainage system to remove overabundant water rapidly in rural water system. Rural water resources includes surface water and ground water that provides crop water requirements, industrial and municipal water needs. The topics covered in the course will include background of irrigation, soil-water-plant relationship, crop water requirements, irrigation efficiency, water resource and its facilities, drainage principles, collection facilities of drainage water, water managements in rural watershed.
The 21st century can be titled as ‘the century of the environment’, and now the global society is facing diverse environmental challenges including global climate change. Also, in the midst of uncertainty of the global economy, each nation is continuously seeking new driving forces of growth for job creation and improving quality of life. Hereupon, the concepts of green growth and fulfillment of green economy through sustainable development emerged as solutions to the current global environmental and economic challenges. This course aims for students to learn knowledge on concepts and strategies of green growth and thereby to develop green leadership through economic understanding of environmental and resource issues.

538.301 환경경영학 3-3-0

Environmental Management

This course is for understanding how the environment interacts with human society and the natural environment in a global age. We will first review the types of environmental degradation occurring to the planet. Then we will examine how society has been both producing and responding to-or sometimes attempting to solve-those problems. We can think of a wide variety of causal factors, from short-range thinking in the pursuit of profits, wage and production, through population growth, bureaucratic ritualism, power competition, unresponsive institutional, patriarchal domination, and cultural ideologies of nature-conquest. Against these, the curative factors include democratic systems which give voice to victims; well-designed governmental policies and industrial programs which solve problems; raising of eco-sensibility, the quality of life, and other species in the general public; environmental movement especially by focusing on the role of global civil society.

538.304 환경심리학 3-3-0

Environmental Psychology

This course is for understanding how the environment influences to human psychology. First of all, students will learn about basic psychological theories and methodology, the complex interactions in national and global environmental politics especially by focusing on the role of global civil society.
353.305 지구환경과 에너지문제 3-3-0

Global Environment and Energy Issues

본 강의는 다양한 지구환경문제와 에너지문제의 특성과 함께 이 두 문제 영역간의 연관성에 대해 살펴볼 것을 목적으로 한다. 기후변화와 산림변화, 지구온난화의 원인과 결과, 조기진단에 의한 해양 오염 등 다양한 지구 환경문제들은 에너지 생산과 운동, 소비와 연관되어 있기 때문에 지구환경문제의 해결은 에너지문제의 해결과 맞닿아 있다. 에너지문제는 과학기술적 차원을 통해서만 아니라 에너지문제를 둘러싼 국가간 관계에 대한 정치경제적 이해와 환경 및 산업사회와 에너지의 상호연계에 대한 이해를 통해 풀 수 있을 뿐만 아니라, 그 영향은 전반적인 사회 발전을 통해 국가간 이해관계를 구축한다.

353.306 기업과 사회적 책임 3-3-0

Sustainable Business Management

본 강의는 지속가능경영(或者其他의 개념)이라는 개념을 통해 기업의 윤리 경영, 사회적 책임, 환경 경영, 혁신 경영 및 창조 경영의 5가지 관련 주제에 대한 이론 및 기업 사례를 고찰할 것이다. 지속가능경영은 기업의 윤리 경영, 사회적 책임, 환경 경영, 혁신 경영 및 창조 경영의 5가지 관련 주제에 대한 이론 및 기업 사례를 고찰할 것이다.

358.307 환경경영과 지속성분석 3-3-0

Environmental Management and Sustainability Analysis

이 강의는 환경경영의 이론적 배경인 지속가능성에 대한 개념과 실용적 분석 방법론인 산업생태학 분석 도구를 가르치한다. 생명주기 분석기법(LCA)과 물질 흐름분석(MFA)의 분석기법을 배우며, 실해사를 통해 이론의 실제 적용 가능성을 경험할 수 있게 된다.

358.309 환경분석 및 계획 3-2-2

Environmental Analysis and Planning

자연과 환경에 대한 이해, 자연환경의 상황에 대한 파악에 따른 분석의 원리와 방법, 생태계 관리에 필요한 정보의 수집 및 분석, 그리고 환경관리를 위한 계획 수립 기법을 강의하고 실습을 통해 환경문제의 현상을 이해하고 해결 대안을 탐색할 수 있는 기초를 배우고자 한다.

This course aims at examining various theoretical researches and business cases regarding five topics related to business strategies including business ethics, social responsibilities, environmental management, and innovation management, based on a new Business paradigm, sustainable management. The course consists of lectures, guest speeches, and group activities in class. Although sustainable management is a new research subject, by taking this course, the participants can have more profound understanding of the established streams of the strategic management researches and, therefore, find a interesting subject for the future research. Moreover, the participants will be able to understand the concept of sustainable management and gain an insight into new research themes in strategic management as well as shifts in management practices. In addition, by studying how firms assure their competitiveness and sustainability through sustainable management as a response to change in stakeholders, shifts in the main purpose of firm existence, and business environmental changes, the students taking the course will have a concrete comprehension about transit process of business management paradigm.
and know-how of planning environmental management.

538.402 환경정책입문 3-3-0

Introduction to Environmental Policy

This course analyzes how environmental policy is like other policy realms – in terms of the general political, legal and social context in which it is designed and implemented; and, what sets it apart, in terms of its technical content, its underlying risk assessment, its reach beyond national borders, the scale and irreversibility of some of its consequences, and the value and resource conflicts it faces. The course will stress aspects common to such decision making, including stakeholder identification, recognition of various sources and types of information, various approaches and processes for making joint decisions, and for resolving issues in contention, interactions with the administrative and political structures.

538.403 생활 속의 생태학 3-2-2

Ecology in Ordinary Life

For the first five weeks, fundamental principles of general ecology are introduced. Traditional ecological knowledge and practices embedded in historic literal materials, pictures, maps, remnant landscapes, and other sources are explored to link to the general ecology. Instructors and students exchange their interpretations and ideas regarding land uses and ecological processes in the fields which visit contemporary urban and rural landscapes.

538.404* 환경경영실습(인턴과정) 3-2-2

Environmental Management Practicum (Internship)

This course is a field practicum as an intern at a firm, government, international organization, or non-governmental organization which involves in environmental management business. Students will be given opportunities to identify the environmental issues being addressed by the firm, government, international organization or NGO and to evaluate the applicability of theories and methods of environmental management to the environmental problems faced by the organization or firm. The course is meant to provide students to experiences in the field of environmental management so that they can explore potential employment opportunities after graduation.

538.405 산업생태학 3-2-2

Industrial ecology

Concept and methodologies for clean production and sustainable consumption for sustainable economy are introduced in order to evaluate the environmental impact of production systems and consumption activities. Theories of sustainable consumption and clean production will be reviewed with results of empirical studies employing analytical tools such as life cycle assessment, material flow assessment and eco-foot prints. Students will be asked to apply one of such analytical tools to a production or consumption system as a practical project.

538.406 국제환경기구론 3-3-0

International Environmental Organizations

The importance of global environmental organization is emerging more stressed to many global environmental issues including tropical deforestation, biodiversity loss and climate change. This subject aims to provide students with basic understandings of international environmental organizations such that they can develop their potentials as environmental professionals through analysis of the backgrounds of international environmental governance, progress of international environmental agreements and, their role and contributions to global environmental governance.

538.407* 환경경영세미나 1-0-2

Environmental Management Seminar

This course aims to provide students with understanding of identify a research idea on environmental problems and methodologies to be employed in their thesis researches. The students are expected to present their research plan in detail at the end of course.
미술대학
College of Fine Arts
In this course, students will learn various brush and ink techniques for ink wash painting, which is one of the key elements of Oriental aesthetics. Students will examine various line-drawing techniques and ink techniques and learn about properties of different background materials including Hanji, Xuanzhi and silk as well as brushes and ink. This course will also help students to have a deeper understanding of ink wash paintings, including its historical development, aesthetic properties and conceptual approach.

This course introduces the various aspects of drawing and painting, which is one of the key elements of Oriental aesthetics. Students will examine various line-drawing techniques and ink techniques and learn about properties of different background materials including Hanji, Xuanzhi and silk as well as brushes and ink. This course will also help students to have a deeper understanding of ink wash paintings, including its historical development, aesthetic properties and conceptual approach.
ideas from these techniques. Students will further understand aesthetic, technical, and functional aspects of craft.

M2182.001200 기초금속공예 2-1-2

**Basic Metalwork**

이 수업은 미술대학 1학년 학생들을 위한 기초과정 전공선택 수업이다. 학생들은 금속공예에 대한 탐색으로서 금속의 절단, 성형, 결합, 표면처리, 마감 등 금속공예의 작업과정에 필요한 기초 기법을 학습하고 이를 바탕으로 구조, 아이디어의 전개와 공간 구성의 학습을 하게 된다. 이 과정에서 심미적, 기능적 차원과 함께 기술적 차원을 통합적으로 접근하도록 시도한다.

This is a course for the 1st year art students. Students will acquire knowledges on the basic fundamentals of metalcraft techniques including cutting, shaping, joining, surface finishing, and will also gain the ability to develop ideas from these techniques. Through this learning process, students will further understand aesthetic, technical, and functional aspects of craft.

M2182.000500 기초사각디자인 2-1-2

**Visual Design Foundation**

미술대학 학생들을 위한 2D 기반 기초 사각디자인 수업이다. 이 수업에서는 이미지의 원리에 대한 이론적인 배경에 대해 알아보고 이를 바탕으로 이미지의 기록, 중점, 편집, 생성, 저장, 공유 등의 전 과정을 실습해 얻는 주요 사양프로그램은 이토미 사스케스의 포토샵과 일리스트레이터이며 그 외 관련한 관련 응용 프로그램을 비교하여 그 결과물 전반과 사용환경에 대해 이해한다.

The purpose of this course is for students of the college of fine arts to cultivate the visual design foundation. The students will study the basic theories and principles how to communicate with visual language. Designing skills of visual communication such as creating, modifying, typographical (editing using letters), symbols, pictures, photos, and pictograms (informative illustration) will be explored as well. In addition, the students will practice and experiment with graphic tools such as Adobe Photoshop and Illustrator.

M2182.000600 기초공업디자인 2-1-2

**Industrial Design Foundation**

미술대학 학생들을 위한 3D 기반 공업디자인 기초 수업이다. 이 수업에서는 3D 오브젝트의 원리에 대해 알아보고 이를 바탕으로 3차원 대상의 생성, 편집, 중점, 저장, 공유의 전 과정을 실습해 얻는 응용 프로그램으로는 라이노3D, 3DS Max, Maya를 사용하고 그 외 관련된 프로그램들을 비교, 실습하여 3D 프로그램 전반과 사용환경에 대해 이해한다.

The purpose of this course is for students of the college of fine arts to cultivate the industrial design foundation. The students will study the basic theories and principles how to design products through intuitive and creative planning. Technical skills of designing objects for enhancing the quality of life such as creating, modifying, editing will be explored as well. In addition, the student will practice and experiment with 3D graphic tools such as Rhinoceros, 3DS MAX, Alias, and Maya.

M1788.000200 도자공예사 3-3-0

**History of Crafts - Ceramic Art**

도자공예의 역사적 발전과정을 도자공예 기술의 발달과 사회·경제·문화의 흐름 속에서 이해한다. 또한 전 세계의 도자 공예 역사 비교를 통해 그 지역적 차이와 문화적 교류를 파악한다.

In this course, students will learn a historical process of development of ceramics, especially in terms of advances in ceramic technology and changes in social, economic, and cultural contexts. A comparison of global history in ceramic art will reveal regional differences and the impact of cultural exchanges.

M1788.000300 금속공예사 3-3-0

**History of Crafts - Metalwork and Jewelry**

금속공예의 역사적 발전과정을 시대적 흐름, 공예기술의 발달 그리고 경제문화적 연관 속에서 이해한다. 또한 동서 금속공예의 비교를 통해 금속공예의 지역적 차이를 이해한다.

In this course, students will learn a historical process of development in metal craft, especially in terms of historical context, developments of craft technologies and economics and its relationship to culture. A comparative analysis between Western and Oriental crafts will provide a perspective on regional differences of metal craft.

M600.220A 디자인사고 3-3-0

**History of Design**

기술, 경제, 문화, 사회 등의 요인들을 바탕으로 각 시대 및 지역의 디자인 특성 및 변화과정을 해석하고 이론적으로 고찰함으로써, 미래 디자인의 가치를 바라보고 예견할 수 있는 통찰력을 기른다.

This course surveys the characteristics of, and historical changes in, design through time and by region, focusing on the technological, social, cultural, and economic contexts. It aims at leading future designers to having insights about future designs.

M1774.001200 디자인사고및연구 2-1-2

**Design Thinking and Research**

본 수업은 일반적으로 활용되는 디자인사고의 과정을 학습하여, 학생들이 스스로 자신의 사고과정을 인식하는 것에 그 목표가 있다. 디자인연구와 실험이 배합하는 모든 디자인 프로세스에 필요한 연구조사 기법과 방법에 집중하여 수업이 진행되는 것이다. 학생들에게 현재 트렌드를 기반으로 미래를 예측하는 방법을 소개하며, 디자이너로서 해야 할 일들이다.

The goal of this course is to study the process of design thinking as it is commonly understood, and develop in students an awareness of their own process. It will also focus on developing research skills and methods necessary for any design project, both in academia and in the commercial world. They will also be introduced to methods for projecting plausible futures based on current trends.
This course is a basic overview of the history of Asian art including Chinese and Japanese art with the aim of understanding the history and basis of Asian art.

600.230 한국미술사 3-3-0

History of Korean Art

This course surveys the history of Korean art up to the modern period.

600.228A* 한국미술과 문화 3-3-0

History of Korean Art and Culture

이 강의는 인도로부터 중국, 일본, 중앙아시아, 동남아시아에 이르기까지 우리가 혼히 '동양'이라고 부르는 지역의 미술의 큰 틀 안에서 한국 미술의 조형적 특성을 조명한다. 수업은 지역별, 시대별로 진행되는 통사적인 미술사 강의 방식과 특별별로 미술의 전개를 살펴보는 방식으로 이루어진다. "미"적 개념, 미술의 기능, 공간, 기법, 양식의 개념, 주제의 상징성 등 전통 동양 미학과 미술의 특성에 대해 검토해보고, 이러한 전통이 어떻게 현대에 이어지는 데에 대한 논의로 이어간다. 또한 건축, 회화, 조각, 공예 등으로 분류되는 여러 장르의 고유한 언어에 대해 인식하고 미술이 제작된 시대적 배경에 대한 이해를 통해 문화적 환상으로서 미술을 이해한다.

This lecture aims at understanding Korean art in the broader context of Asian art including Indian, Chinese, and Japanese art. Traditional Asian techniques, and aesthetics, such as the concept of beauty, space, and iconography are discussed as they are manifested in visual images. An examination of contemporary art will reveal how the tradition is sustained in a visual expression that is uniquely Korean. The ultimate purpose of this course is to familiarize students with the visual language applicable to different genres of art and to view art as a reflection of culture as a whole.

600.313 한국근현대화화 3-3-0

History of Modern and Contemporary Korean Painting

한국 근현대화회의 전개양상과 조형의식을 연구한다. 구한말로부터 근대화까지 한국 현대미술의 호흡과 그 전개과정을 살펴보고자 한다. 서구영향의 타락과 일제시대를 거쳐 해방, 한국전쟁, 일본과 미국, 유럽의 현대미술의 영향과 전통화회의 변모 등 19세기 후반부터 20세기 중반을 가로지르며 복잡하게 변모해온 한국의 근현대미술에 대한 이해와 비평적 지평을 모색하고자 한다.

This course surveys the history of Modern and Contemporary Korean painting from late-Joseon period to the present. It examines the ideological conflicts and the pervasive influence of Japanese colonial era, Korean War, and adoptions of modernist art from Japan, the United States, and Europe on the foundation of Contemporary Art in Korea. Students will understand and seek critical perspective of Modern and Contemporary Korean art.

600.225A 동양미술사 3-3-0

History of Chinese Art

중국과 일본을 포함하는 동양의 전통미술을 개괄적으로 살펴본다.

This course provides students with an overview of the stylistic trends, work and artists of Western art from prehistory, ancient Egypt, and the Greeks and Romans to the Rococo style in the context of the political, socioeconomic, and cultural context of each period.

600.401A 미술교육론 3-3-0

Teaching of Fine Arts

미술교육의 원리, 내용, 방법, 교재에 관한 이론들을 풍부하게 살펴며, 미술교육의 새로운 모델로 제시된 다양한 프로그램과 방법에 대해 논의하고 미술교육이 미치는 영향을 교육현장의 중심으로 토론한다. 교과교육을 위한 미술지도법을 학습한다.

This course will examine a wide range of theories about the principles, features, methods, and teaching materials of fine art education. It will also introduce students to methods of teaching the fine arts by analyzing art programs as models for fine art education.

600.402A 미술교육연구 및 지도법 3-3-0

Materials and Methods in Fine Arts Education

미술학교와 미술교육의 관계를 교육미술교육 현장 중심으로 연구한다. 미술교육을 위한 아이디어개발, 학습조직, 학습활동, 학습평가의 자료와 방법을 비교분석하며, 새로운 매체(비디오, 컴퓨터)가 미술교육의 실천과 확대에 미치는 영향을 토론한다.

In this course student will develop ideas for fine art education by comparing different educational organizations, activities, and materials. The relationship between fine arts education and fine arts materials will be examined with an emphasis on actual arts education in schools.

600.E310A 디자인 · 공예제작 연구 및 지도법 3-3-0

Materials & Methods in Crafts and Design Education

디자인 · 공예제작과 디자인 · 공예제작의 관계를 학교디자인 · 공예교육 현장을 중심으로 연구한다. 디자인 · 공예교육을 위한 아이디어개발, 학습조직, 학습활동, 학습평가의 자료와 방법을 비교 분석하여, 디자인체제가 디자인 · 공예교육의 실천과 확대에 미치는 영향을 토론한다.
Students will develop concepts for crafts and design education by comparing educational organizations, activities, and materials. The relationship between Crafts and Design education, and Crafts and Design materials is studied with an emphasis on exiting Crafts and Design education in schools.

600.E309A 디자인 공예교육론 3-3-0

Theories of Crafts and Design Education

디자인 공예교육의 원리, 내용, 방법, 교재에 관한 이론들을 중심으로 살펴며, 디자인 공예교육에 미치는 영향을 교육현장을 중심으로 토론한다.

This course covers a wide range of theories on the principles, features, methods, and teaching materials of fine arts education. It also teaches Crafts & Design teaching methods by analyzing many programs provided as new models of Crafts & Design education.

600.404B 미술교과논리 및 논술에관한교육 3-3-0

Taining in Art Education Theory and Essay

본 과목은 미술교육에 관한 비평적 토론과 글쓰기를 통해서 논술과 관련된 미술 교육의 문제들을 연구한다. 전통과 현대 미술, 미술교육에 관한 비평적 글쓰기를 다양한 관점에서 학생들이 실습하도록 한다.

This course explores the problems of essay-related art education through class discussion and writing. Students will practice critical writing from diverse viewpoints about traditional and contemporary art, and art education. It is open to students whose career path is to teach in the field of art.

600.E311 디자인 공예논리 및 논술에관한 교육 3-3-0

Training in Design Craft Education Theory and Essay

본 과목은 디자인 공예 교육에 관한 비평적 토론과 글쓰기를 통해서 논술과 관련된 디자인 공예 교육의 문제들을 연구한다. 디자인 공예에 대한 비평적 이해를 바탕으로 디자인 공예 학습 현장에서 비평적인 시각을 견지할 수 있는 소양을 키우는 한편, 디자인 공예 교육에 관한 비평적 글쓰기를 다양한 관점에서 학생들이 실습하도록 한다.

This course examines and conducts research on the problems in design and craft education through critical writing and debate. The aim is to raise students’ ability to adhere to their own critical viewpoint based on a fundamental understanding of the field by practicing critical writing skills that address various perspectives and issues in design and craft education.
동양화 기초 1 2-1-3
Basics of Drawing and Painting 1

이 과목은 동양화 전공 학생들을 위한 기초과정 전공필수 수업으로 동양미학의 근간이 되는 개념들과 수묵화의 특성에 대해 학습한다. 18종 묘법과 주법, 다양한 묘법 등에 대해 학습하며, 원형과 화단, 비단 등 다양한 바탕에 여러 가지 꽃과 잎을 사용해보고 그 재료적 특성을 이해한다. 동양미학의 현대적 적용을 시도해보고 자신의 개성적 관점과 개념전개에 따른 창의적 수묵현원을 시도한다.

This mandatory basic course for students majoring in Drawing and Painting covers the fundamental ideas and concepts of Drawing and painting as well as the characteristics of ink wash painting. In this course, students will learn about 18 different line drawing techniques, Cunfa and ink techniques. They will also use various types of brushes, inks, materials, and different types of papers, including Hanji, Xuanzhi and silk to understand their properties. Students will also examine ways for the contemporary application of Oriental aesthetics and creative ink wash expressions according to their own view and concept development.

동양화 기초 2 2-1-3
Basics of Drawing and Painting 2

이 과목은 동양화 전공 학생들을 위한 기초과정 전공필수 수업으로 동양미학의 근간이 되는 개념들과 수묵화의 특성에 대해 학습한다. 18종 묘법과 주법, 다양한 묘법 등에 대해 학습하며, 원형과 화단, 비단 등 다양한 바탕에 여러 가지 꽃과 잎을 사용해보고 그 재료적 특성을 이해한다. 동양미학의 현대적 적용을 시도해보고 자신의 개성적 관점과 개념전개에 따른 창의적 수묵현원을 시도한다.

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전통수묵기법 1 2-0-4
Traditional Sumuk Techniques 1

본 과목에서는 대표적인 수묵의 기법을 익히도록 한다. 다양한 색상 그림을 통해 대체식의 표현을 이해하는 수묵화법을 익힌다. 또한 다양한 색상 그림을 통해 대체식의 표현을 익힌다. 수묵화법에 대해 처음 접하는 수업으로 전문적인 기법 및 제작과정에 대해 본격적으로 소개한다. 수묵화법을 통해 단계적이고 체계적으로 수묵화법을 이해할 수 있도록 한다. 규정화한국학연구원의 소장품을 모사하는 기회를 갖는다.

This course examines the traditional landscape painting of Korea, with a focus on its history, meanings, and from diverse perspectives. Students will engage in an in-depth study of form through, for example, diverse styles of brush strokes, different methods of depicting trees, mist, clouds, and coloring techniques. Students will work observing nature, learning by experience the composition of painting and expanding its concept, and will be encouraged to reproduce the masterpieces of traditional landscape paintings.

전통수묵기법 2 2-0-4
Traditional Sumuk Techniques 2

본 과목에서는 대표적인 수묵의 기법을 익히도록 한다. 다양한 색상 그림을 통해 대체식의 표현을 이해하는 수묵화법을 익힌다. 또한 다양한 색상 그림을 통해 대체식의 표현을 익힌다. 수묵화법에 대해 처음 접하는 수업으로 전문적인 기법 및 제작과정에 대해 본격적으로 소개한다. 수묵화법을 통해 단계적이고 체계적으로 수묵화법을 이해할 수 있도록 한다. 규정화한국학연구원의 소장품을 모사하는 기회를 갖는다.

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주요 2 2-0-4

Drawing 2

인체의 구조와 및 주제와 연관된 인물표현법을 연구하며, 아울러 개성적 시각과 창의적 표현양식의 활용을 시도한다. 평면과 다양한 공간에서의 실험적 방법을 함께 모색할 수 있다. 롤 수업이 제공되며, 화면에서 인체를 창의적으로 표현할 수 있는 능력을 기르도록 한다. 한동안 필묵기에 대한 인구가 표현하는 동시에, 추후 학생 개인의 작업에서 활용될 독창적인 표현양식에 대한 실험도 병행하도록 한다.

이 코스는 인체의 구조와 및 주제와 연관된 인물표현법을 연구하며, 아울러 개성적 시각과 창의적 표현양식의 활용을 시도한다. 평면과 다양한 공간에서의 실험적 방법을 함께 모색할 수 있다. 롤 수업이 제공되며, 화면에서 인체를 창의적으로 표현할 수 있는 능력을 기르도록 한다. 한동안 필묵기에 대한 인구가 표현하는 동시에, 추후 학생 개인의 작업에서 활용될 독창적인 표현양식에 대한 실험도 병행하도록 한다.

Paper Making

그림과의 연관성과 함께 실험적 기법들을 모색한다. 본 과목은 현대화의 개성적 표현양식에 대한 이해를 심화시킨다. 다양한 재료의 특성을 반영한 실험적 기법들을 모색한다. 수묵에 있어서도 시대별 양식과 작가별 조형적 특성을 연구하고 양식적 표현의 다양한 조형양식에 따른 창의적 표현양식을 모색한다.

This course helps the students develop originality and creativity by experimenting with diverse media. Major contemporary artists will be introduced through books, videos,
601.216 신조형 2 2-0-4

New Concepts in Form 2

Students are required to participate in critical discussions about these artists and study current trends in the contemporary art in relation to their own works. The aim of the course is to enrich the stylistic diversity of student’s work.

601.305A 벽화기법 1 2-0-4

Mural Painting 1

Students taking this course will learn the methods of traditional mural painting from preparing the surface to applying the pigments and adhesives. The course material will be extended to incorporate creative expression and practices of restoration. The characteristics of Korean murals will be brought to light and compared to murals from other regional and cultural backgrounds. In addition, the course examines the iconology of murals to provide a glimpse into the view of life, death, and religion of ancient Koreans.

601.306A 벽화기법 2 2-0-4

Mural Painting 2

This course will offer a glimpse into the aesthetic traits of traditional Asian art through the practice of sumuk and its philosophical stance in modern art. Students may choose to focus on a specific area or subject based on the previous study of traditional aesthetics. They will reexamine the traditional concepts and historical development of sumuk methods, develop their own form of expression, and develop through practice various expressions in traditional ink.
601.319 작품연주: 창작과정탐구 3-2-2

Studio Practice: Creative Process Exploring

창작의 과정에서 자신의 개성적인 표현을 이끌어내기 위해 조형예술의 다양한 과정들 탐구하는 수업이다. 자신의 조형작품의 근간을 이루는 구성요소들과 설정된 관념들에 대해 느낌과 물음을 갖고, 성과 토론과 추측으로 대안과 문제해결, 지속적 시도의 과정들을 체험하면서 특성의 표현방법을 찾아나간다. 이 수업에서는 개인적 관념과 다양해 주제가 설정될 수 있고, 대상과 관계를 통해 창작과 다양한 연구가 요구되기 때문이다. 여러 시대와 지역에서 혁신을 주도한 역사적, 미술의 표현방식들을 아울고 광고, 토론의 과정을 통해 다양한 관점을 인지하게 된다.

In this course, students explore various processes of the plastic arts with the aim of developing individual expression in their studio work. Students are required to actively question and develop the elements that form the foundation of their work and their individual expression. Examining expressions of the plastic arts from different regions and periods will be discussed in class to help students understand different viewpoints. The course allows for pursuing a subject of personal interest and diverse topics.

601.320 작품연주: 창작과 비평 3-2-2

Studio Practice: Creative Work and Analysis

창작의 과정과 주제, 내용에 대해 분석하고 비평하는 전공 실기 세미나 과정이다. 개인의 연구 과제를 중심으로 방향과 의도, 양식과 개념, 소재와 기법 등을 발표하고 토론함으로써 창작의 방향을 설정하고 비평적 관점을 가진다. 조형예술의 전반적인 사상과 사조에 대한 독점적인 이해와 창작의 실제에 대한 문제를 풀이하고 토론한다. 아울러 자신의 창작주제와 관련한 시대별, 양식별 작가연구와 발표도 겸한다. 개인의 연구과제에 따른 창작의 과정과 결과물에 대해 분석하고 토론한다. 자신의 작업방향에 대해 재검토하여 보다 발전적인 방향을 모색하고 최근의 미술동향과 주요 문제에 대해 연구하고 토론해 보는 기회도 갖는다. 보다 효과적인 프리젠테이션 방식에 대해 토론하고, 포트폴리오와 작업노트 등의 제작과 발표를 통해 작품 창작에 있어서의 방향과 의도, 표현방법, 환상도 등 작업과정과 연계된 제반 문제점들을 토의하고 정점한다.

In this seminar students analyze and critically examine the process and subject matter of the creative process. Each student will work on a project of their interest. Individual presentations and class discussions about concepts, styles, materials and techniques are designed to help students materialize their ideas and develop critical awareness. Students are required to give presentations, preferably in a digital format, to critically examine how their plans were carried out and what direction they should take in the future. Research about current trends in art and its core issues are also discussed, especially related to the work of students. Students are required to give presentations and complete portfolios and rough drafts of their work.

601.405A 통합매체 1 2-0-4

Mixed Media 1

통합 중화기법의 과정들을 익혀 다양한 복합재료들을 적용해 보고 현대적 적용 가능성을 모색해 본다. 창작과정은 통합 공공기법으로서 훨씬 아니라 현대 동양화의 개성적인 기법으로서도 각광 받고 있다. 실험을 통해 창작에 사용되는 안료를 다루고 보며, 재료 과정을 단계별로 영역 보면서 창작이 갖는 특성에 대해 연구하도록 한다. 이후 이를 바탕으로 한 여러 실험을 실행하면서, 학생 개인의 작업에 활용될 수 있는 것을 모색하도록 한다.

Lacquer painting is a popular technique usually employed in traditional applied art, but recently favored by many Korean painters as an effective means of exhibiting Korea’s unique cultural tradition. This course offers an opportunity for students to practice the traditional methods of lacquer painting and suggests various ways to reinvent this traditional craft in a modern expression. Students will learn about the characteristics of lacquer painting through practice and will be encouraged to apply what they have learned to their own work.
This course surveys the history of Korean Painting to provide students with an overview of the artists, artwork, and stylistic trends of Korean art from the prehistoric times to the modern and contemporary eras, and connects the work to the political, socioeconomic, and cultural backgrounds of the day.

Based on the judgment that the key to national competitiveness lies in the fostering of outstanding and talented people in the knowledge information society of the 21st century, creativity has been discussed as the key competence of talented people in the future. Particularly in discussions on creativity, the role of art has been emphasized. This course therefore will review the current state of creative education in terms of social structures, curricula, and teaching and learning and discuss the role and function of art in creative education. Creative elements, discernment of creativity, and convergent approaches for creativity in art will be examined.
Painting Fundamentals 1

This is an advanced Painting Fundamental course for the freshmen in the Department of Painting as the first step to enhance their creativity. Students newly approach to various elements and principals of visualization based on related theories, understand basic materials and techniques, as well as explore their own themes and subjects. Students’ works will be reviewed through discussion and critique by peers, which develop their ability to analyze, criticize, and appreciate art works.

Painting Fundamentals 2

This is an advanced Painting Fundamental course for the freshmen in the Department of Painting. Students newly approach to various elements and principals of visualization based on related theories, understand basic materials and techniques, as well as explore their own themes and subjects. Students’ works will be reviewed through discussion and critique by peers, which develop their ability to analyze, criticize, and appreciate art works.

Drawing 1

This course will enable students to broaden their expressive capabilities in painting by examining and comparing diverse materials, painting methods, and styles of painting. They will also improve their skill in the portraying the human body, still-life, and landscape.

Drawing 2

This course provides an overview of printmaking history, defining its basic characteristics and the merits of print as a distinctive medium. The class will examine the importance of printmaking in modern art. Students will learn the principles and processes of stencils and silk screen and then use these processes to produce their own prints.

Printmaking 1

This course provides an overview of printmaking history, defining its basic characteristics and the merits of print as a distinctive medium. The class will examine the importance of printmaking in modern art. Students will learn the principles and processes of stencils and silk screen and then use these processes to produce their own prints.
Moving Image 1

This is a fundamental course about the moving image, in the context of time and motion. Various drawings, video shooting and photographs will be used to create moving images based on concepts and themes of images and objects. Students will learn the basics of video media and digital tools, as well as being introduced to the history of works in media art.

Photography 1

As a fundamental course in photography, students will explore the basic principles and practices of photography, and how to express their view to make a photographic image of various subjects.

Photography 2

This course introduces students to the principles and practices of various photographic techniques, such as working in medium- and large-format photography. They will also learn how to transform photographic images using a digital processing and other tools.

Mixed Media and Installation 1

In this course the possibilities of new forms of expression are explored and expanded on by using different materials and composite techniques, such as the heterogeneity of oil and water, composites of drawing and printing, and the incorporation of conventional images.
In this course students will research Modern and Contemporary Korean Art. Participants will write and present an essay about the work of an artist in terms not only of style, but its social and political context. Participants will develop and be able to verbally articulate a more critical view of the work of an artist in terms not only of style, but its social and political context. Participants will develop and articulate their creative process and develop and articulate their creative process and be able to reflect on this experience in the production and presentation of their work.

602.336A 작품연구: 형상과 표현 3-1-4
 Studio Practice: Figuration and Expression

602.337A 작품연구: 개념과 과정 3-1-4
 Studio Practice: Concept and Process in Artistic Practice

602.338 작품연구: 창작의 구조 3-1-4
 Studio Practice: Scheme and Proceeding

602.339 작품연구: 개념의 시각화 3-1-4
 Studio Practice: Visualization of Concepts

602.340 작품연구: 의미와 문맥 3-1-4
 Studio Practice: Meaning and Context

602.341A 작품연구: 매체와 표현 3-1-4
 Studio Practice: Media and Expression

This course helps students understand the process of artistic practice and develop and articulate their creative process in relation to their concepts and subject matter. This will be accomplished through regular tutorials and group critiques. Presentations, seminars, and/or workshops will provide students with the opportunity to lead a group discussions and share their experience of creating art. Throughout the course, students will be encouraged to explore the interrelationship between their artistic intention and outcomes. There will be no restrictions with respect to medium.

during the technique and the relationship between content and form. This will be achieved through engaging in different creative perspectives, planning, approaches, and expressions. Through comprehending contemporary discourse participants will be encouraged to develop their own artistic identity and sensibility while pursuing the realities of creation through the media of their choice. Individual planning and diverse experimentation are emphasized throughout the course.
By using different materials, techniques, and experiments in contemporary photography, this course emphasizes the development of the uniqueness of each student to find their own theme and form of expression.

602.344 설치 3 2-0-4

Mixed Media and Installation 3

 다양한 매체를 조합하여 표현의 종합을 시도한다. 언어적 개념이나 사전, 필름, 비디오 등의 영상매체와 오브제 등을 설치 공간과의 관계성으로 표현을 극대화하여 창의적 공간으로 발현한다.

Conceptual and creative spatial expression is explored by combining photographs, films, videos and other media.

602.437 설치 4 2-0-4

Mixed Media and Installation 4

미술의 영역을 환경적 개념으로 인식하여 표현의 장을 넓힌다. 건축적 공간으로부터 출발하여 자연 속에서의 표현으로 확대함으로써 예술의 총체성을 모색한다. 장소의 특성을 파악하고 적합한 재료를 선정하여 표현을 극대화하고 그 결과를 의의하여 학술적 근거를 마련한다.

The aim of this course is to expand the scope of expression by understanding the importance of environmental and spatial aspect of art making. The integrated aspect of art (i.e. land art, conceptual art, environmental art) is explored by starting with expression in architectural space, expanding to expression in natural environments. The students will identify the characteristics of a site, place and space, select the appropriate medium to maximize the effect of execution, and finally devise academic grounds for their work through discussions.

602.345 판화 3 2-0-4

Printmaking 3

드라이포인트, 에칭, 아콰틴트 등 오목판의 각종기법 및 제판과정을 실습하고 작품을 제작한다. 오목판에 대한 기본적인 이해를 바탕으로 기법적으로는 석판의 활용방식과 다양한 표현효과에 역점을 둔다. 포토예제를 통해서는 이미지의 선택과 접합에 관심을 기울인다. 내용의 심화를 위해서 주제선택에 관한 연구를 벌행한다. 참고작품 슬라이드 소개, 토론에 의해 평가한다.

This course offers the basic principles and techniques of intaglio printmaking, such as dry point, etching, aquatint, and mezzotint. Based on basic understanding of the intaglio print, students are encouraged to combine different printing methods to express their unique ideas. They will simultaneously conduct research on a theme to achieve deeper content. Evaluations are based on student presentations and participation in discussions.

602.438 판화 4 2-0-4

Printmaking 4

석판화의 기본원리 및 제판과정을 실습하고 작품을 제작한다. 석판화의 과정과 기법을 익히면서 중점을 둔다. 기본적인 석판화에 대한 이해를 바탕으로 자신의 작품세계를 효율적으로 드러낼 수 있는 방향과 높은 완성도를 목표로 한다.

This course is an introduction to the basic principles and the processes of lithography as a means for expressing ideas.
Students are encouraged to produce high quality works in terms of subject and density.

| M1766.000100* | 서양근현대미술사 3-3-0 |

History of Modern and Contemporary Western Art

This course surveys the history of Western art from the beginning of the 19th century to the end of the 20th century. As an introductory course, it provides undergraduate art students with a basic knowledge of Western art history. It is aimed in relation to the political, economic, social, and cultural conditions of the artist, work of art, and style. The aim of the course is for participants to develop their own artistic position and practice in relation to the political, social and cultural environments in which they find themselves.

| M1766.000200 | 미술과 문화이론 3-3-0 |

Art and Cultural Theory

Art today requires a deep understanding of social and cultural phenomena as it transforms itself into a multifarious practices, genres, and media. This course introduces how art has been influenced and experimented with various media and integrates them in their own work. The development of technology has consistently increased the number and forms of mass media. Mass media, which can produce, reproduce and circulate information and images in quantity, has not only stimulated artists to exploit and develop new techniques, but changed their perception of reality. This course introduces how art has been influenced and expanded by mass media, especially since 19th century. Students will learn to read the images and information produced by mass media and integrate them in their own work.
학점구조는 "학점수-주당 강의시간-주당 실습시간"을 표시함. 한 학기는 15주로 구성됨. (The first number means "credits"; the second number means "lecture hours" per week; and the final number means "laboratory hours" per week. 15 week make one semester.)
In this course, students will take a geometrical form as their subject matter, explore the special effects of metals, and express their ideas.

603.421 Studio Practice: Figure

Choosing the formal elements and their relationship to things and the ways meaning is established. Students will be examined by investigating the interrelationship between materials and techniques to enable students to express their subject and concept in contemporary art.

603.422 Studio Practice: Carving

Students learn representational skills along with basic human and animal anatomy to express their subject and concept in new forms developed through experimentation with different materials.

603.305B Studio Practice: Installation

Students in this course study the element of expression, metaphor and symbolism based on figurative artwork. Students learn representational skills along with basic human and animal anatomy to express their subject and concept in contemporary art making. Students will create sculptures using various materials including wood and stone.

603.426 Studio Practice: Expression & Interpretation

Studio Practice: Carving

603.427 Studio Practice: New Form

In this course the conceptual use of traditional sculptural elements and techniques will be explored to enable students to express their subject and concept in contemporary art making. Students will create sculptures using various materials including wood and stone.

603.331A Digital Sculpture

Digital Sculpture

The curriculum of this course approaches digital media in a theoretical and practical way and applies it to making an actual product. Students learn programming, sensor and circuits and create digital artworks in relation to Sculpture. Furthermore, students can learn to apply the digital tools in their future art practice.
603.413 현대조각론 1 2-2-0

Topics in 19th and 20th Century Sculpture

19세기의 20세기 조각양식을 그 사상적 배경과 관련하여 고찰함으로써 현대조각의 이론적, 역사적, 비평적 이해를 높인다. 조각의 문제, 현대의 원시주의, 미술관 등의 문제를 검토하고 대량소비, 국제주의 그리고 20세기 미술향에서 비평의 역할이 무엇인가 등의 논의된다.

This course explores the theoretical, historical, and critical contexts of modern sculpture. It focuses on relating concepts of sculpture to the philosophy underlying the development of various 19th and 20th century art styles. Issues addressed in this course include gender, 'primitivism', and the politics of colonialism and international warfare, post-WWⅡ consumerism, internationalism, and the role of the art critic in sharpening a canon for twentieth-century art.

603.414 현대조각론 2 2-2-0

Topics in Contemporary Art

모더니즘 이후 전개되는 작업의 양상과 경향을 살펴봄으로써 동시대 작업 경향과 특성에 대한 이해를 높인다. 20세기 후반에서 21세기 초반에 이르는 작업의 양상과 그 이론적 배경을 중점적으로 고찰한다. 과학적, 역사적 문제나 설치미술, 영화, 비디오, 행위 예술 등 다양한 예술 양식을 검토한다.

This course presents the artistic movements and art works emerging in reaction to Modernism and the impact of critical theories on the late 20th and early 21st century art. Included is a variety of media including the bodies of humans and animals, installation, film, video, and performance art.

603.417 점토조각연구 2-1-2

Clay Sculpture

본교과목은 점토 사용법을 습득하고 성형, 소성과정 훈련을 통하여 수강자의 감성이나 개념을 창의적으로 표현하는 것을 목표로 한다.

This course is intended for students to develop and broaden the range of their skills and expression through building and firing clay figures. Pinching, coiling, scooping and moldmaking techniques will be introduced as well as surfacing and slip techniques. Various kinds of clay and example works will be reviewed to generate and nurture personal expression.

603.420 3D 미디어 구현기법 2-1-2

3D Media Sculpture

본 과목은 최근 입체물을 제작하는 다양한 미디어가 개발되면서 발생하게 되는 조각의 새로운 접근방식을 살펴본다. 실습을 위해서 Rhino 등의 프로그램을 사용하여 디지털 데이터를 만들고 그 데이터를 기반으로 CNC 및 3D Printer 등의 설비를 사용하여 제작하는 수업이다.

As there are numerous inventions for producing three-dimensional work this course is open to approaching sculpture in new ways based. Students will use Rhino to produce digital data and then use CNC and 3D printers to produce a three-dimensional work as a final product.

603.418 조각입문세미나1 2-2-0

Introductory Sculpture Seminar 1

본 교과는 윤곽 형태의 세미나 수업으로 조각 예술 심화분야에 진입하는 단계 학생들의 개별적 특성을 발굴하고, 고취하며 미술작품 관련성을 집중 연구한다. 학생들은 자신의 작품과 작업을 분석하고 토론하는 과정을 통하여 독자적인 작업 방향을 모색한다.

This is an introductory seminar course for sculpture students to discover their own interests and to understand their work in relation to the history of art. Through critiques and group discussions students will begin to develop and research ideas and build confidence about their own ways of expression.

603.419 조각입문세미나2 2-2-0

Introductory Sculpture Seminar 2

본 교과는 윤곽 형태의 세미나 수업으로 조각 예술 심화분야에 진입하는 단계 학생들의 개별적 특성을 발굴, 고취하며 미술작품 관련성을 집중 연구한다. 학생들은 자신의 작품과 작업을 분석하고 토론하는 과정을 통하여 독자적인 작업 방향을 모색한다.

This is an introductory seminar course for sculpture students to discover their own interests and to understand their work in relation to the history of art. Through critiques and group discussions students will begin to develop and research ideas and build confidence about their own ways of expression.

M0000.011300 조각가연구세미나 3-3-0

Contemporary Sculptors Seminar

본 교과목에서는 조각가들의 삶과 작업기술의 반영과 감이, 초대작가 세미나를 통해서 실습한다. 수강생들의 작품도 비슷한 분석하여 전시회나 작가작업실을 방문할 수 있다.

In this course the working process and life of sculptors will be examined through readings, lectures, and a series of seminars with invited artists. Student work will be analysed in terms of current issues in contemporary art. The class will also visit galleries and artists.
디자인의 근간이 되는 인간의 가치와 생활양식 및 행동은 디자인의 생성적 측면에서 고찰하며, 나아가 시공적 차이에서 또 다른 문화와 디자인의 동질성과 차별성을 다양한 사례와 더불어 학습한다.

This course examines human values, lifestyles, and behaviors that form the basis of design, and investigates the similarities and differences in culture and design in stemming from different times and places.

디자인과 문화 3-3-0

611.2006A

Design and Culture

Theories of Design

현대디자인론 3-3-0

611.3004A

디자인포트폴리오 2-1-2

M1774.001100

Design Portfolio

포트폴리오 작성기술 및 프리젠테이션 테크닉에 관한 실질적인 표현기법을 탐구한다.

Practical methods and techniques for constructing and presenting portfolios will be covered.

디자인전공 공통 (Design Major)

M1774.000800

VD컴퓨터레이션 2-1-2

VD Computation

디자이너들을 위한 컴퓨터 프로그래밍 수업이다. 미디어를 퍼즐처럼 조각한 컴퓨터토기에서 응용프로그램의 극한을 기울이게 되어 자연스럽게 미디어 인터랙션과 컴퓨터를 구현하기 위해 필요한 스크립팅 환경과 그 사용법을 실기과정을 통해 익힌다. 스크립팅 언어로는 오픈소스 프로세싱 Processing과 그와 연관된 Arduino, iCube, python 등을 사용한다.

This is a computer programming course for designers. Viewing media in the perspective of physical computing and to go beyond the limited functionality of the related applications, they will study the necessary tools and scripting interface to be able to actively use media interaction and control. They will do so by using scripting language open source software program called Processing, and its related softwares like Arduino, iCube and python.

M1774.003800

ID컴퓨터레이션 2-1-2

ID Computation

본 수업은 2D, 3D 디자인에 시간과 인터랙션 차원을 결합한 4D ID 컴퓨터레이션 디자인 기술을 학습할 것이다. 학생들은 그림 스폰, 페이, 유니터 등의 프로그램 학습을 기반으로, 사진이미지, 비디오 에니메이션, 사물과 공간 요소를 활용하여 3D기반 모델과 가상 현실 구축을 위한 기본 지식을 수습하게 된다. 그리고 이를 다양한 매체로 응용하는 4D 디자인 실습 프로젝트를 통해, 학생들은 자신의 표현 능력을 개발하는 기회를 갖게 될 것이다.

This course focuses on 4D industrial design computation skills that combine the dimension of time and interaction dimension with 2D and 3D design. Students will gain basic knowledge and programming languages such as Grasshopper, Python, and Unity for creating 3D-based motion and virtual reality images using 2D and 3D design elements such as photo images, video animations, objects, and space. Students will also have the opportunity to develop their own expression by developing 4D design projects using diverse media.

M1774.040000

기초모형제작실습 2-1-2

Basic Modeling and Prototyping Practice

본 수업은 디자이너의 기본 자질인 디자인 아이디어를 창의적으로 실현화하는 모형 제작 능력을 키우는데 목적이 있다. 디자인 아이디어를 실현할 수 있는 발효수라한, 클레이, 목재를 활용한 기초 디자인 모형제작기술을 현대화 재료, 그리고 가공 및 제작기술을 중심으로 실습하며, 디자인 실행 능력을 연마한다.

The objective of this course is to practice modeling and prototyping techniques for implementing design concepts into physical form in a creative way. The skills required to make models of designs will be exercised through prototyping, refining models, and manufacturing techniques using diverse materials such as urethane, clay, and wood.

M1774.000900

디자인러시처 3-2-2

Basic Modeling and Prototyping Practice

본 수업은 디자인관련 작업 시 디자인전반에 대한 리서치 방법론을 배운다. 특히 설문조사 기법, 인터뷰 기법, 자료 조사 방법을 익힌다. 또한 통계기법을 배워서 디자인에 관련된 데이터를 기초 통계법을 배우며, 통계를 활용하여 선행조사 조사나 만족도 조사 등이 가능하도록 한다.

This course teaches an overall design research methodology for design-related tasks. This includes survey techniques, interview techniques, data research methods among many. Students will also learn about statistics, in order to utilize the basic data statistics techniques for efficient preference and satisfaction surveys.

M1774.003900

미디어프리젠테이션 2-1-2

Media Presentation

디자인연구 및 디자인실무 현장에서 이루어지는 프로젝트 제안, 발표 및 디자인 공모, 혹은 크라우드펀딩에 지원하는 다양한 상황에서, 자신이 제안하고자 하는 디자인 프로젝트의 기획, 프로세스와 디자인 결과물, 그리고 이를 다양한 미디어를 활용하여 프리젠테이션하는 방법을 학습한다. 이는 디자인교육에서 중요한 기술으로, 학생들은 전문 디자이너로서의 경력과 포트폴리오를 만들기 위해서 필요한 기본 지식을 습득하게 된다.

This course provides students with the opportunity to develop their ability to write proposals for design projects, to document design processes for design outputs, and to present designs using diverse media in the contexts of making proposals for a personal project, submitting to design competitions, and/or applying for crowdfunding. These are critical
Design Practice

This is a flexible course of study, designed to encourage discussion amongst the student body, regarding topics and issues relevant to Design in industry and society. This will be supported by visits from key individuals working within the field, both academics and practitioners, who will participate in the respective debates and stimulate the students in the development of their critical faculties.

Design Thinking and Research

This course focuses on the elements and principles of design thinking as it is commonly understood, and develop in students' own processes. It will also focus on developing research skills and methods necessary for any design project, both in academia and in the commercial world. They will also be introduced to methods for projecting plausible futures based on current trends.

Design Business

The goal of this course is to study the process of design thinking as it is commonly understood, and develop in students' own processes. It will also focus on developing research skills and methods necessary for any design project, both in academia and in the commercial world. They will also be introduced to methods for projecting plausible futures based on current trends.
Students are required to learn the various fundamental laws and expressive techniques of developing stories, traditional animation techniques, and computer animation. This studio class takes a hands-on approach to the production of animation including planning, content development, using equipment, developing the animation, and examining case studies. Students may work individually, or in groups in order to come up with creative and expressive solutions and narratives. Students with no previous experience are eligible to take this class.

### Editorial Design

This course examines the characteristics of typography, negative space, color, photographs and illustrations that constitute the layout elements of editorial design. Students will take on their own projects to construct messages or images with these layout elements to create coherent editorial designs that communicate accurately. Understanding grids, printing and binding techniques are required. Students will choose a theme of their choice by collecting the content and images of the book, and making necessary changes to the layout to create a book.

### Illustration

In this course students will learn how to visualize and express impressions from an object in a variety of ways through practicing realistic and abstract expressions such as lines, forms, contrast, texture etc. This course focuses on the creative development of various visual expressions through understanding how to select materials and express an object.

### Information Design

MetroMedia, a fictional company, provides services such as entertainment, news, and advertising. In this course students will analyze the characteristics and effects of different advertising media in the context of the distribution system of products. Students will learn how Advertising Design is tailored to suit the properties of different media. They will conduct in-depth research of the production process of Advertising Design and practice effective presentation techniques. Students will also investigate the moral responsibilities of designers in the age of mass media and advertising.
This class is for students who have taken Visual Communication Project 1 and would like to create a graduation project. Students will work individually, or in groups to create a final project that will be presented and critiqued. At the end of the semester, students will exhibit their project in the graduation exhibition. At the end of the semester, students will advertise, install their work and open a graduation exhibition.

M1774.000500 브랜딩디자인프로젝트2 3-2-2

Branding Design Project 2

This class is for students who have experience in brand design and would like to create a graduation piece. Identity design is not only creating an identity for a group or an organization, but further more, creating visual identity for products, events, buildings, and other services. Students will work on projects and create work that specifically relates to this theme. At the end of the semester, students will open a graduation exhibition. Students will be advertising and directly installing their work.

M1774.000600 모션그래픽디자인프로젝트1 3-2-2

Motion Graphic Design Project 1

Motion Graphics

Motion Graphics projects are projects that have a wide range of applications. They include advertising, product design, and visual effects. Students will learn how to add sound and master it for the final media. Students will learn how to add sound and master it for the final media. Students will learn how to add sound and master it for the final media. Students will learn how to add sound and master it for the final media.

M1774.000400 브랜드디자인프로젝트 1 3-2-2

Branding Design Project 1

This class is for students who have experience in brand design and would like to create a graduation piece. Identity design is not only creating an identity for a group or an organization, but further more, creating visual identity for products, events, buildings, and other services. Students will work on projects and create work that specifically relates to this theme. At the end of the semester, students will open a graduation exhibition. Students will be advertising and directly installing their work.

M1774.000300 모션그래픽디자인프로젝트 2 3-2-2

Motion Graphic Design Project 2

Motion Graphics

Motion Graphics projects are projects that have a wide range of applications. They include advertising, product design, and visual effects. Students will learn how to add sound and master it for the final media. Students will learn how to add sound and master it for the final media. Students will learn how to add sound and master it for the final media. Students will learn how to add sound and master it for the final media.
In this class, we will be using moving images to convey a specific message. This class is for students who have completed the previous moving image design class. We will be focusing on the planning and development of the production rather than the techniques of filming and editing. At the end of the semester, students are required to complete final work consisting of ideas and plans.

**Media Design Project 2**

This course enables students to examine how tactics employed within a given market can dictate the means of expressing a message, whether designed to promote or inform. It provides an opportunity for the analysis of relevant examples drawn from the world of advertising and directly installing their work.

Students will gain an understanding of how design elements - the basic language of designers - construct spaces and objects, and generate new designs.
Design Process & Methods

The objective of this course is to cultivate innovative design planning skills. Students will conduct in-class projects based on an understanding of the design planning process and methodologies used in the design process, from generating ideas to releasing products to the market. Students will learn a range of skills for managing an organization, brand, service, and portfolio for optimizing design projects. Students will also investigate the structure and work processes that create successful design environments.

Product Design

This course will expose students to rapid prototyping technologies to implement ideas and the methods for researching and space models. In addition, students will learn how to effectively and creatively present their space design concepts and projects.

Living Space Design

This course will pay attention to concept sketches, rendering skills, and space models. In addition, students will learn how to effectively and convincingly present their space design concepts and projects.

Digital Fabrication

This course will expose students to rapid prototyping technologies to implement ideas and the methods for researching and space models. In addition, students will learn how to effectively and convincingly present their space design concepts and projects.

Social Issues and Design

This course will expose students to rapid prototyping technologies to implement ideas and the methods for researching and space models. In addition, students will learn how to effectively and convincingly present their space design concepts and projects.

Transportation Design

This course will expose students to rapid prototyping technologies to implement ideas and the methods for researching and space models. In addition, students will learn how to effectively and convincingly present their space design concepts and projects.

Human Behavior and Design

This course will expose students to rapid prototyping technologies to implement ideas and the methods for researching and space models. In addition, students will learn how to effectively and convincingly present their space design concepts and projects.
Tangible Interaction Design

The quality of interaction, design, and service design is changing; it has become more integrated and invisible. The purpose of this course is to exercise the planning, designing, and implementation of integrated interaction design to enable communication between people and their environments.

Urban Space Design

This course is an advanced space design studio. Students will design a space for the public and develop the project through various phases from planning, concept development, drawing, and space models. In addition, students will learn how to effectively and convincingly present their space design concepts and projects.

Product System Design Project 1

This is a required course and pre-requisite for Space Design Project 2. The purpose of this course is to research, plan, and organize their projects for the graduation. The course will cover design planning, design development, and representation.

Product System Design Project 2

This is a required course for students to graduate, and pre-requisite for Space Design Project 2 and the mandatory graduation exhibition. The purpose of this course is to research, plan, and organize their projects for the graduation exhibition. The course will cover design planning, design development, representation, and implementation and planning for displaying projects in the graduation exhibition.
ipate in the mandatory graduation exhibition. Students will execute their plans and complete their transportation projects considering the future commuting and mobility issues. They present their design projects at the graduation exhibition. By completing these processes, students will accomplish the basic quality as a transportation designer to work in the design community.

The objective of this course is to develop students work through writing and publish their work together with product system, transportation, and/or space design projects. The premise of the course is writing is another way of thinking. Designers today are expected to be prolific writers, not in the studio or classroom, but on the internet on blogs, Twitter, messenger, and hashtags. The design and writing processes engage with each other to form dynamic and dialectic practice that helps designers in their practices of making and producing tangible things and spaces. Students will have to engage in accumulating, curating, framing, and publishing both in broadcasting and sharing with their peers.
and fabricating techniques. As well as mastering the use of hand tools used in basic joinery, they will gain an understanding of lumber, how to distinguish various types of lumber and their characteristics, as well as to prevent accidents, use proper work attire, and familiarize themselves with the operating rules of the lab. This course surveys the contemplation of craft and culture and the evolution of aesthetic values through history. Based on the notion that the intrinsic nature of craft is rooted in human life, the course examines the multifaceted stylistic development in the context of pluralistic society today. Students will learn to distinguish between the differences and relationships between arts and crafts and art culture, and are expected to become familiar with expressing their thinking in written papers.

This course intensifies the process developed in Theories of Craft Artists 1. It will lead students to develop their critical thinking abilities as they pertain to contemporary craft art and craft society. Students will get hands-on experience on how creativity works in the working field and will learn how to establish their own position and views about craft.

This course is to understand the history of craft and to explore the properties and technical characteristics of it. Students are introduced to various genres of ceramic art and metalworks and will explore the possibility of utilizing them as media. Throughout this course, students will learn the fundamentals of craft materials and its production methods, further offering basic knowledge and perspectives for those willing to specialize in the field.
Students will learn the properties of clay through working on the wheel and the effects of glaze and slip. This is a more advance course than Wheel Throwing 1. Students are expected to research the methods of wheel throwing and develop their own techniques. By using different kinds of clay, students are expected to acknowledge the nature of clay and the wheel, and are required to glaze and fire their objects. Through this entire procedure students will obtain the basic skills of wheel throwing.

6123.3103 제품도자 1 3-2-2

Product Ceramics 1

Students will learn rational planning of production ceramics and gain a first-hand understanding of its concept and production techniques. They will learn how to make plaster molds and items that can be made from the molds. The goal of this course is to understand the procedure of ceramic design products that are in our daily life.

6123.3104 제품도자 2 3-2-2

Product Ceramics 2

Students will learn the properties of clay through working on the wheel and the effects of glaze and slip. This is a more advance course than Wheel Throwing 1. Students are expected to research the methods of wheel throwing and develop their own techniques. By using different kinds of clay, students are expected to acknowledge the nature of clay and the wheel, and are required to glaze and fire their objects. Through this entire procedure students will obtain the basic skills of wheel throwing.

6123.2110 도자와 문화 1 3-2-2

Ceramics and Culture 1

This course provides students with the opportunity for specialized investigation of ceramics through reviewing and understanding the traditions and history of ceramics. Students will be exposed to the social, cultural, environmental trends in modern ceramics and ceramic arts providing them with an understanding and basic literacy necessary to expand the basic knowledge and understanding of everyday ceramics.

6123.2113 물레성형 1 3-2-2

Wheel Throwing 1

This course examines and conducts research on the problems in design and craft education through critical writing and debate. The aim is to raise students’ ability to adhere to their own critical viewpoint based on a fundamental understanding of the field by practicing critical writing skills that address various perspectives and issues in design and craft education.

6123.2114 물레성형 2 3-2-2

Wheel Throwing 2

This course will examine the gain knowledge of the properties of clay through practical experience. The first sequence of the course will be to make the basic form of a vessel, followed by making a plate, water jar, and finally a kettle. The basic knowledge of the percentage of clay and water and the relation between rotation and the power of wheel is achieved in this course as fundamental to understanding the nature of wheel throwing. Achieving skill is more important than learned knowledge in this course.

Handbuilding

This course examines and conducts research on the problems in design and craft education through critical writing and debate. The aim is to raise students’ ability to adhere to their own critical viewpoint based on a fundamental understanding of the field by practicing critical writing skills that address various perspectives and issues in design and craft education.
and Triaxial-Blend. Students are required to acknowledge the nature of glaze by testing various glazes and actually make a glaze. The course also includes using and maintaining the tools used to make glaze.

6123.3110 개별연구 및 세미나 1 3-2-2

Independent Study and Seminar in Ceramics 1

<개별연구 및 세미나 1>의 개별연구에따르기로 개인별, 그룹별 과제에 관한 개별적 유약을 만드는 방법을 배운다. 개인별 유약실험을 통해 작업에 적합한 유약을 만들어 평가한다. 실험을 통해 만들어낸 시런을 직접 작품에 적용해 보며 유약의 활용을 탐색해 보고 유약의 성질에 관한 정보를 수집하고 정리하는 것도 그 내용에 포함한다. 그룹별 유약실험은 안료 및 소지에 관한 포괄적인 실험을 개개인별로 나누어 진행한다. 또한 실험결과물의 정리 및 보존을 위한 여러 가지 일들도 수업의 내용에 포함한다.

This course deepens the materials covered in Ceramic Materials 1 through individual, or group research. Students are expected to test different kinds of glaze and collect and arrange the data of various glazes according to their nature and source. This progress involves applying data obtained by glazing test-peace data from the actual manufacturing process. The method of arrangement and preservation of test data is also taught in this course.

6123.3118 도자재료연구 2 3-2-2

Ceramic Materials 2

<도자재료연구 2>의 개별연구로서 개인별, 그룹별 과제에 관한 개별적 유약을 만드는 방법을 배운다. 개인별 유약실험을 통해 작업에 적합한 유약을 만들어 평가한다. 실험을 통해 만들어낸 시런을 직접 작품에 적용해 보며 유약의 활용을 탐색해 보고 유약의 성질에 관한 정보를 수집하고 정리하는 것도 그 내용에 포함한다. 그룹별 유약실험은 안료 및 소지에 관한 포괄적인 실험을 개개인별로 나누어 진행한다. 또한 실험결과물의 정리 및 보존을 위한 여러 가지 일들도 수업의 내용에 포함한다.

This course deepens the materials covered in Ceramic Materials 1 through individual, or group research. Students are expected to test different kinds of glaze and collect and arrange the data of various glazes according to their nature and source. This progress involves applying data obtained by glazing test-peace data from the actual manufacturing process. The method of arrangement and preservation of test data is also taught in this course.
The aim of this course is for students to make a realistic plan for their final graduation project.

This course deepens the content covered in Independent Study & Seminar in Ceramics 1. Students will develop their own working process and expand it through individual study. The goal is for students to develop a new expression, materials, and techniques for their own working process that will lead to a new formative language.

6123.4113 도자산업 및 유통 1 3-2-2

Ceramic Production and Marketing 1

This course deepens the content covered in Independent Study & Seminar in Ceramics 1. Students will develop their own working process and expand it through individual study. The goal is for students to develop a new expression, materials, and techniques for their own working process that will lead to a new formative language.

6123.4114 도자산업 및 유통 2 3-2-2

Ceramic Production and Marketing 2

This course deepens the content covered in Independent Study & Seminar in Ceramics 1. Students will develop their own working process and expand it through individual study. The goal is for students to develop a new expression, materials, and techniques for their own working process that will lead to a new formative language.

6123.4112 도자조형 2 3-2-2

Formative Ceramics 2

This course deepens the content of Formative Ceramics 1. Working on individual themes, students learn how to incorporate a scientific understanding of ceramic materials and knowledge of working techniques in creating ceramic art. Ceramics 4 is the final course that should be taken after having completed Ceramics 1, 2 and 3. Students are expected to understand techniques used in ceramic art through continuous practice and manufacture, create forms that express their theme, and show individuality and creativity in their art work.

6123.4111 도자조형 1 3-2-2

Formative Ceramics 1

This course deepens the content of Formative Ceramics 1. Working on individual themes, students learn how to incorporate a scientific understanding of ceramic materials and knowledge of working techniques in creating ceramic art. Ceramics 4 is the final course that should be taken after having completed Ceramics 1, 2 and 3. Students are expected to understand techniques used in ceramic art through continuous practice and manufacture, create forms that express their theme, and show individuality and creativity in their art work.

6123.4110 도자조형 3 3-2-2

Formative Ceramics 3

This course deepens the content of Formative Ceramics 1. Working on individual themes, students learn how to incorporate a scientific understanding of ceramic materials and knowledge of working techniques in creating ceramic art. Ceramics 4 is the final course that should be taken after having completed Ceramics 1, 2 and 3. Students are expected to understand techniques used in ceramic art through continuous practice and manufacture, create forms that express their theme, and show individuality and creativity in their art work.

6123.4110 도자조형 3 3-2-2

Formative Ceramics 3

This course deepens the content of Formative Ceramics 1. Working on individual themes, students learn how to incorporate a scientific understanding of ceramic materials and knowledge of working techniques in creating ceramic art. Ceramics 4 is the final course that should be taken after having completed Ceramics 1, 2 and 3. Students are expected to understand techniques used in ceramic art through continuous practice and manufacture, create forms that express their theme, and show individuality and creativity in their art work.

The goal is for students to make a realistic plan for their final graduation project.

Students will improve their skills for developing their own work by conducting research related to a theme of their choice. The steps taken in the foundation courses will help students to choose the techniques that best fit their project. The aim of this course is for students to make a realistic plan for their final graduation project.
6124.2103 장신구 1  3-2-2  
Jewelry 1

장신구의 다양한 개념들을 이해하고 디자인과 제작과정을 통해 창의적인 장신구의 가능성을 연구한다.

Through understanding diverse concepts of jewelry, students examine its creative possibilities through designing and employing basic metal craft techniques, such as cutting, soldering, and polishing. This course encourages students to think about objects closest to the body, discover liberal expression, and develop skill in the basic techniques of jewelry.

6124.2104 장신구 2  3-2-2  
Jewelry 2

<장신구 1>의 발전된 과정으로 응용기술을 연습한다. 장신구의 다양한 개념들을 이해하고 디자인과 제작과정을 통해 창의적인 장신구의 가능성을 연구한다. 금동적인 개념의 정의에서부터 끝까지 장신구가 개념의 확대성을 통해 금속공예의 영역에 표현할 수 있는 장신구의 경계를 체험한다. 본 과정은 장신구를 중심으로 다른 과정으로 창의적인 제작에 필요한 모든 기 본적인 제작기법과 사용되는 재료의 이해를 우선으로 한다.

This is an advanced course of practicing applied techniques. Students will study the possibilities and potential of jewelry through various conceptual frameworks, designs, and making processes. Basic metal craft techniques, materials, and techniques will be applied to jewelry. Students are expected to obtain most of the basic skills of making and understanding of materials used in creating jewelry.

6124.2115 금속재료 및 기법 1  3-2-2  
Metals and Techniques 1

전반부에서는 금속공예에서 다루어지는 재료들을 폭넓게 이해하는 과정으로 비철금속을 중심으로 각각의 특성과 장 단점을 이론적으로 파악한 후 필요한 실험을 통해 가공성을 경험하는 과정으로 구성된다. 후반부는 금속공예 고유의 기술과 기법들을 토대로 다양한 재료를 구성하거나 표현하는 목적으로 이들 재료를 활용하여 사용할 수 있는 기법을 연습한다. 창의적인 형태의 표현이나 창의적 표출보다는 제조와의 전통성을 가진 기법의 연습으로 한다.

This class will introduce the students to study nonferrous metals used in Metalwork & Jewelry, students learn each technique in accordance with the materials. In the later part of the course, students are expected to organize of express forms with the skills and techniques based on metal work and practice the basic techniques which enables them to do so. This course is focused on giving the students familiarity of the materials rather than letting them express their originality or individuality.

6124.2116 금속재료 및 기법 2  3-2-2  
Metals and Techniques 2

<금속재료 및 기법 1>의 심화된 과정으로 지속적인 기법연습을 통해 금속재료의 조형가능성에 대한 탐구를 계속하며, 개별프로젝트를 진행하여 재료와 기법의 유기적 연계성을 바탕으로 한 새로운 재료와 기법의 발전가능성에 대한 실험연구를 진행한다. 재료에 대한 심화된 인지와 바탕으로 금속공예에 대한 문제, 금속을 이용한 기타 모든 생산방식에 새로운 재료의 효용성에 대한 연구도 같이 개발한다.

This class is a deepening course connected with <Metals & Techniques 1>. Students will continue to survey the plastic possibilities, together with a personal project focused on the organic connection with materials and techniques. Based on the deepened research on materials, research to apply the new materials to all kinds of manufacturing process including metal works is also to be carried on.

6124.3101 금속공예 1  3-2-2  
Metalwork 1

금속공예전공의 수업과정 중 단계를 이루는 수업형태로 <금속공예 1>은 시작으로 향후 4학기 동안 진행되는 연계된 과정이다. 다양한 금속공예의 조형언어들 중에서 금속공예의 전통적인 가공 기법과 현대적 가공기술을 비교 검토하여 시대에 맞게 변화하며 이를 기술들을 구사하는 폭넓은 조형의 가능성을 탐구한다. 기존의 기법 습득을 바탕으로 본격적으로 창의적인 작업을 시작하는 과정이다.

This is the first in a series of Metalwork & Jewelry courses that continues over four semesters. In this course, the students will survey various methods of working with metal in different time periods to give students a more universal comprehension techniques and applications. Based on the basic skills obtained in the basic courses, this course requires students to show their originality in design and personal expression.

6124.3102 금속공예 2  3-2-2  
Metalwork 2

금속공예전공의 두 번째 연계과정으로 인상적인 생활구조와 공간에 필요한 유용성에 바탕을 두 응용제작을 통하여 인간생활과의 관련성을 연구한다. 기존의 기법이 개인이 원하는 조형의 표현을 위한 기법의 연습과재료의 조합에 의해 실험을 통해 금속공예에 응용면과 디자인의 연계성에 대한 연구의 도입과정이라 할 수 있다.

This course is the second course provided for the Metalwork & Jewelry major students. Products are designed in the context of life and space in everyday life, to show how metalwork and jewelry relate to human life. While previous course was an introduction and preparation for how to express ideas into an actual three-dimensional object, this course begins to examine how to apply the skills of metalsmithing and the knowledge of materials into producing items that are part of our every-day life.

6124.3103 장신구 3  3-2-2  
Jewelry 3

장신구의 다양한 개념들을 이해하고 디자인과 제작과정을 통해 창의적인 장신구의 가능성을 연구한다. 전통적인 개념의 장신구의 정의에서부터 발생해져서 창의적 개념의 확대를 통해서 금속공예의 영역에서 표현할 수 있는 장신구의 경계를 체험한다.

By understanding diverse concepts in jewelry and design with crafting, students will study the creative possibilities of jewelry making. Students will explore traditional stone-setting, pinback techniques, and forms. They will examine the foundations, concepts, techniques, and materials of traditional jewelry to expand their knowledge of jewelry making.
장신구의 현대적인 해석방법을 토대로 문화와 사회적 요구에 따른 장신구 디자인 개발과 제작기술 방법을 익힌다. 학생들은 그 동안 익힌 제반기술과 제조의 이해를 기반으로 해서 본격적인 작가 마인드를 통해 개인의 창의성과 독창성을 표현하는 데에 주안점을 두고 동시에 생활에 필요한 공예라는 개념을 심층적으로 연구한다.

Participants are expected to express their personality and originality in their work by applying the skills and knowledge they have obtained so far. They will be required to study the general idea of craft in everyday life, and exhibit motivation in using all the techniques they have learned so far.

조형에 대한 기본적인 인식을 바탕으로 공예가 다루는 재료의 특성을 이해함으로써 개인의 재료에 대한 이해와 활용을 넓히는 것을 목적으로 한다. 동합금, 알루미늄, 철 등의 재료를 바탕으로 용접과 단조, 조각 등의 기술을 습득하고 우리나라의 전통 기법에 대한 다양한 착색방법을 실험한다. 현대의 공예기법과 더불어 전통 기법을 습득함으로써 보다 다양한 조형의 가능성을 모색하게 한다.

The intention of this course is to widen the craftsman's basic understanding of modeling with different materials. Based on copper, aluminum, iron, etc, this course develops a student’s knowledge of metal skills, such as welding, forging, sculpting, and practices traditional Korean inlay and coloring techniques. Rather than just practicing with modern and traditional craft techniques, students are expected to explore the various possibilities of modeling.

장신구의 기존 개념을 확대하여 인체의 모든 부문과 신변을 위한 포괄적 개념의 장신구를 연구한다. 장신구의 개념과 영역이 인체의 일부분에 국한되어 있지 않음을 이해함과 동시에 그 영역의 확대에 대한 진지한 고찰을 목적으로 한다. 자연체인 인체와 인공물인 장신구와의 조화에서 나타나는 부조화를 조화로움으로 승화시키는 과정을 통해서 보다 넓은 의미의 공예를 체험할 수 있도록 한다.

The existing concept of ornament as limited to the human body is expanded to include ornament for every part of the body and its surroundings. This course expands the boundaries of ornamentation and craft. Students will learn the process of creating harmony between the naturally-made and man-made jewelry.

장신구의 기존 개념을 확대하여 인체의 모든 부분과 신변을 위한 포괄적 개념의 장신구를 연구한다. 장신구의 개념과 영역이 인체의 일부분에 국한되어 있지 않음을 이해함과 동시에 그 영역의 확대에 대한 진지한 고찰을 목적으로 한다. 자연체인 인체와 인공물인 장신구와의 조화에서 나타나는 부조화를 조화로움으로 승화시키는 과정을 통해서 보다 넓은 의미의 공예를 체험할 수 있도록 한다.

This course is designed to give students knowledge of applied design, strengthen their perceptual and philosophical concepts, and develop their individual modes of expression. Participants are expected to express their personality and originality through out their work by applying the skills and know-how they have obtained so far. They will be required to study the general idea of craft in everyday life, and exhibit motivation in using all the techniques they have learned so far.
미술대학(College of Fine Arts)

6124.4105 공간과 장식 1 3-2-2
Space and Ornament 1

인간의 삶과 주거공간에 대한 이해를 바탕으로 인간생활의 질적 가치를 제고한 공간을 제공해 줄 수 있는 창의적 환경을 제공해 줄 수 있는 내용을 연구한다. 장신구가 꾸미는 공간이 인체에 한정되어 있다는 고정관념에서 탈피해서 인간이 활동하는 모든 영역에 금속의 영향이라는 개념을 탐구한다. 또한 공간 자체가 창신구의 영역임 수 있다는 개념을 통해서 공예의 개념과 영역의 확대에 대한 연구를 행한다.

On the basis of understanding human life and living space, students will investigate creative surroundings that offer a high quality of living. Students will learn about the space that jewelry can decorate, not only on the human body, but to the areas with which the human body interacts. They will research spaces that can be set for jewelry, and through this research expand the boundaries of craft.

6124.4106 공간과 장식 2 3-2-2
Space and Ornament 2

인간의 삶과 주거공간에 대한 이해를 바탕으로 인간생활의 질적 가치를 제고한 공간을 제공해 줄 수 있는 창의적 환경을 제공해 줄 수 있는 내용을 연구한다. 장신구가 꾸미는 공간이 인체에 한정되어 있다는 고정관념에서 탈피해서 인간이 활동하는 모든 영역이 인체의 연장이라는 개념을 탐구한다. 또한 공간 자체가 창신구의 영역임 수 있다는 개념을 통해서 공예의 개념과 영역의 확대에 대한 연구를 행한다.

On the basis of understanding human life and living space, students will investigate creative surroundings that offer a high quality of living. Students will learn not only how jewelry can decorate the human body, but extend this space to include areas with which the human body interacts. Students will research space that can be set for jewelry, and through this research expand the boundaries of craft.

M2182.001100 기초 도예 2-1-2
Basic Metalwork

이 수업은 기초과전공 1학년 학생들을 위한 기초과정 전공선택 수업으로, 학생들은 도예 작품 제작에 있어서 기본적인 기초과정을 목표로 한다. 수업의 내용은 롱이라는 매체를 이용해 손사진과 플래시형 등 기본 제작 환경과 재료와 도구 및 유용과 소소 그리고 설비의 운용과 관리에 관한 교육으로 구성된다. 도자공예의 작업 과정에서 필요한 기초의 기법을 학습하고 이를 바탕으로 구조, 아이디어의 전개와 공간 구성을 학습하게 된다. 이 과정에서 심미적, 기능적 차원과 함께 기술적 차원을 통합적으로 접근하도록 시도한다.

This is a course for the 1st year art students to gain further understanding of ceramic field. By using clay, students will learn how to handbuild, wheel throw, and learn the basics of ceramic techniques and gain the ability to develop ideas from these techniques. Students will further understand aesthetic, technical, and functional aspects of craft.

M2182.001200 기초 금속공예 2-1-2
Basic Metalwork

이 수업은 미술대학 1학년 학생들을 위한 기초과정 전공선택 수업으로, 학생들은 금속공예에 대한 탐색으로서 금속의 절단, 성형, 결합, 표면처리, 마감 등 금속공예의 작업과정에서 필요한 기초적 기법을 학습하고 이를 바탕으로 구조, 아이디어의 전개와 공간구성을 학습하게 된다. 이 과정에서 심미적, 기능적 차원과 함께 기술적 차원을 통합적으로 접근하도록 시도한다.

This is a course for the 1st year art students. Students will acquire knowledges on the basic fundamentals of metalcraft techniques including cutting, shaping, joining, surfacing and finishing, and will also gain the ability to develop ideas from these techniques. Through this learning process, students will further understand aesthetic, technical, and functional aspects of craft.
613.201 미디어 프로그래밍 기초실습 2-1-2
Basic Media Programming

This class offers basic knowledge of digital media software, media programming language and its practice. By understanding the structure of programming code and digital image programs, students apply them to create digital drawing, digital images and motion images. The relationship between digital code language and visual images will be examined and practiced.

613.202A영상매체 기초실습 2-1-2
Video Media Art Basic Practice

This class offers fundamental practices for creating video media art. Video shooting, lighting, sound and editing will be practiced for beginners. Students experiment various works using video and digital media tools, while understanding the characteristics of time-based media art.

613.254 디지털매체 기초실습 2-1-2
Basic Practice of Digital Media

This class offers not only the basic understanding for media art in the context of the history of contemporary art, but also essential characteristics of media art. The origin, progress and evolution of media art in a historical view will be examined. And media artists and their works will be surveyed as well. Also the various art related areas, such as cinema, contemporary art, culture and social backgrounds for media art will be examined for improving the understanding of media art.

613.255 미디어 아트의 이해 3-3-0
Understanding of Media Art

This class offers not only the basic understanding for media art in the context of the history of contemporary art, but also essential characteristics of media art. The origin, progress and evolution of media art in a historical view will be examined. And media artists and their works will be surveyed as well. Also the various art related areas, such as cinema, contemporary art, culture and social backgrounds for media art will be examined for improving the understanding of media art.

613.251A 전기 전자매체 기초실습 2-1-3
Basic for Electronic Media Practice

This class offers fundamental practices for creating electronic media art. Video shooting, lighting, sound and editing will be practiced for beginners. Students experiment various works using video and digital media tools, while understanding the characteristics of time-based media art.

613.302* 현대매체예술 2-1-2
Video Art

1960, 70년대 등장한 비디오 아트에 대한 개념과 역사를 살펴보고 80,90 년대의 비디오 아트를 거쳐 오늘날에 이르기까지의 비디오 아트의 특성과 작업을 고찰한다. 비디오 아트의 특성과 차별성 등을 연구하고, 다양한 비디오 아트 작품을 살펴본다.

In this class, the history and characteristics of Video art in 1960 and 70s, and works of Video Art from 1980s and 90s to contemporary Video art works will be examined. Particular aspects and characteristics of Video arts will be studied and various Video art works such as single channel video and multi-channel video projection installation will be practiced.
미술대학(College of Fine Arts) ∴ 연합전공 영상매체예술(Undergraduate Courses Program in Media Art)

매체예술의 기원과 흐름을 살펴본다. 현대미술의 흐름에 있어서 매체예술 작가와 작품의 특성을 살펴보고 그 특성과 성향 등을 이해하도록 한다.

This class offers the history of media art which has used film, TV, object, video, digital media and so on since modern art age. Also the characteristics of media art works and media artist will be studied.

613.303A 인터랙티브 프로그래밍 2-1-2
Interactive Media Programming

디지털 프로그래밍과 전자적인 장치를 이용한 인터랙티브 영상, 영상을 구현하는 과정을 살펴본다. 이를 위한 프로그래밍 과정을 기초부터 실습하며 단계적으로 영상을 제어하기 위한 전자적 장치 등도 심화하도록 한다.

This class offers digital programming and related electronic tools for video media interactivity. Basic digital programming, software, and electronic technology will be studied and practiced. Students will create the project based on their own concept and perspectives.

613.305 드로잉과 매체 2-1-2
Drawing and Media

자유로운 평면 드로잉 표현과 다양한 디지털 또는 전자적인 매체와의 연관성을 모색하고, 현대 회화의 다양한 쟁점들 혹은 학생 개인의 자유로운 개념과 표현을 매체를 통한 드로잉으로 제시하는 실험적인 과정을 실습한다.

In this class, the relationship between various digital or electronic media and drawing in modern art will be examined. And students practice their own concept and expression through drawing by various media in experimental ways.

613.306 코드 이미지 표현 2-1-2
Code Image Expression

디지털 프로그래밍 코드를 사용하여 드로잉 및 다양한 이미지를 구현하는 수업으로서 디지털 코드와 사각 이미지의 표현 및 제한과의 상관관계와 그 개념 등을 연구한다.

This class offers the practice of digital programming code to create drawing, images, series of various images. Also the relationship between digital coding, visual images will be examined.

613.307A 전기전자매체 2-1-2
Electronic Media Practice

본 과목은 산업사회의 발달과 함께 여러 영역에서 개발되는 새로운 산업을 체험하고, 센서와 같은 전기 전자 기기 등을 자신의 작품제작에 활용, 실험하는 수업이다.

In this class, various new materials developed in modern industry, such as new industrial materials, sensors and electronic/electrical equipment, will be examined, practiced and experimented. Students will be using these new materials in their art works.

613.357A 미디어 아트 2-1-2
Media Art

본 수업은 영상 뿐 아니라 뉴미디어의 다양한 도구들을 사용하여 작품을 제작하는 수업이다. 상징제안 비디오, 영상설치, 인터랙티브 영상 및 코드와 전자적인 매체 등을 통하여, 학생들은 자신이 표현하고자 하는 개념과 주제를 다양하게 실험한다. 본 수업의 목적으로, 학생들이 본인 작업의 이론적 특성을 함께 개발하여, 자신의 작업들이 다양한 기술적인 구현이 아니라 미디어 아트의 개념적이고 조형적 특성을 탐구하는 작업들로 제시되도록 한다.

In this class, students create media art works using from video to various new/media tools. Using various media such as single channel video, video installation, interactive video, coding or electronic media, students express their own concept and theme. Also examining theoretical and conceptual aspects of the work, students present their works as the result of experimenting on visual and conceptual properties, not just as presenting of technological aspects.

613.358A 사운드매체 표현 2-1-3
Expression of Sound Media

본 수업은 미디어 아트 영역에 있어서 사운드 아트와 연관된 이론과 작업을 살펴보고, 사운드 매체 표현과 연관된 실습을 병행하는 기초 과목이다. 기본적으로 사운드를 제작하는 디지털 미디어 툴을 익히고, 학생들은 자유롭게 사운드 매체 작업을 실험하도록 한다. 독립적인 사운드 매체 작업 및 아트 학생 자신의 다양한 미디어 작업과 함께 제시될 수 있는 작업들도 함께 실습하도록 한다.

In this class, students survey sound media art works and the theories in the area of media art and experiment sound media expression. By learning basics on sound media digital tools, students practice various sound media and its expanded methods. Students may create not only their own works based on sound media independently, but also make works to be combined with their other media projects.

613.359 미디어오브제설치 2-1-2
Media Object Installation

본 과목은 영상과 시공간, 오브제를 결합하여 해석해보는 작품 제작 연구과정. 주로 오브제 개념을 분석하고 디지털 미디어와의 연관성을 경험하고 연구하여 작품을 제작하는 수업이다.

In this class, students will critically analyze their works with video, time-space and object. Especially, critical surveys of the relationship between video and objects will be performed by students.

613.360 3D 애니메이션 2-1-2
3D Animation

본 과목은 다양한 3D애니메이션 툴을 익히고 이를 이용해 애니메이션을 제작하는 수업이다.

The class enables students to learn various 3D animation tools and utilize these tools to create a short animation.

613.361 인터랙티브 매체 워크샵 2-1-2
Workshop for Interactive Media

인터랙티브 프로그래밍, 코드, 전자 장치 등을 배우고 실습한다. 단지 기술적인 구현만이 아니라 학생들은 자신의 작업 주제와 개념을 함축하고 제시할 수 있는 인터랙티브 영상 설치 작업을 자유롭게 실험하도록 한다.

By learning interactive programing, code, and electronic
equipment, students practice and experiment interactive media installation works. Concepts and themes of the work should be presented as essential aspects, not just as the result of technological process. In this workshop, various interactive tools and methods will be practiced to expand the concept of the work.

613,362 매체예술담론 3-3-0
Discourse on Media Art
본 수업은 현대 미술에서 전개되고 있는 미디어 아트의 특성과 이론에 대해 고찰하는 수업이다. 미디어 아트의 기원과 전개 및 현황들을 개괄하고 이와 관련한 현대미술의 다른과 미디어 아트의 제한 이론들을 살펴본다. 또한 이와 관련된 인문학 및 사회학 혹은 미디어 문화 영역 등도 아울리 비교연구 하고, 매체예술의 본질적인 미학적 특성과 그 의미들을 분석한다. 또한 매체예술의 미술사적 전개가 이러한 개념과 이론을 포함하고 제시하는지 아울리 분석해 본다.

In this class, the particular characteristics and theories of media art in the context of contemporary art will be examined widely and deeply. The origin and progress, and current aspects of media art will be surveyed and compared with discourses of postmodern art. Also areas of humanities, sociology, theories of media culture which are related to media art will be examined. The essential aesthetic discourses of media art will be studied, based on comparative study on issues and concepts of media arts.

613,401A 미디어 스튜디오 1 2-0-4
Media Studio 1
미디어 작업과 관련된 제반 기술을 기반으로 하여 창의적인 주제와 개념을 표현 제작한다. 단지 기술적인 구현이 아닌 매체 예술의 개념과 담론의 맥락에서 창조된 학생 각자의 주제의식과 개념이 구현된 다양한 미디어 작업을 창작한다.

Based on various advanced media technologies, students express and embody their creative media works with meaningful themes and concepts which are worked in the context of media arts discourses and ideas rather than embodiments of technological presentation.

613,402A 미디어 스튜디오 2 2-0-4
Media Studio 2
미디어 작업과 관련된 제반 기술을 기반으로 하여 창의적인 주제와 개념을 표현 제작한다. 단지 기술적인 구현이 아닌 매체 예술의 개념과 담론의 맥락에서 창조된 학생 각자의 주제의식과 개념이 구현된 다양한 미디어 작업을 창작한다.

Based on various advanced media technologies, students express and embody their creative media works in advanced with meaningful themes and concepts which are worked in the context of media arts discourses and ideas rather than embodiments of technological presentation.

613,405 뉴미디어 조형론 3-3-0
New Media Art Theory
현재 미술에 있어서 다양한 뉴미디어 작품들의 특성과 경향들을 살펴보고 뉴미디어에 대한 담론과 조형적 이론 등을 연구한다. 미디어 아트이후 디지털 미디어 창작 기술 등을 이용한 작품들을 감토하고 그 조형적 특성을 파악하도록 한다.

This class offers a survey for the characteristics of new media art works in contemporary art. Related various approaches, theories and discourses of new media art will be examined. Media Art works, from video art to current cutting-edge new media art, will be widely and thoroughly dealt with and their visual characteristics will be studied as well.

613,451 다차원 미디어 스튜디오 1 2-0-4
Multi-dimension Media Studio 1
본 과목은 미디어의 전반적이고 포괄적인 개념과 테크닉을 자신의 방식으로 해석, 활용하여 여러 차원의 시공간에서 구현하는 작품을 제작하는 수업이다.

This class allows interpreting the general concept and technique of media. Students will apply these researches to embody media works in various multiple dimensions.

613,452A 미디어 기획 2-1-2
Media Planning
작품의 개념에 따라 활용할 수 있는 적절한 기술적 방법론을 찾고 그에 따르는 효율적인 구현을 위한 기획을 작성하여 프레젠테이션하는 실습 수업이다.

Study and plan proper strategies and methodologies to embody the concept of the media-related real works, and then make an effective proposal for presentation.

613,455 미디어와 공간 2-1-2
Media and Space
영상 및 전자제어 기술과 실제 환경에 대한 다양한 해석을 바탕으로 공적 환경에서 미디어 작품이 어떠한 맥락으로 대중들과 소통할 수 있는가를 분석하는 작품제작 수업이다.

Based on the various interpretation on moving images, electronic-control technologies and real environments, analyse and embody media works to communicate people with certain context in various spaces and public environments.

613,456 미디어와 평면 2-1-2
Media and two-dimensional forms
다양한 매체를 통하여 평면조형과 시각적 표현의 확장 가능성을 살펴본다. 디지털, 전기전자, 혹은 관련된 다양한 방식 등을 통하여 평면조형의 확장을 실현하고, 융합적인 방식에 의한 확장된 평면성 매체작업을 창조한다.

Practice the extending possibilities of visual expression and two dimensional visual forms with various media. Digital, electronic, and related various methods will be using to experiment the extending media forms of two dimensional
visuality and create those works by inter-related media and methodologies.

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<th>613.461 미디어아트 실습 1 2-1-3</th>
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Media Art Practice 1

본 수업은 졸업 작품을 제작하는 4학년학생들의 작업을 기술적으로 지원하고 연구하는 실습 수업이다. 기본적으로 윤강으로 이루어지며, 선생님들은 학생 개인의 미디어 작업에 필요한 기술적인 지원을 개별적으로 제공하여 진행한다. 학생들은 각기 자신의 작업에 대한 명확한 주제와 계획을 제시해야 하며, 이에 따른 미디어 프로그래밍, 전자매체 미디어, 3D print 등 필요한 기술적 재료 과정을 연구하고, 자신의 작품을 제작하도록 한다.

This class offers technological practice and production process for students who prepare the works for the degree show. Basically, several instructors will help students who need technological supports for their works. Students must have specific work plan and theme to complete their works. In this class, students learn and practice for themselves media art technology for their works, such as media programming, electronic media, 3D print and so on.

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<th>613.462 미디어아트 실습 2 2-1-3</th>
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Media Art Practice 2

본 수업은 미디어 실습1을 지속하여 진행하는 수업이다. 수업 목표와 진행은 동일하게 진행되며, 졸업작품을 완성하기 위한 목표를 갖고 진행된다. 학생들은 졸업 작품을 위한 구체적이고 명확한 계획과 주제를 갖고 있어야 하며, 필요한 기술적인 측면을 연구하고 문제를 해결하도록 한다. 작품의 미디어 기술적인 측면을 연구하고 문제를 해결하며 학생 스스로 미디어 첨단 작품을 제작할 수 있는 능력을 고취하도록 한다.

This class continues the process of Media Practice 1. Students must have concrete and specific theme and plan for their works. And students are supposed to study, practice and solve technological process and problems to complete their media art works. This class aims to cultivate students abilities to create media art works by themselves with practicing technological process.
사범대학
College of Education
 통합사회과목(Extradepartmental Courses in Integrated Social Studies Education)  

700.101A  공동사회과학교과론  3-3-0

Integrated Social Studies Education

이 과목은 ‘공동사회’ 전공교사 양성과정에서 제시된 기본이수 과목으로서, 공동사회과 교육에 있어 가장 기초적인 과목이다. 일반사회, 역사, 지리 등의 사회과 제반영역에 대한 교육론을 개관하며, 이와 함께 중등학교 사회과교육의 목표와 교육과정 및 교육방법의 근본경향, 사회과학과 공동사회교육의 관계 등을 검토하면서 우리나라 현장에 직접적 도움이 공동사회과 교육의 방향과 방법을 도출하는 데에 본 과목의 목표가 있다. 공동사회교육은 관련 최근의 연구경향와 주요한 도입이 이 과목의 중요한 부분이며 이러한 연구는 앞으로 사회과 자기영역에서 교재연구와 지도방법 등을 전문적으로 섭취하는 데 기초가 된다.

In this course, which is a core mandatory curriculum for training intermediate school teachers, students will survey education theories of a variety of social studies such as history, geography and general society, and review the latest trends in the aims, curriculum, and methods of secondary school social studies education. Also, the relation between social science and integrated social studies education will be examined. The purpose of this course is, based on these basic investigations, to seek the direction and methods of integrated social studies considering the present condition of Korean society.

700.122  한국사개론  3-3-0

Introduction to Korean History

한국사에 대한 체계적 인식을 바탕으로 그 내적인 발전과정을 이해하고, 그 연장에서 오늘날 우리 사회의 제반 과제를 역사적으로 파악함으로써 민족의 바람직한 미래를 도출한다. 아울러 정치역사교사 및 역사학 연구자로서의 교육과 연구 활동에 필요한 기초지식과 자질을 함양한다.

In this course, students will study the Korean history systematically in relation to world history, so as to gain the traditional historical attitude and viewpoint essential in teaching social studies.

700.131  인문지리학  3-3-0

Human Geography

인문지리학의 기본 개념, 방법, 주요 주제에 대한 기본적인 전개와 도입을 목적으로 한다. 지리학의 연구대상인 공간조직 및 그 구조적인 패턴과 과정을 이해하고 설명할 수 있는 능력을 얻고 싶어념에 따라 관련 지리학의 전문분야 간의 연계와 그 본질적인 특성을 학습한다. 내용상으로는 문화적 현상, 경제적 현상, 사회적 현상, 심리적 현상 그리고 다른 제한사항이 지표공간을 어떻게 구성하고 있으며, 그 과정은 어떤 구체적인 법칙에 의해 자발되고 있는가를 밝혀보는다. 또한 지표공간을 구조화하고 변화시키는 가장 중요한 역할을 하는 인간의 행태와 태도, 가치관에 대해서도 관심을 기울인다.

This course studies the Earth’s biophysical systems. Specific topics will include human spatial decision-making, migration, population growth, economic development, and industrial location.

700.132  자연지리학  3-3-0

Physical Geography

지표상의 자연현상을 구성하는 제 요인인 기후, 지형, 식생, 토양, 수면, 해양 등을 바탕으로 지표투영성에 관한 기본이념 및 그에 따른 자연현상의 성립을 파악하고, 그와 함께 인간과 자연현상과의 관계를 추구하는 지리적 사고의 기본을 마련하고자 한다.

This course studies the interactions among water, landforms, soil, and vegetation that create and modify the surface of the Earth.

700.211  정치와 사회  3-3-0

Politics and Society

사회과 교육의 내용의 주요부문으로서 정치학의 내용을 과목의 목표에 맞도록 구성한 것으로서 사회현상의 하나인 정치현상의 의의, 내용을 분명히 파악하기 위한 목표이다. 정치와 정치학적 관계, 정치학의 성립과 발전, 정치학의 연구방법 등의 정치학의 기본개념과 역사적으로 정치체계, 정치권력, 국가, 정치과정, 정치사상 등 전반적인 정치학 영역을 학습하여 정치현상의 효과적 이해방법을 탐구한다.

In this course, students, as future social studies teachers, will be introduced to political science. Topics will cover the analysis of social and political sciences, relationship between politics and political science, development of political science and its influence on political education, political ideals and political institutions, political power and political processes, and the state.

700.212  경제와 사회  3-3-0

Economy and Society

생산, 교환, 배분, 소비의 상호관계 및 국민소득의 결정, 경제구조, 경제성장과 변동 등에 관한 주요개념 등을 알아보고 이러한 것과 사회생활 및 경제생활의 변천과의 관계를 연구해 본다. 그리고 이와 함께 한국경제에서 중요한 위치를 차지하는 국제경제부분을 연구하고, 이로써 사회 내의 경제생활에 관한 기본개념과 이해를 형성한다. 그리고 이를 통해 국제경기의 변동과 한국 경제, 국민소득의 유형과 결정, 경제생장과 발전기준 등 구체적으로 알아보고자 한다.

Prerequisite for most economic education courses offered by the Department of Social Studies Education, this course will provide students with a basic understanding of economic decision-making. Students will be introduced to the key concepts of economic decision-making and its education. A structured sequence of readings and problem sets will form the backbone of the course and evaluation will be based primarily on three examinations and a final report.

700.213  사회와 법률  3-3-0

Society and Law

사회의 기본질서를 이루는 제 요인로서 사회현상에 대한 올바른 이해라므로 사회과교육의 목표에 박차가 없는화법, 특히 법에 관한 것을 탐구하는 과목이다. 법의 개념, 효력, 이념 등 법적요소에 대하여 검토하고 법의 일반원리와 공법, 사법 등의 분야를 개관하며 학생들이 사회생활에서 법적사를 존중하는 민법으로서의 자질을 갖추게 하도록 법에 대한 태도, 법의식을 아울러 연구한다.
This introductory course will help students to understand social norms including law. Students will study the concepts, effects, ideals, and general principles of law as well as the distinction between public and private law. They will also investigate various attitudes toward law and law consciousness in terms of citizens’ capacity to comply with law.

In this course, students will learn how to analyze current issues of society and main topics of a variety of Social Studies such as history, general society and geography systematically and scientifically from the integrated curriculum view and to cultivate the result logically.

In this course, students will learn how to analyzes current issues of society and main topics of a variety of Social Studies such as history, general society and geography systematically and scientifically from the integrated curriculum view and to cultivate the result logically.

### 700.231 지도학 3-3-0

**Cartography**

지도의 특성, 도법, 지도작성 및 제작과정 등을 공부한다. 특히 지도작성에서 지도내각자와 지도사용자의 유효적인 정보를 교환할 수 있는 여러 방법에 대한 연구와 실습을 강조한다.

This course addresses map and chart reading and use. It covers grid systems, projections, and practical map measurement.

### 700.311 문화와 사회 3-3-0

**Culture and Society**

고등학교 사회과교육의 사회, 문화 부분을 지도하기 위한 준비 과목으로서 문화인류학의 이론을 바탕으로, 효율적, 발전 과정, 문화변동, 한국문화가 담당하고 있는 문화의 제목과 학습 하는 과목이다. 이 과목은 크게 세 가지 부분으로 나누어진다. 먼저 문화에 관한 개념과 일반적인 이론을 학습하고 다음에 한국문화의 특수성, 사회변동과 문화적 갈등의 문제, 한국에 있어서의 전통문화와 현대문화의 갈등과 극복을 위한 과제 등을 연구한다. 끝으로 한국문화의 제목에 관하여 학생들이 발표를 하고 토론한다. 사회과 교육과 문화의 관계가 이 과목에서 계속적으로 추구된다.

This is a revised version of the course Introduction to cultural Anthropology for students majoring in social studies education. The course will help students to teach anthropology at secondary schools. Emphasis will be placed on anthropological concepts such as culture, cultural diffusion, developmental process of culture, enculturation, and value conflicts in Korea and Korean traditional culture and their current meaning.

### 700.312B 공통사회교과 교재 및 연구법 3-3-0

**Materials and Methods in Teaching of Social Studies Education**

중고등학교 ‘공통사회 과목’ 교재 및 연구법 (교재광역, 역사, 사회, 지리 등 교육계열 과목의 제안 영역을 포함하고 종합하는 교재개발 맥락, 지도방법과 관련한 강의 노하, 탐구방식, 그리고 평가방식을 중심으로 진행한다.

This course, which is a core mandatory curriculum for training intermediate school teachers, is made up of a set of lectures, discussions, and evaluation methods on the development of educational materials and its pedagogical construction. The academic range of this course covers a variety of Social Studies such as history, geography, and general society.

### 700.314A 공통사회교과 논리 및 논술 2-2-0

**Logic and Essay Writing in Integrated Social Studies Education**

국가 사회의 현상 문제들(이나, 역사, 사회, 지리 등)의 사회 계열 과목의 주요 관심 주제들에 대해서 공통과목의 관점에서 체계적, 과학적으로 분석하고, 그 결과를 논리적으로 표현하는 방법을 익힌다.

This course is a core mandatory curriculum for training pre-service school teachers majoring in integrated social
to understand the development of world history and enhance the international perspective. Students study the historical development of the Asia, Europe, and America, and the inter-regional exchange from ancient to contemporary. Through this, they can acquire basic knowledge and educational qualities needed as a history teacher and history researcher.

통합과학과목 (Extradepartmental Courses in Integrated Science Education)

700,252 일반물리학 및 실험 2 4-3-2

General Physics and Lab. 2

이 과목은 공통과학 전공 교사 양성과정에서 제시된 기본이수 과목으로서, 공통과학 교육에 있어 가장 기초적인 과목이다. 전자, 전기장, 가우스의 법칙, 전위, 기전력과 회로, 자기장, 압때의 법칙, 페리미трат의 법칙, 인덕턴스, 풍경의 자기적 성질, 전자기파, 기하학, 파동학, 양자물리, 상대론, 물질의 파동성과 입자성 등을 논의하며, 자기장의 측정, 오름의 법칙, R-L-C 전원회로, 일림턴스 측정, 리사를 꺾는 전력의 현상 등을 실험한다.

This requisite course is one of the basic courses for students majoring in common science education. Charge, electric field, Gauss’ law, electric potential, emf and circuit, magnetic field, Ampere’s law, Faraday’s law, inductance, magnetic properties of matters, electromagnetic waves, geometrical optics, wave optics, quantum physics, relativity, and the dual nature of matter will be discussed. Experiments including magnetic field, Ohm’s law, RLC resonance circuit, impedance, Lissajous figures, current balance, laser, and the vibration of strings will be performed.

700,262 일반화학 및 실험 2 4-3-2

General Chemistry and Lab. 2

이 과목은 공통과학 전공 교사 양성과정에서 제시된 기본이수 과목으로서, 공통과학 교육에서 반드시 갖춰야 할 기초과학의 일반화학 코런에 걸친 강의와 실험으로 진행한다. 반응속도론, 화학정성, 분자운동론, 균속 및 비균속의 화학, 배위화합물, 유기화학과 생화학의 기초, 간단한 기기의 조작 및 실험 데이터 처리 등 공통과학 교육에 있어 가장 기본적인 과목이다.

This course in chemistry is for students in the integrated science teacher program. Topics will cover reaction kinetics, chemical equilibrium, Kinetic theory of molecules, metals and nonmetals, coordination compounds, organic chemistry, biochemistry basics, instrument operation, and experimental data handling and statistics. The course will offer chemical principles and experiments for students majoring in other sciences such as physics, earth science, and biology.

700,272 일반생물학 및 실험 2 4-3-2

General Biology and Lab. 2

이 과목은 공통과학 전공 교사 양성과정에서 제시된 기본이수 과목이다. 이 과목에서는 소화, 호흡, 순환, 배설 등의 대사과정 연구에 대해 학생은 학습을 통해 생물학의 대사 과정을 이해하고, 교사활동에 필요한 생물학적 안목과 역사교사로서의 자질을 함양한다.

This basic course is for students majoring in common science education. Topics will cover the molecular interpretation of life phenomena, history of modern biology, origin of
life, structure materials of living things, cells, heredity, metabolism, reproduction, and development.

700.282  일반지구과학 및 실험 2 4-3-2

General Earth Science and Lab. 2

This requisite course is for students majoring in common science, science education, general physics, general chemistry, and general biology. It will deal with the basic principles of and laboratory studies on earth science. The course will challenge students to develop models of how the earth functions. Topics will include a brief introduction to astronomy, meteorology, oceanography, and geology. The course will help students to teach earth science at middle and high schools.

700.305  교사들 위한 과학사 3-3-0

History of Science for Teachers

This course, as an introductory history of science course for science teachers, outlines the general historical development of science, covering from ancient Greek science ideas, scientific revolution and the birth of modern sciences such as in astronomy, the beginning and development of contemporary science during the 20C. In particular, special attention will be given to the ways of using the history of science in science education, such as the comparison of students’ science ideas and historical development of science concepts, historical approaches to science teaching. Practical as well as theoretical knowledge will be expected to be gained.

700.307  과학수업에서의 언어와 학습 3-3-0

Language and Learning in Science Classrooms

This course is designed to introduce students to research examining the role of language on learning in the context of science classrooms. This course also introduces students to current research examining language and representation of science knowledge, through both verbal and non-verbal interactions. Language use for conveying science knowledge via reading, writing, listening, speaking, and drawing/graphical representations will be examined. The course reading, lecture, and interactive activities will focus on supporting students to a) become familiar with new and seminal research on language and science; b) examine the ways in which language shapes the development of scientific ideas and concepts via means of representation and communication, c) focus especially on the impact of second language acquisition on science teaching and learning in diverse science classrooms; and d) identify and develop teaching strategies that support science learning in the K-12 classroom.
통합과학과 교수학습이 되기 위한 기본 소양을 높이는 과목으로서, 특히 통합과학의 교수학습을 위한 기초 과목이다. 통합과학의 교육목표, 교육과정, 탐구활동, 교수-학습 이론 및 실제, 시각자재, 교육평가, 교육정책 등 통합과학 교육의 전반에 대한 기초적인 이론과 지식을 습득하며 본 강좌에서는 통합적 교과로서의 과학의 특성을 반영하는 교육적 실천과 지식을 지향한다.

As the fundamental subject for science teachers for secondary schools, this course provides basic theories and knowledge covering the whole areas of science education, specially for the teaching of integrated science, such as aims, curriculum, scientific inquiry, teaching & learning, school facilities, assessment, policy issues in science. This course pursues educational practice and knowledge reflecting the features of integrated science as school subjects.

Materials and Methods in Teaching Integrated Science

국내외의 통합과학 특허 통합과학을 위한 교과목의 내용을 분석하고, 통합과학 수업에 적용할 수 있는 교수-학습을 학습하며, 이를 적용하기 위한 실험을 한다. 특히 학생들은 통합과학의 점진적 탐구 활동을 경험하고 효율적으로 통합과학적 탐구를 가르치는 실전적인 지도 방법에 대해 배울 것이다. 통합과학의 효율적 지도를 위한 사례를 발굴하여 경험하고 이러한 점선을 학교 현장에서의 적용가능성에 대해서 비판적으로 살펴보는 것이다.

This course analyzes various teaching materials for integrated science at secondary schools, domestic and international, and provides instructional theories for integrated science instructions and relevant practices. Student will experience inquiry activities and learn practical instructing methods for teaching inquiry for integrated science effectively. In addition, students will have opportunities to see the good examples of effective integrated science teaching and to investigate critically the applicability of applying those approaches to actual school settings.
To diagnose and solve environmental problems, this course will take an interdisciplinary approach. Traditionally, geography focused on the relationship between man and his environment. It is therefore appropriate for the geographer to approach environmental issues. Students will focus on how human activities affect on our environment and discuss issues in environment education.

This course on French culture and its current issues aims at understanding the regions of France. It mainly stand the current situation and the cultural values of France and also under-

The course is for the improvement in listening part. It is helpful for basic French communication. Students briefly examine the basic grammar that they communicate with people in French and read the French grammar points that are necessarily required when they study through this course, in basic French communication.

The course aims at improvement in practicing the basic grammar in German. This course deals with various German grammar theories, which will then be applied to the study of German politics, society, and culture.

The course is designed for the students in three foreign language education departments (English, German and French) of the College of Education. It aims to foster an integrative understanding of the various societies and cultures (language, literature, arts, history etc.) of Europe and America. The course will be taught through team teaching.

This course focuses on learning French grammar which is helpful for basic French communication.

This course overviews German politics, society, and culture. It focuses on enhancing intercultural ability in order to learn German language, literature, and pedagogy.

This course is for the improvement in the ability of listening by using kinds of texts in the visual and audio media. In the first grade, the establishment of this subject is necessary for the advances of the accurate pronunciation and listening ability.

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Introduction to the Study of Education

Discussion of various paradigms or "concepts" of education, representing different views on aims, content and method of education. A particular emphasis is given to identifying theoretical questions and bringing them into historical perspectives.

Sociology of Education

This course introduces academic traditions of educational anthropology. It focuses on the inter-relatedness of education and culture. The course also provides comparative approaches to each society's education.

Anthropology of Education

This course overviews methodologies for pedagogic research on school. It deals with experiment methods, data collection, and report preparation.

Educational Evaluation

This course covers theories and practices on school & classroom management. In this course, students will learn basic concepts and theories of school & classroom management, and students will learn management tasks and processes that affect teachers’ classroom teaching, classroom management, guidance, and academic affairs. In addition, students will have a chance of analyzing cases related to this topic.

Materials Evaluation and Development in Education

This course deals with logic in Educational concepts and theories of Education. And this course covers writing about critical issues of Education.

Logic and Writing in Education

This course introduces academic traditions of educational anthropology. It focuses on the inter-relatedness of education and culture. The course also provides comparative approaches to each society's education.

History of Education

This is an introductory course on the history of education. It deals with the evolution of educational system and educational thoughts. To get well based understanding, comparative historical approaches is necessary in the contexts of the East Asia and global dimension.

Human Resource Development

This course covers theories and practices on school & classroom management. In this course, students will learn basic concepts and theories of school & classroom management, and students will learn management tasks and processes that affect teachers’ classroom teaching, classroom management, guidance, and academic affairs. In addition, students will have a chance of analyzing cases related to this topic.

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Materials Evaluation and Development in Education

This course overviews methodologies for pedagogic research on school. It deals with experiment methods, data collection, and report preparation.
Social Innovation and Lifelong Education

This course aims to deliver the knowledge and capability needed in lifelong education for social innovation at the age of knowledge-information society, aged society, and post-modern society. It deals with features of adult and lifelong learner, facilitation methods for adult non-formal learning, modern society. It addresses the case analysis of lifelong education practice. The student can understand out-of-school teaching and learning phenomena and their meanings.

Education and Entrepreneurship

The purpose of this course is to create a supportive learning community where we will work on career-related issues through reading, reflection, group discussion, and in-class activities. Students will be able to learn meaningful and effective ways to design one's own life and vocation. We will also explore and discuss the dynamics of career counseling via social justice perspective.

Understanding and Application of Quantitative Research in Education

This course aims to provide students in education and related fields with interests in quantitative research. Conducting their own quantitative research projects through the semester, students will learn the usefulness and limitation of quantitative research. The focus of the course is on research design and interpretation instead of statistical knowledge.

Life Design Counseling : Meaningful Work

The purpose of this course is to create a supportive learning community where we will work on career-related issues through reading, reflection, group discussion, and in-class activities. Students will be able to learn meaningful and effective ways to design one's own life and vocation. We will also explore and discuss the dynamics of career counseling via social justice perspective.

Digital technology and learner-centered education

Students explore the influence of digital technologies on education through analyzing a variety of educational cases. They also study theories and models of learner-centered education and develop competencies to design learning environments with digital technologies. Students carry out a project to design and develop a learning environment with advanced technologies in order to creatively solve an educational problem.

From Standardized education to complexity education

This course intends to give an overview of the various aspects of educational startups and ventures and to teach students how to create ventures in educational field, and provide hands-on experience in planning, making, and management of startups in education field.

M1831.002600 教育研究방법: 양적연구의 이해와 적용 3-3-0
Understanding and Application of Quantitative Research in Education

M1831.002700 생애설계상담: 의미있는 일 3-3-0
Life Design Counseling : Meaningful Work

M1831.002800 디지털 테크놀로지와 학습중심교육 3-3-0
Digital technology and learner-centered education

M1831.002900 표준화교육에서 복잡성교육으로 3-3-0
From Standardized education to complexity education
학계 등 대부분의 학교교육 구성요소들이 표준성과 확일성을 그 핵심원리로 삼고 있다. 이런 특징은 이후의 다양한 교육개혁, 즉 인간교육, 대안교육, 민주사회교육, 생태적 교육 등으로 전환 하려는 움직임은 근본적으로 가르히는 장애요인이다. 이 강좌는 그린 환경을 자세히 검토하고 동시에 그 변화를 극복하기 위해 나타난 인간교육, 민주사회교육, 복잡성교육 등의 새로운 프레임들이 어떻게 표준화교육의 논리적 한계를 하나씩 극복해 갈 수 있는 가능성을 생산해낼 수 있는지를 검토한다.

This lecture is to analyze the problems of “standardized education” model that has characterized the contemporary school education system; the lecture, then, attempts to move beyond the framework by inviting new model of “complexity education.” Contemporary schools have long been set up with standardized elements of knowledge, learning, and teaching that made progressive reforms in education impossible. This lecture will carefully contrast the frameworks of standardized education with a series of alternative complexity frames such as authentic education, democratic citizenship education, and systems sustainability education, in order to find ways out to explore new education reforms by applying the principles.

M1831.003000 교육과 사회정의 3-3-0

Social Justice in Education

본 강좌는 교육 영역 안에서 그리고 교육을 통해 ‘사회정의’라는 개념을 이해하고 발전시킨 것이다. 주로 교육 정책과 교육 실천에서 사회정의에 관한 관심이 두어지지 않고 반영된 방식을 세 교수자가 함께 철학적, 사회학적, 교육공학적 관점에서 검토하며, 곡적적으로 진 지지적으로 민주시가 사회에서 교육이 편하다. 계급, 민족성, 언어, 성별 지향, 세계관과 같은 중요한 차이들과 맺는 방식을 살펴볼 것이다.

This course aims at developing an understanding of social justice in and through education. Delivered by three different lecturers together, it will examine social justice concerns in educational policy and practice from philosophical, sociological, and curriculum perspectives, touching upon the importance of differences such as gender, class, ethnicity, language, sexual orientation and world-view in education in democratic societies both locally and globally.

M1831.003100 인공지능기반교육 3-3-0

Artificial Intelligence and Future Education

이 수열은 미래사회의 변화 방향과 이에 따른 교육의 기존의 변화, 그리고 인공지능과 박테리아가 미칠 교육 현장의 변화를 조사하고 토론하는 것을 목표로 한다. 구체적으로 새로운 과학기술이 가져올 다양한 영역(과학, 공학, 산업 등)에서의 사회의 변화 특징을 확인하고, 이에 맞게 미래적 교육은 어떻게 변화를 준비해가할지를 조사, 논의하고자 한다. 또한 미래 과학기술은 대표하는 인공지능과 박테리아가 어떻게 교육현장을 변화시킬지에 대해 교수학습, 학생건호지도, 교육사절정 등의 속면에서 깊이 있게 살펴보고자 한다.

The purpose of the course is to discuss possible changes in future society led by artificial intelligence and big data and to research their possible impacts on educational systems and practices. Specifically, changes in various areas of future society are to look into in depth and how the roles of education would be changed accordingly. Especially, artificial intelligence and big data are to impact various educational practices as well as future society. In this course, the use of artificial intelligence and big data in education and their roles in future education would be a main focus of interest.

M1831.003200 인공지능과 발달: 학습전략과 교육환경 디자인 3-1-4

Human Development and Learning

본 과목은 인간의 학습과 발달 과정을 기초적인 교육심리학적 관점이 함께 접한다. 행동주의적 접근을 바탕으로 인간의학적 접근 등 최근 교육심리학에 논의되고 있는 학습에 대한 주요 이론 들과 인간의 성장과정을 발달의 관점에서 접근하고 있는 주요이론 들도 함께 검토하도록 한다.

This course examines human learning and development processes from the view point of educational psychology. It covers important learning and development theories, such as behaviorism and cognitive perspective theory.

M1831.003300 교육조직과 교사의 성장 3-3-0

Teachers and Teaching Profession

교사와 교직에 관한 기본개념, 관련 이론을 이해함으로써 교사의 교직에 대한 논리적 분석과 이해의 구조를 마련하는 데 목적이 있다. 보다 구체적으로는 학교조직의 특성, 교사와 교직의 특성, 교사의 자격과 자격, 양성과 인용 등을 포괄적으로 다룬다.

This course examines basic concepts, views, and theories about teachers and teaching profession. Specific topics will include the characteristics of school organizations, qualifications and assignment of teachers.

M1831.003400 후기근대적 인간관과 교육철학 3-3-0

Philosophy of Education for the late-modernity

이 강좌에서는 교육철학 고전 텍스트들의 정통을 통해 근대 이래 이자식적으로 받아들여진 다양한 관점의 교육적 자아상에 대한 대비적 사상들을 ‘비판적’으로 만날 수 있도록 소개한다. 이것은 오늘날 교육현상 및 교육적 경험에 의한 가치가 교육의 의미와 가치에 대한 성찰적 안목을 열게 만든다.

This course is to introduce various philosophical thoughts on the modernist view of the educated, which have been developed since the age of the Enlightenment in the West, by reading closely the classics in philosophy of education. It will enable students to develop a normative perspective on education, especially in regard to the meanings and values of education.

M1831.003500 상담과 생활지도 3-3-0

Guidance and School Counseling

이 강좌는 상담과 생활지도에 대한 이론적-실제적 지식을 다룬다. 강좌에서 다루는 주요 내용은 ① 인간 변화에 대한 상담학적 관점, ② 상담 및 생활지도의 기초이론, ③ 상담의 역할과 주체 (예, 학습, 정서, 행동, 관계, 건강, 가족 등), ④ 상담 방법론 (예, 개 인 상담, 집단상담, 집단 등)으로 구성된다. 이러한 지식은 수상생 이 돌입 후 얼마나 될 다양한 부정의 대상 (예, 학생, 학부, 그리 고, 다른 학문화 등)까지 아니에 수상생활에 지장이 나타나는 과학, 정서학의 이론과 방법론에 도움이 될 것이다. 특히 강좌의 개설 학기가 1학년 1학기인 경우 고려할 때, 이 강좌는 수상생의 대학 생활 적응 및 건강 발달에도 도움이 될 것으로 기대된다.
This course provides theoretical and practical knowledge about school counselling and guidance in secondary schools. Specific topics will include basic theories of school counseling, career development, school drop-outs, delinquents, and emotion/personality development.

M1831.003800 수업설계와 교육공학 3-3-0

Educational Technology

Education covers a variety of topics, from basic principles to advanced theories, and discusses the most basic issues underpinning curriculum. It examines approaches to curriculum theory and design. Students plan and design a unit of instructional development of a class.

M1831.003700 교육연구를 위한 통계방법 3-3-0

Statistics for Educational Research

This introductory course provides education-majoring students with pedagogical foundation of theory and practice of educational technology. The purpose of the course is to address the current trends and issues in educational technology through theoretical and practical approaches. Students plan and design a unit of instructional development of a class.

M1831.003600 교육과정의 이해 3-3-0

Understanding Curriculum

This course reviews the foundations, principles, and issues of curriculum. It examines approaches to curriculum theory and development, and discusses the most basic issues underlying thought about curriculum.

M1831.003500 교육행정의 이해 3-3-0

Educational Administration

This course reviews the foundations, principles, and issues of educational technology. It examines approaches to educational technology through theoretical and practical approaches. Students plan and design a unit of instructional development of a class.

M1831.004100 창의성과 재능개발교육 3-3-0

Creativity and Talent Development Education

This is an introductory course for undergraduate students who are interested in creativity and talent development education. In particular, this course is designed to provide students with opportunities to review a wide array of theoretical and educational foundations of creativity and talent development. It also enables students to become familiarized with the concepts and models of creativity. Main themes include definitions, identification of creative students, assessment and evaluation of creativity, and creative talent development education.
비교교육학의 역사적 발전과정과 연구대상 및 연구방법론에 대하여 개관하고 비교교육연구가 갖는 교육학적 의의를 논의한다. 이 강좌에서 학생들은 한 국가를 선택하여 그 국가의 역사적, 사회·문화적 배경을 개관하고, 그 국가에서 이루어지고 있는 교육 실제를 분석함으로써 비교교육학적인 안목을 기른다.

This course overviews the history and methodology of comparative education with a focus on understanding the role of education in supporting development and/or peace in countries and communities around the world. Country case studies or cross-cultural comparative studies in international development contexts and/or in crisis and conflict-affected contexts will be examined. The ways that education may be used to undermine development and peace will also be addressed.
The purpose of this class is to search for the principles of various Korean language activities in Korean language culture. Especially it focuses on the principles of the traditional Korean language culture through the traditional literature, and its relationship with modern linguistic material. To achieve that purpose, we deal with folklore, written literature as well as the modern and popular texts.

With its linguistic attribute, Media is important contemporary communication method, and also is the major object and material of Korean language Education. This course searches for the various interesting nature of language phenomena through the media of newspaper, broadcasting, film, and internet.

This class focuses on the basic conceptions of Korean Linguistics and its educational uses. We study the basic concepts of Phonology, Morphology, and the syntax of Writing, and apply them in Korean language use. We also cultivate students to acquire general foundation of Korean language teacher, to use correct Korean language, and to establish value system on the Korean language.

This Class focuses on the basic conceptions and principles of Korean literature. Understanding of the characteristics of history and genre of Korean literature, and its application in important literary works will develop basic competences of literary teacher.

This course will explore various categories and levels of the rules of the Korean language. Students will study the levels in phonology, vocabulary, and sentence structure, and develop necessary knowledge of linguistic rules and competence in educational application.

The purpose of this course lies in a basic understanding of the concepts, characteristics, categories, actual teaching and learning, evaluation, and appreciation of literary education. The basis of the course is that human understanding is possible when the educational impact of traditional literature and modern education converge. On that basis, literary education will have its due place in humanities education. Especially for future researchers of literary practice and study, this course aims at exploring the essential qualities and significance of literary education and cultivating their basic knowledge and competence.
Theory of Korean History Education

This course will cover the development of Korean language education and the knowledge of Korean grammar. Students will study teaching and learning methods in accordance with learners’ developmental stages. Specific attention will be paid to the problem of motivating a positive interest and attitude toward the phenomena of the Korean language. The course will focus on the historical change of the Korean language, the relationship between past, present, and future, and how it is reflected in various Korean literary works. The course will cover the history of Korean language usage in terms of its relationship with the past, present, and future.

By the end of the course, students will be able to:
- Understand the historical development of the Korean language and its relationship with the past, present, and future.
- Analyze various literary works from the premodern to modern era and develop a historical perspective.
- Explore the historical change of the Korean language and its impact on the development of modern literature.
- Understand the importance of teaching and learning the Korean language, the teacher, and the learner. It is important for the teacher to help learners to enhance their language competence on their own. Teaching and learning should therefore go beyond so-called teaching methods. This course will focus on a critical review and the new construction of established arguments regarding teaching and learning Korean.

Theories of Teaching Korean History, Modern, and Premodern Literature

This course will cover the development of Korean language education and enhance their understanding of Korean literature. They will analyze various literary works from the premodern to modern era and develop a historical perspective. Class participants will study not only the classic literature but also the effective teaching methodology of modern literature and its history.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>705.319</td>
<td><strong>Theories in Teaching Classical Korean Prose</strong></td>
<td>3-3-0</td>
<td>This course will focus on developing students’ sense of education and theoretical foundations as future teachers. On the basis of their knowledge of classical Korean poetry, students will explore its educational implications. They will also search for new ways to overcome the criticism that educators, by concentrating on linguistic analysis and interpretation, have failed to teach students to appreciate and understand the expressive characteristics and principles of classical Korean poetry. The purpose of this course therefore lies in finding a vision of classical Korean poetry education and firmly establishing the foundations of academic study.</td>
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<tr>
<td>705.322</td>
<td><strong>Theories in Teaching Modern Korean Prose</strong></td>
<td>3-3-0</td>
<td>Modern Korean prose education focuses on enabling learners to produce effective written and oral communication in Korean. This course provides students with an overview of prose theories and developmental aspects of Korean prose in literary history.</td>
</tr>
<tr>
<td>705.325C</td>
<td><strong>Reading in Historical Materials of Korean Language</strong></td>
<td>3-3-0</td>
<td>The course focuses on the procedure of language thinking faculty, especially performing Korean language. Creative thinking would be expressed by formed genre essays to communicate with the Korean language community. All class participants investigate proper methodology of teaching essay writing.</td>
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<tr>
<td>705.326A</td>
<td><strong>Theories in Teaching Speech</strong></td>
<td>3-3-0</td>
<td>Students will review the principles and characteristics of classical Korean prose, apply them in the classroom, and investigate specific works. They will also explore factors that can be used to approach the substance of classical Korean prose and theoretically deepen their understanding of the contents and methods of prose teaching, learning, assessment, and appreciation.</td>
</tr>
<tr>
<td>705.327*</td>
<td><strong>Theories of Thinking Faculty of Korean Language and Essay Writing Education</strong></td>
<td>3-3-0</td>
<td>This course covers basic knowledge of the Korean language, including its comprehension and expressions. It provides intensive study on the pronunciation, letters, rules, and other principles needed to learn Korean as a foreign language.</td>
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</table>
이 강좌는 보다 심도 깊은 국어교육론을 바탕으로 실제 국어교육현장에 적용될 수 있는 개념, 원리를 학습하고 교수학습방법론적으로 적용하는 것을 목적으로 한다.

이 강좌는 국어교육 연구의 여러 양상을 다양한 현대 국어학의 여러 조류와 더불어 살펴보는 것을 목적으로 한다. 특히 국어의 의미론과 활용론을 중심으로 의사소통과 국어생활에 대한 다채로운 토론을 시도해 볼 것이다. 이 강좌를 통해 언어학의 의미론 등에 대해 연구하고, 국어교사로서의 활동적 측면에 대한 소양을 배양하고자 한다.

이 강좌는 국어교육 인 교육의 여러 영역을 다양한 현대 국어학의 여러 조류와 더불어 살펴보는 것을 목적으로 한다. 특히 국어의 의미론과 활용론을 중심으로 의사소통과 국어생활에 대한 다채로운 토론을 시도해 볼 것이다. 이 강좌를 통해 언어학의 의미론 등에 대해 연구하고, 국어교사로서의 활동적 측면에 대한 소양을 배양하고자 한다.

이 강좌는 국어교육 인 교육의 여러 영역을 다양한 현대 국어학의 여러 조류와 더불어 살펴보는 것을 목적으로 한다. 특히 국어의 의미론과 활용론을 중심으로 의사소통과 국어생활에 대한 다채로운 토론을 시도해 볼 것이다. 이 강좌를 통해 언어학의 의미론 등에 대해 연구하고, 국어교사로서의 활동적 측면에 대한 소양을 배양하고자 한다.

이 강좌는 국어교육 인 교육의 여러 영역을 다양한 현대 국어학의 여러 조류와 더불어 살펴보는 것을 목적으로 한다. 특히 국어의 의미론과 활용론을 중심으로 의사소통과 국어생활에 대한 다채로운 토론을 시도해 볼 것이다. 이 강좌를 통해 언어학의 의미론 등에 대해 연구하고, 국어교사로서의 활동적 측면에 대한 소양을 배양하고자 한다.
an area of Korean literature according to the needs of the media society. Also in the course, students learn how to analyze and utilize the play, the drama, and the film from the perspective of Korean language education. Work for connecting the play, the drama, and the film into the Korean language curriculum and textbook will be due.
707.201 영어회화 1 2-3-0

English Conversation 1

영어청취와 말하기의 기본적인 훈련을 통해 영어교육 전공자를 위한 필수 회화능력을 갖추도록 한다.
The course provides basic training in listening and speaking in English. This will equip the students with the essential linguistic proficiency that is necessary for majoring in English education.

707.204* 영어응용음성학 3-3-0

Applied English Phonetics

교사를 위한 영어음성학으로서, 발음의 생리학과 소리의 물리학을 다루며, 영어 음소들의 조음음성학적인 고찰과 함께 이들의 정확한 청취와 발음을 목적으로 한다.

This course is an introduction to the understanding of English phonetics. It emphasizes the articulatory and auditory training of English sounds as future teachers of English.

707.205 영어회화 2 2-3-0

English Conversation 2

일상회화와 간단한 토론의 훈련을 통해 중급정도의 영어구사력을 갖추도록 한다.

This course trains students to be able to carry out intermediate-levels of everyday conversations and simple discussions.

707.207 영문학개론 3-3-0

Introduction to English Literature

영문학의 배경과 형성과정을 소개하고 영문학을 시대별, 장르별로 개관하면서 주요 작가와 작품들을 중점적으로 거론한다.

This course provides an introduction to languages, with special emphasis on examining the structure of the English language.

707.212B* 영국문학과 영국문화의 이해 B 3-3-0

Understanding British Literature and Culture B

남만주의 시대에서 현재에 이르는 영문학과 영국문학의 개관으로서, 산발된 작품의 감상과 당대의 시대정신 및 문화의 심층적 이해를 도모함으로써 효과적인 영어 교육을 위한 배경지식을 제공한다.

This course presents a variety of approaches to teaching vocabulary and grammar within different methodological frameworks, ranging from communicative language teaching to grammar instruction and translation. The course emphasizes flexibility and adaptability in understanding the role of vocabulary and grammar in teaching English as a foreign language. It offers hands-on opportunities to design and create instructional materials for teaching major English lexico-grammatical structures to secondary school students.

707.308A 영어사의 이해와 용용 3-3-0

Historical Survey of the English Language for TEFL

영어 이해의 토대로서 영어교육자가 필요로 하는 영어의 역사적 변천 과정을 음운론, 형태론, 동사론 및 사회언어학의 관점에서 개관한다.
A survey of the history of the English language specially designed for English educators, focusing on the phonological, morphological, syntactical, and sociolinguistic change of the language.

707.309A* 미흡문학과 미흡문화의 이해 3-3-0
Understanding American Literature and Culture

This course aims to promote the students’ critical appreciation for American literature and American culture, thereby providing a useful knowledge for the study of English education. In addition, a survey of the relevant literary and cultural history of America will also be offered.

707.313* 영어교수법 3-3-0
Methods of Teaching English as a Foreign Language

This course is a general introduction to theoretical foundations, such as linguistic, psycholinguistic, and sociolinguistic, as well as main theories and techniques for teaching English as a foreign language. This course focuses on the latest teaching learning model according to the change of educational policy and investigates teaching methods in terms of the applicability to real-world.

707.317 영미시강독 3-3-0
Readings in British and American Poetry

This course surveys the English poetry from Geoffrey Chaucer to the Romantic poets to provide an understanding of the main currents and traditions found in the English poetry. It will also survey the major American poets to gain an insight into the main currents and traditions of American poetry.

707.319B* 영문문학과 영문문화의 이해 A 3-3-0
Understanding British Literature and Culture A

This class will sharpen the students’ critical appreciations for selected classics and British literature from the Old English period up to the 18th century British literature and culture, thereby providing a substantial background knowledge for the study of English education. The course also includes a survey of the relevant literary and cultural history of England.
영어교육과는 영어교육과정에 대한 비판적 시각을 마련하게 될 것이다.

이 과정은 예비교사의 외국어교재에 대한 실용적인 지식과 기술을 학습하고 이를 통해 영어수업을 효과적으로 진행하도록 한다. 또한 교사와 학생, 학생과 학생 간의 상호작용을 이해하고 이를 통해 영어수업 운영 능력을 갖추게 된다.

본 강좌는 예비교사들이 장차 중등학교 학생들에게 영어 수업을 제공할 수 있는 능력을 배양하는 것을 목표로 한다. 교사와 학생, 학생과 학생 간의 상호작용을 이해하고 이를 통해 영어수업 운영 능력을 갖추게 된다.

이 과정은 예비교사들이 현장에서 실제로 시행되고 있는 영어교육과정의 분석을 통해 영어교육과정에 대한 비판적 시각을 마련하게 될 것이다.

This course provides opportunities for prospective English teachers to integrate principles of national English education curriculum with current secondary school English class curriculum and syllabus. Students will investigate and evaluate current classroom English curriculum and syllabus, which in turn will equip them with a critical perspective in English education curriculum.

한국의 중등학교 현장에서 실제 시행되고 있는 영어교육과정의 분석을 통해 영어교육과정에 대한 비판적 시각을 마련하게 될 것이다.

This course is a seminar on selected topics of British and American cultural traditions. It will enhance qualifications of the prospective English teachers.

본 강좌는 영미문화의 전통 혹은 현안의 과제 가운데 교사교육에 유의한 특정 분야를 관련된 문화 내지 문화학적 벡스트를 통해서 소개하고 토론한다.

This course weighs on two ultimate objectives: comprehending classroom activities under the communication-based English education environment, and boosting up the English proficiency of prospective teachers. The former narrows down to understanding classroom discourse pattern, the interaction generating among teacher-students and students-students. And the latter originates to improve the class management skill of prospective English teachers in Korea.

이 강좌는 예비 영어교사들이 장차 중등학교 학생들에게 영어 수업을 지도할 수 있는 능력을 배양하는 것을 목표로 한다. 강사는 예비교사들의 영어수업 지도 능력을 고양하면서 동시에 영어 수업을 효과적으로 지도할 수 있는 능력을 배양하도록 설계된다.

The purpose of this course is to develop the abilities for prospective English teachers to teach English expository writing to secondary school students in the future. The course is designed to enhance the prospective teachers’ own abilities to write English expository essays and at the same time to cultivate their instructional abilities to teach English expository writing effectively.

이 강좌는 예비 영어교사들에게 교육평가의 원리를 중등학교 영어평가의 실제에 활용하는 기회를 제공한다. 학생들은 영어평가의 기법과 방법론을 탐구하며 영어평가 실무의 기본적 바탕을 익힌다.

The course looks at teaching theories of English reading, writing, listening and speaking, and explores practical ways to use them. Students will also design and apply useful teaching materials for teaching secondary school English.
This course provides prospective English teachers with practical opportunities to apply language-testing principles to English testing practices at secondary schools. The students will explore various English testing skills and methodologies, and learn the basic fundamentals of English testing practices. Throughout the course, students will have opportunities to evaluate real-world examples in terms of the assessment and understand the real-world context where language assessment takes place.

M1848.000300 영미산문강독 3-3-0
Readings in British and American Prose

This course involves the critical analysis of a wide range of texts from British and American literature, including literature, film, music, and drama. Students will explore various aspects of British and American culture, and develop their critical thinking skills through close reading and discussion.

M1848.000400 영미소설강독 3-3-0
Readings in British and American Fiction

This course provides students with the opportunity to read and analyze a wide range of British and American fiction. Through close reading and discussion, students will develop their critical thinking skills and gain a deeper understanding of British and American culture.

M1848.000500 영어독해 3-3-0
English Reading

This course is designed to develop students’ English reading skills. In the course, students will read a variety of texts including an overview of English literature, linguistics, and language education. Topics will cover: English language learning and teaching, teaching methodology in TEFL (Teaching English as a Foreign Language), teaching materials in TEFL, applied linguistics, and contributive analysis in relation to English education; an introduction to English linguistics and phonology in relation to English linguistics; and an introduction to British and American fiction, poetry, drama, and literary criticism in relation to British and American literature. Throughout the semester, students will be able to enhance their academic reading and interpreting skills.
708.226A 초급프랑스어회화 1 3-3-0
Basic French Conversation 1

본 과목은 외국인 강사와의 토론식 수업을 통해 기초적인 프랑스어 표현 능력을 향상시킨다.
The course provides basic training in French communication to equip the students with the essential linguistic proficiency necessary for French education majors.

708.227A 초급프랑스어회화 2 3-3-0
Basic French Conversation 2

본 과목은 외국인 강사와의 토론식 수업을 통해 기초적인 프랑스어 표현 능력을 향상시킨다.
The course provides basic training in French communication to equip the students with the essential linguistic proficiency necessary for French education majors.

708.235A* 프랑스어학습문법 1 3-3-0
Learner's French Grammar 1

본 과목은 프랑스어 문법에 대한 보다 깊은 탐구를 통해 프랑스어의 구조를 이해하는데 그 목적이 있다.
The course helps students improve their knowledge of French grammar and overall communication skills.

708.236A* 프랑스어학습문법 2 3-3-0
Learner's French Grammar 2

본 과목은 프랑스어 문법에 대한 보다 깊은 탐구를 통해 프랑스어의 구조를 이해하는데 그 목적이 있다.
The course helps students improve their knowledge of French grammar and overall communication skills.

708.237 프랑스어회화연습 1 3-3-0
French Conversation Practice 1

<초급프랑스어회화 1·2>가 초보적인 구어 의사소통 능력을 목표로 하는 것처럼, <프랑스어회화연습 1·2>는 이번 주제를 중심으로 이루어지는 좀 더 복잡하고 실제적인 대화 상황에 직면하여 높이해석을 높이고 자유롭고 사고의 자발적인 표현 능력을 높이는 것을 목표로 한다. 또한 <프랑스어회화연습 1·2>는 토론 중심의 수업으로 구성되어 있어 상대방을 이해하고 설득시킬 수 있는 능력을 함양한다.

In Basic French conversation, students study basic communication skills. Intermediate French conversation emphasizes on improving more advanced communication skills as well as listening skills. This course will help the students express themselves with confidence. In this course, students will participate in many discussions to help them understand and persuade others better.

708.238 프랑스어회화연습 2 3-3-0
French Conversation Practice 2

<초급프랑스어회화 1·2>가 초보적인 구어 의사소통 능력을 목표로 하는 것처럼, <프랑스어회화연습 1·2>는 이번 주제를 중심으로 이루어지는 좀 더 복잡하고 실제적인 대화 상황에 직면하여 높이해석을 높이고 자유롭고 사고의 자발적인 표현 능력을 높이는 것을 목표로 한다. 또한 <프랑스어회화연습 1·2>는 토론 중심의 수업으로 구성되어 있어 상대방을 이해하고 설득시킬 수 있는 능력을 함양한다.

In Basic French conversation, students study basic communication skills. Intermediate French conversation emphasizes on improving more advanced communication skills as well as listening skills. This course will help the students express themselves with confidence. In this course, students will participate in many discussions to help them understand and persuade others better.
본 강좌는 <Teaching French Pronunciation and Listening 1>과 <Teaching French Pronunciation and Listening 2> 코스로 학습한다.

Teaching French Pronunciation and Listening 1

본 과목은 프랑스어 발음 및 듣기 지도법 2를 배우는 과정이다. 이 과목에서는 프랑스어 발음의 원리에 대한 심화된 음운론적, 음성학적 이해를 바탕으로, 발음 연습과 실제 환경을 통해 구어 프랑스어 능력을 향상시키는 방법을 고찰하고 이를 실제 수업에 활용할 수 있도록 한다.

Teaching French Pronunciation and Listening 2

본 과목은 프랑스어 발음 및 듣기 지도법 2를 경험하는 과정이다. 이 과목에서는 프랑스어 발음의 원리에 대한 심화된 음운론적, 음성학적 이해를 바탕으로, 발음연습을 통해 구어 프랑스어 능력을 향상시키는 방법을 고찰하고 이를 실제 수업에 활용할 수 있도록 한다.

Teaching French Pronunciation and Listening 1은 프랑스어 발음 및 듣기 지도법 2와 함께 배우는 과정이다. 이 과목에서는 프랑스어 발음의 원리에 대한 심화된 음운론적, 음성학적 이해를 바탕으로, 발음 연습과 실제 환경을 통해 구어 프랑스어 능력을 향상시키는 방법을 고찰하고 이를 실제 수업에 활용할 수 있도록 한다.

Teaching French Pronunciation and Listening 2는 프랑스어 발음 및 듣기 지도법 2를 경험하는 과정이다. 이 과목에서는 프랑스어 발음의 원리에 대한 심화된 음운론적, 음성학적 이해를 바탕으로, 발음연습을 통해 구어 프랑스어 능력을 향상시키는 방법을 고찰하고 이를 실제 수업에 활용할 수 있도록 한다.

Teaching French Pronunciation and Listening 1과 2는 프랑스어 발음 및 듣기 지도법 2를 배우는 과정이다. 이 과목에서는 프랑스어 발음의 원리에 대한 심화된 음운론적, 음성학적 이해를 바탕으로, 발음 연습과 실제 환경을 통해 구어 프랑스어 능력을 향상시키는 방법을 고찰하고 이를 실제 수업에 활용할 수 있도록 한다.
speak in real communication. For example, students will learn how to speak French even in discussion and conference.

프랑스어회화연습 4 3-3-0
French Conversation Practice 4

/examples of the complicated and various situations as well as the practical expressions that French people usually speak in real communication. For example, students will learn how to speak French even in discussion and conference.

교육현장에서 프랑스어 쓰기 교육을 체계적으로 시행하는 방법을 익힌다.

Teaching Writing in French 2

본 과목은 프랑스어 쓰기지도법 1의 심화 학습과정으로 적절한 길이의 문학 및 문화 텍스트를 읽고 요약하거나, 자신의 생각을 글로 표현하는 과정을 연습한다. 또한 산업분야에서 필요한 쓰기 상황을 유형별로 학습한다. 이러한 과정을 통해 학생들은 교육현장에서 쓰기 교육을 체계적으로 시행하는 방법을 익힌다.

This course is designed for students who have completed Teaching Writing in French 1. Students will practice writing the essays and summarizing various types of texts. The course will also involve writing for commerce and administration. From discussing how to write, students will obtain effective ways of teaching.

프랑스어 교재 분석 및 지도법 3-3-0
Analysis of French Textbooks and Teaching Methods

/ the characteristic of the pedagogics in the theory of foreign language education and also learn about the trends of the theoeries in Teaching French as a Foreign Language through the changes of curricula and teaching materials. On the basis of theses theoeries, students will look at various types of French textbooks and teaching materials to write their lesson plans. They will practice teaching using their lesson plans. And they can prepare for the practice teaching.

/ the subjects to be translated. They will practice teaching using their lesson plans. And they can prepare for the practice teaching.
Practice in Basic German

The course provides students with opportunities to practice speaking German through various activities including group activities.

Practice in Intermediate German

The course focuses on advanced language skills, including written and spoken communication, and provides students with the opportunity to develop their abilities in these areas.

German Composition in Learning

The course aims to enhance students' writing skills by focusing on various aspects of composition, such as grammar, sentence structure, and coherence.

German Literature for the Youth

The course offers an introduction to German literature for the youth, focusing on contemporary and classic works.

Understanding of German Literature

The course provides a comprehensive understanding of German literature, covering a wide range of historical periods and authors.

German Fiction and Social Culture

The course explores the intersection of literature and social culture, examining how literature reflects and influences societal trends and issues.

German Translation Practice

The course trains students in translation skills, focusing on both theoretical and practical aspects of the process.

History of German Literature

The course offers a historical perspective on German literature, tracing its development and evolution through various periods and authors.

German on Mass Media

The course examines the role of the media in shaping and reflecting cultural trends in Germany.

Undergraduate Programs in German Language and Literature

The department offers a range of undergraduate programs in German language and literature, catering to diverse interests and career goals.

Courses Offered

- Practice in Basic German
- Practice in Intermediate German
- German Composition in Learning
- German Literature for the Youth
- Understanding of German Literature
- German Fiction and Social Culture
- German Translation Practice
- History of German Literature
- German on Mass Media

Admission Requirements

Applicants must meet specific academic requirements, such as high school GPA and standardized test scores.

Application Procedure

The application process involves submitting an online application, providing transcripts, and participating in an interview.

Financial Aid

The department offers various forms of financial aid, including scholarships and grants, to support students in their academic pursuits.

- 709.203A* 기초독어회화실습 3-3-0
- 709.204A 중급독어회화실습 3-3-0
- 709.222A 학습독작문 3-3-0
- 709.229 독일청소년문학 3-3-0
- 709.232 독일문학의 이해 3-3-0
- 709.233A 독일소설과 사회문화 3-3-0
- 709.234 매스컴독일어 3-3-0
- 709.237 독어번역연습 3-3-0
- MM000.00720 독일문학사 3-3-0

학점구조는 "학점수-주당 강의시간-주당 실습시간"을 표시함. 한 학기는 15주로 구성됨. (The first number means "credits"; the second number means "lecture hours" per week; and the final number means "laboratory hours" per week. 15 week make one semester.)
such as the Old and the Middle Ages, the Baroque, the Enlightenment, the Storm and Stress, Classicism, and Romanticism.

This course aims at enhancing student’s understanding of German literature and German drama through the survey of its trend and the analysis of various dramatic works. Moreover students will compare the dramatic work with the theatre.
This course deals with the intercultural perspectives which evaluate literary phenomena or contents based on cultural differences between Korea and Germany. Students will analyze various factors and educational values of the intercultural perspective in German literature. This will enable them to explore a new direction of Teaching German literature in Korean schools.

M1853.000600 독어학 연습 3-3-0
Practice in German Linguistics

This course aims to provide students with the ability to cope with the changing needs of the society by cultivating various application skills that can be applied to German education by utilizing the linguistic knowledge acquired in the introduction to German linguistics. This course introduces the general application areas of German linguistics and focuses on the technical aspects of application of German linguistic knowledge. This course will help the students to improve the understanding of applied areas of German linguistics and to enhance the level and the prospect of German education.
Teaching of Social Studies

This introductory course will help students to understand social norms including law. Students will study the concepts, effects, ideals, and general principles of law as well as the distinction between public and private law. They will also investigate various attitudes toward law and law consciousness in terms of citizens’ capacity to comply with law.

Culture and Society

This is a revised version of the course Introduction to cultural Anthropology for students majoring in social studies education. The course will help students to teach anthropological concepts such as culture, cultural diffusion, developmental process of culture, enculturation, and value conflicts in Korea and Korean traditional culture and their current meaning.

Civic Education

This course is a study of social studies education as civic education and citizenship education. The emphasis is on the relationship between social studies and citizenship education, the concept, problems, and future directions of citizenship education, and the attitudes and abilities needed for good citizens.
711.241A*  社會和社會  3-3-0

Man and Society

This course is to provide future teachers of social studies with basic philosophical knowledge and a philosophical way of thinking. It treats fundamental concepts of philosophy both historically and systematically. Basic concepts such as politics, morality, law, rights, duties, state, freedom, justice, and punishment are critically reviewed, while currents such as historicism, positivism, socialism, capitalism, etc. are analyzed and critically evaluated.

711.261  社會和哲學  3-3-0

Society and Philosophy

This course is a revised version of Introduction to Sociology for social studies education. It helps students prepare to teach the sociological part of secondary school social studies. Sociological concepts such as socialization, social group, role, norms, social class, social change and social structure will be covered.

711.272  社會教育和經濟思想  2-2-0

Civic Education & Economic Thoughts

This course is to examine the historical origins of several contemporary economic thoughts. The course contains classic and contemporary readings from six alternative perspectives: Mercantilism, Classicism, Neo-Classicism, Marxism, Keynesianism, and Institutionalism. In the second half of the course, students will take up the question of how economic thoughts from the six different perspectives can help in making policy decisions in the current economy, which is related with the contents of civic education.

711.274  社會教育和研究方法  3-3-0

Social Education and Social Research

This course provides a study of scientific inquiry and interpretation on social phenomena by analysis of empirical data. The emphasis is on the construction of concepts, methods of scientific analysis, collecting materials, interviews, observation, content analysis, and elementary statistical analysis such as means, standard deviation, hypothesis test, and the basic method of regression.

711.275*  人道社會和憲法  3-3-0

Civic Education and Constitutional Law

This course is to provide future teachers of social studies with the basic structure of constitutional law. Emphasis is on not the interpretation of specific articles, but the basic principles of constitutional law, the development of the Korean constitution, the Bill of Rights, and the frame of government.
This course explores a critical assessment of the relationship between economic theory and ethics. The main purpose of economic science is to analyze and ‘explain’ the economic process, but not necessarily to pass economic judgement without touching ethical problems, even though few people deny some connections between ethics and economic analysis. Making use of real life economic examples and offering some perspective on the ethical dimensions of economic science is to analyze and ‘explain’ the economic process, but not necessarily to pass economic judgement or even economic evaluation of whether this process is good or not. However, in practice, it is very difficult for us to make an economic decision as to whether this process is good or not. However, in practical terms, it is very difficult for us to make an economic decision as to whether this process is good or not. Therefore, in practical terms, it is very difficult for us to make an economic decision as to whether this process is good or not.

This course is a study of the socio-cultural foundation of social studies education, including social and philosophical thought related to social studies, and problems and perspectives of social studies education. The main topics are functionalism, Marxist tradition and social thought, the Micro-interpretive approach, tradition and innovation, research and creation, nationalism, and globalization. Students are encouraged to prepare their own original and present in class.

711.373* Seminar in Socio-Cultural Education

Social studies education with respect to the current economic situation allows students to understand the economic situation. The main purpose of economic science is to analyze and ‘explain’ the economic process, but not necessarily to pass economic judgement without touching ethical problems, even though few people deny some connections between ethics and economic analysis. Making use of real life economic examples and offering some perspective on the ethical dimensions of economic science is to analyze and ‘explain’ the economic process, but not necessarily to pass economic judgement or even economic evaluation of whether this process is good or not. Therefore, in practical terms, it is very difficult for us to make an economic decision as to whether this process is good or not. However, in practical terms, it is very difficult for us to make an economic decision as to whether this process is good or not. Therefore, in practical terms, it is very difficult for us to make an economic decision as to whether this process is good or not.

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711.374* Seminar in Law-related Education

Youth Problems and Law Related Education

This course is a study of the socio-cultural foundation of social studies education, including social and philosophical thought related to social studies, and problems and perspectives of social studies education. The main topics are functionalism, Marxist tradition and social thought, the Micro-interpretive approach, tradition and innovation, research and creation, nationalism, and globalization. Students are encouraged to prepare their own original and present in class.

711.381* Civic Education & Social Problems

Civic Education & Social Problems

This course is a study of the socio-cultural foundation of social studies education, including social and philosophical thought related to social studies, and problems and perspectives of social studies education. The main topics are functionalism, Marxist tradition and social thought, the Micro-interpretive approach, tradition and innovation, research and creation, nationalism, and globalization. Students are encouraged to prepare their own original and present in class.

711.382* Seminar in Law-related Education

Law-related Education
711.384* 경제교육연습 3-2-2

Seminar in Economic Education

이미 학습한 사회와 경제, 국제경제학, 경제사 등의 기초 위에 서 경제교육의 방법을 습득하고 동시에 중·고등학교의 과목과정 에 의거하여 경제학습 내용을 재구성함으로써 사회과 교사로서의 자질을 함양하게 한다. 본 강좌는 현대 사회와 경제에 관한 주제들에 대한 이해와 기초적 지식을 갖춘 성인과 이론적 지식과 실제적인 경험을 가진 고등학생들을 대상으로 하며, 다양한 사례와 실제적인 문제들을 통해 시민과 경제간의 상호작용을 학습하고자 한다. 

Based on the prerequisite courses of Society and Economics, International Economics, and History of Economics, this course focuses on the methods of teaching economic education and the reconstruction of materials. The main topics are the theory of production and consumption, theory of equilibrium, GDP, investment, economic development, and international economics. Through different perspectives of the curriculum teaching model and using studies of actual classroom situations, this course offers participants the opportunity to reflect on several aspects of economic education. Enrollment is limited to 35.

711.385 시민경제교육과 시장경제 3-3-0

Economic Education for Citizens & Market Economy

성인시민들을 경제와 관련하여 교육할 때 관련되는 주제들을 살펴본다. 수업에서 다루는 주요주제는 경상집단의 분류, 시민성 배양을 위한 경상주제, 교수방법, 경상개념을 위해 사회운동을 할 때 고려해야 할 경제학의 측면, 교육과 평가 등이다. 수업방법은 소그룹별로 조사, 발표하는 방식을 취한다.

This research seminar will examine selected economic education issues in adult civic education. Topics will include classification of adult groups, economic themes for citizenship, teaching models, social movement for economic reform in educational aspects, and testing. The seminar will also focus on how educators have worked in cultivating economic citizens in the past. Working in small teams, students will complete either reviews on the literature or pilot case studies on their topics.

711.417 정치교육과 게임이론 3-3-0

Political Education and Game Theory

본 강좌의 목표는 개인과 집단의 의사결정에 관한 기초 이론들 을 정리하고 정리함으로 교육에 적용하는 것이다. 이론적 지식는 정리하던 집단의 목표, 그리고 협력 및 협상의 전략, 집단 선택을 통한 결정을 다룬다. 이론 도구를 이용하여 (1) 군비경쟁, 의회 정치, 다수결과 민주주의, 투표와 선거, 연합정권의 형성 및 기타 사항들을 분석하고, (2) 이러한 정치 현상을 가르치는데 필요한 기능을 개선하게 된다.

The objective of this course is to apply elementary theories of individual and group decision-making to the analysis of politics and the education of political events. Theoretical material treats decisions by rational individuals, the strategy of conflicts, cooperation and bargaining, and group choice. These tools are applied (i) to analyze, among other things, arms race, legislative politics, majority rule and democracy, voting and elections, and formation of coalition governments; and (ii) to improve skills necessary to teach these political phenomena.
Methodology of Social Science

This course aims at equipping students with a thorough understanding of different methodologies of social sciences and their implications so that they can properly carry out research in the field. Discussions are concerned with the characteristics of methodology in social sciences, epistemological foundations of social scientific knowledge, their philosophical backgrounds, and various techniques in social science researches. Recent publications in the field are examined in order to see how these methodologies are practically applied, and attempts are made to develop more appropriate methods of social studies education. The course attempts not to lose sight of the fact that in social studies education, value-oriented aspects of education may also be honored side by side with value-neutral social scientific researches.

Civic Education and Democracy

On the literal level, all theories of democracy share social values: liberty, equality, the rule of majority, and other rights. However, each of them has different actual meanings. While a certain right would be very important to a liberal, the same right would not be so to a socialist. Therefore, the purpose of this course is to provide future teachers of social studies with some philosophical perspectives, which make them understand various versions of democracy. The course contains classic and contemporary readings from at least five perspectives: liberalism, libertarianism, socialism, republicanism, communitarianism. This course can help social studies students understand the meanings and legitimacy of democratic theories.

Logic and Essay Writing in Social Studies

This course focuses on teaching essay writing as a tool in improving students’ skill in logical thinking. Especially, it is designed to investigate the role and methods of essay writing to promote higher-order thinking skills in taking one’s stand regarding many controversial issues.
700.122 한국사개론  3-3-0
Introduction to Korean History

한국사에 대한 체계적 인식을 바탕으로 그 내적인 발전과정을 이해하려고, 그 연장에서 오늘날 우리 사회의 제반 과제를 역사적으로 파악함으로써 민족의 바람직한 미래를 도색한다. 아울러 장차 역사교사 및 역사학 연구자로서의 교육과 연구 활동에 필요한 기초지식과 자질을 함양한다.

In this course, students will study the Korean history systematically in relation to world history, so as to gain the traditional historical attitude and viewpoint essential in teaching social studies.

700.322A 한국문화사  3-3-0
Cultural History of Korea

우리 문화의 역사전통과 그 정서를 체득하는 데 필요한 기초지식을 탐구할 수 있는 소양을 갖추도록, 우리나라 고대, 중세, 근현대의 정치•사상•산업•신분계급•문학과 도시•가족•사상•문예 등 문화총체 및 그 단계적 발전을 내재적기계에 준하여 개별성과 보편성에서 인식하게 한다.

This course provides basic knowledge and quality required to understand the Korean national historical tradition and its essence. Students are expected to cognize the general or phased development of Korean culture including politics, military, industry, the class of social status, rural or urban community, family, thought and literary art.

712.201* 서양사교육강독  3-3-0
Readings in Western History for Teaching

시양사 교육의 입문으로서 서양사의 원천이나 노래 장독을 통해 서양사를 파악하고 교수하는 기본 자질과 자세를 갖추도록 한다.

In this introductory course to Western history, students are expected to read original texts and other documents in order to enhance their capacity and attitude in understanding and teaching the subject.

712.202* 국사교육강독  3-3-0
Readings in Korean History for Teaching

국사연구의 기초설득으로서, 사료의 해석 및 분석•종합 능력을 함양하고 관련 연구을 함으로써 아울러 국사교육에 필요한 사료학습의 능력을 갖추도록 한다.

In this introductory course to Korean history, students are required to examine and analyze source materials and other historical texts in Korean history. Topics of this course include teaching methods of historical documents.

712.215 한국근대사  3-3-0
Modern History of Korea

조선 후기부터 한말에 걸친 시기를 사회학적 특성 속에서 파악하고, 동시에 중국•일본 및 서양과의 대비도 병행하여 정치권력의 제정치가 갖는 의미와 이해하려면 역사교육의 계통성을 세우게 한다.

This course examines the change and transformation of Korean political institutions from ancient to modern Korean history. It also compares and contrasts the characteristics of Korean political and social organizations and transformations.

712.211* 한국고대사  3-3-0
Ancient History of Korea

우리나라 고대사회의 성립•발전•해체 과정을 한국고대사와 사회구성•경제조직•사상•문화를 중심으로 파악하고, 이에 수반한 지배자와 사회특성의 변동과 관련하여 이해함으로써 역사교육의 내용을 풍성히 할 수 있게 한다.

This course comprehensively investigates the power structure, social, and economic organization, and thought systems of ancient Korean society.

M1858.000200* 아시아사교육강독  3-3-0
Readings in Asian History for Teaching

아시아사교육강독은 역사연구에 필수적인 1차 사료, 특히 한자 자료의 기초적인 독해력 습득을 목표로 한다. 장독 자료의 범위는 아시아의 여러 국가들 중 중국•일본•한자문화권 국가들의 한자자료와 IVK자료를 우선으로 하지만 그 외 민족적 관계를 맺고 있던 동공을 비롯한 유목국가의 비한자자료도 포함할 수 있다.

This course is a basic language training course for reading historical materials of Asia. Chinese is the principal language in the course since it has traditionally been in common use in East Asian countries. Materials used in class are primarily related to China and Japan but they can be come to be extracted from that of another Asian country like Mongolia.
This course aims to understand how traditions formed in the ancient times of East Asia, including China, Japan, and Vietnam, and are being formed into a medieval order. These countries will be mainly divided into the literary noblemen and the samurai society. And we will look at how these societies differ from the medieval or European society and the samurai society. And we will look at how these societies differ from the medieval or European society and the samurai society.

The object of this course extends over various cultural areas of the Asian continent, such as Confucian, Hindu, Islamic, Buddhist and other cultural regions. The lecture may focus on a specific nation or culture.

This course overviews European history from the 14th to the 19th century. Dissolution of Medieval society, the Renaissance, Reformation, the Age of Discovery, the Scientific Revolution, the Age of Absolutism, Liberal Revolution, Nationalism, Industrial Revolution, and Western Imperialism are covered.

This course is a core course in the field of history education. It deals with the issues and problems in teaching history at a secondary level. The historiographical background and educational basis of history teaching will be the main topics of the course.

Students study the historical method of research, methodology of historical sources, historical understanding and historiography, historical facts and assessment, the quality of historians, function and defect of history to understand history and history education. This course helps them realize individualization and universalization of history in the context of the comparative history or the world history, and cultivate their own prospect and academic base by understanding contents, methodology and principles etc. of historical teaching and learning.

This course outlines the cultural and sociopolitical development of the West from the 5th to the 14th centuries. Main topics are the German Kingdoms, feudalism, the church and state, and medieval culture.

This course overviews European history from the 14th/15th to the 19th century. Dissolution of Medieval society, the Renaissance, Reformation, the Age of Discovery, the Scientific Revolution, the Age of Absolutism, Liberal Revolution, Nationalism, Industrial Revolution, and Western Imperialism are covered.

Topics in Regional History of Asia

712.223 아시아지역사특강 3-3-0

712.231* 역사교육론 3-3-0

712.301* 역사교육론 3-3-0

712.303A 역사과정과 교육사조의 흐름에 바탕을 두고 역사교육을 담당할 역사교사의 역할을 정립하기 위해 교과별 수업의 실제와 과정 중심의 평가 등을 통해 역사교육과의 차이와 교과학적 기초이론과 교수학습방법의 이론 및 기능을 다루어 역

The period of the Medieval History of Korea is the 4th century AD to the 19th century. This course will cover the history of Korea from the Silla period to the late Joseon Dynasty, focusing on the major events, political developments, and cultural achievements of these periods.

Modern History of the West

712.232 서양중세사 3-3-0

712.233B 서양근대사 3-3-0

712.311 한국중세사 3-3-0

Medieval History of Korea

14th to the 19th century. Dissolution of Medieval society, the Renaissance, Reformation, the Age of Discovery, the Scientific Revolution, the Age of Absolutism, Liberal Revolution, Nationalism, Industrial Revolution, and Western Imperialism are covered.

This course is a core course in the field of history education. It deals with the issues and problems in teaching history at a secondary level. The historiographical background and educational basis of history teaching will be the main topics of the course.

This course overviews European history from the 14th/15th to the 19th century. Dissolution of Medieval society, the Renaissance, Reformation, the Age of Discovery, the Scientific Revolution, the Age of Absolutism, Liberal Revolution, Nationalism, Industrial Revolution, and Western Imperialism are covered.
Focusing on the Goryeo Dynasty, this course investigates the formation, development, and transformation of Medieval Korean society. The power structure and socio-economical organization during the transition period to the Joseon Dynasty will also be discussed.

712.312* 한국근세사 3-3-0

Pre-Modern History of Korea

This course examines the reestablishment and development of Korean medieval society from early to mid Joseon Dynasty. By focusing on the political formation, socio-economical organization, and ideology of the period, this course outlines the general characteristics of Korean premodern society.

712.316 한국사회경제사 3-3-0

Socio-economic History of Korea

This course deals with the major characteristics of the social and national problems of the period from the Japanese takeover to the Liberation, and reform movements of the period are investigated politically, economically, and ideologically so as to provide an overall understanding of the period. This course also emphasizes the unique aspects of Korean historical development.

712.317 한국현대사 3-3-0

Contemporary History of Korea

This course outlines the histories of the European nations, starting from the Age of Discovery to the present. Imperialism, World War I, Marxism, the Russian Revolution, Totalitarianism, World War II, the Cold War and the Post-war period are the main topics.

712.332A 20세기 현대사 3-3-0

Contemporary History of East Asia

This course investigates basic theories about teaching materials and texts in Korean history. It also offers theories on teaching and learning Korean history for prospective teachers.
사범대학(College of Education)  ∴ 역사교육과(Dept. of History Education)

M1858.000700 동아시아사상사 3-3-0

History of East Asian Thoughts

중국사상의 형성과 전개를 중심으로 파악하여 어른 주변국들이 수용하여 자신의 조건에 맞게 반전시키는 과정까지 포함한다.

This course is an inquiry into the philosophical/intellectual background of East Asian history. The main concern of the course is the role of Confucianism, since it cuts across most East Asian intellectual backgrounds.

M1858.000800 역사연구의 새로운 동향 3-3-0

New Trends in Historical Research

역사에 대한 이해를 체계화하고 심화시키기 위해 최근 역사학계의 연구동향을 살펴본다. 새로운 방법론과 시각이 제시된 영역이나 주제를 선정하고 그에 관한 연구 성과를 분석하여 역사 연구 및 교육의 바람직한 방향을 가능하게 한다.

The purpose of this course is to systemize and deepen the understanding of history by examining recent trends in historical research. In this course, historical topics and research areas in which new methodologies and perspectives are presented will be selected, and students will analyze the chosen topics to examine desirable direction of historical research and education. This course will raise interest in diverse topics that are difficult to find in other subjects and broaden the scope of perspectives on historical research and education.

M1858.001100 역사논문세미나 3-3-0

Seminar for History Thesis

역사논문세미나는 역사학도로서 논문 작성이 필요한 방법론을 익히고 실제 논문을 작성하는 것을 목표로 하는 과목이다. 역사 또는 세계사의 관심 주제를 선정하고 관련 국내외 관련 연구 과정을 비판적으로 분석하여 1차 사료를 탐구하는 등 논문 작성이 필요한 시각과 방법을 기른다.

Students are expected to learn and practice basic research skills and methods for thesis writing in this course. They select their own themes about Korean or world history and critically review related research results. They also collect and investigate historical records and primary sources about their topics. By engaging in thesis writing and experiencing revision process through presentations and discussions, they can enhance necessary competences for historical research.

M0000.028700 세계사의 이해 3-3-0

Understanding World History

세계사의 이해는 장차 역사 교사가 될 역사 학생들이 세계사의 발전 과정을 이해하고 이를 바탕으로 교육을 개선할 수 있도록 하는 기초 과목이다. 이 과목에서 수강생들은 아시아, 유럽과 아메리카 등 각 지역별 역사 전개의 특징 및 지역 간 교류의 전개를 통해 고대부터 현대에 이르는 문명의 발전 과정을 파악하고 역사학계에게 필요한 세계사적 안목과 역사교사로서의 자질을 함양한다.

“Understanding World History” is basic subject for students to understand the development of world history and enhance the international perspective. Students study the historical development of the Asia, Europe, and America, and the inter-regional exchange from ancient to contemporary. Through this, they can acquire basic knowledge and educational qualities needed as a history teacher and history researcher.
Geomorphology

This course is designed for the understanding of basic elements of geomorphology. Topics such as agents (rivers, glaciers, waves and wind, etc.), processes (erosion, transportation and deposition) and landforms will be covered. The course aims especially at the development of scientific skills.

Teaching of Geography

This course deals with overall contents of geography education including historical background, objectives, and analysis of the secondary school curricula. Also this course deals with major theories, methodologies, practical issues of field education of geomorphology. Topics such as agents (rivers, glaciers, waves and wind, etc.), processes (erosion, transportation and deposition) and landforms will be covered. The course aims especially at the development of scientific skills.

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of teaching for geography education including characteristics of geography education, textbook analysis of secondary school, lesson planning, teaching methods. Also this course focused on improving the teaching abilities implementing geography education efficiently.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>713.315</td>
<td>문화역사지리학</td>
<td>3-3-0</td>
<td>This course covers the cultural and historical factors that impact on human space. Students will conduct research on how cultural ideas impact on geographic inquiry. Topics will cover spatial diversities, religions, languages, traditions, ethnicity, and ideologies.</td>
</tr>
<tr>
<td>713.324A</td>
<td>관광지리</td>
<td>3-3-0</td>
<td>This course will cover Europe not only as a continent but also as a nation. It will deal with the physical, cultural, social, and economic factors and the process of change that shape European regionality.</td>
</tr>
<tr>
<td>713.316</td>
<td>정치지리학개론</td>
<td>3-3-0</td>
<td>In this course, students will study the basic elements of the history of geographic thought including the evolving history of geography as a discipline. Topics will cover the nature of geography and geographical methodology from the ancient to the contemporary era.</td>
</tr>
<tr>
<td>713.324A</td>
<td>관광지리</td>
<td>3-3-0</td>
<td>This course covers the basic elements of tourism. Topics will cover the types of tourism resources, spatial patterns of leisure activities, geographical characteristics of major tourist sites, and the relationship between tourism and regional culture. Through the course, students will come to understand the concept of sustainable tourism.</td>
</tr>
<tr>
<td>713.417</td>
<td>경제활동과 입지</td>
<td>3-3-0</td>
<td>This course will examine Asia, with its diverse environment and long history. Students will come to understand the rapid development, changing process, and the physical and cultural environment of Asia.</td>
</tr>
<tr>
<td>713.414A</td>
<td>지역사상학</td>
<td>3-3-0</td>
<td>This course will examine the basic concepts and related theories of political geography. Students will practice interpreting the main issues of political geography. Topics will cover the history, development, nature, and research methods of political geography.</td>
</tr>
<tr>
<td>713.416</td>
<td>정치지리학개론</td>
<td>3-3-0</td>
<td>In this course, students will study the basic elements of the history of geographic thought including the evolving history of geography as a discipline. Topics will cover the nature of geography and geographical methodology from the ancient to the contemporary era.</td>
</tr>
<tr>
<td>713.420</td>
<td>유흥지역연구</td>
<td>3-3-0</td>
<td>In this course, students will study various theories on industrial location and compare them with the real world through analysis. They will learn new trends in modern location theory with respect to industry, agriculture, and transportation.</td>
</tr>
<tr>
<td>713.421</td>
<td>아시아지역연구</td>
<td>3-3-0</td>
<td>This course will examine Asia, with its diverse environment and long history. Students will come to understand the rapid development, changing process, and the physical and cultural environment of Asia.</td>
</tr>
</tbody>
</table>
Field Research in Physical Geography

This course concerns the physical, social, economic, and cultural features of the Americas. It will explore how these features are formed and changed. In addition, the course will provide a comparative viewpoint through various approaches and geographical knowledge of the location of the Americas.

M1861.000700 지리 평가방법론 3-3-0
Evaluating in Secondary School Geography

This course will study the theory and methodology of geographical assessment and evaluation for improving the efficiency of teaching and learning. Main purposes are to develop the strategies to provoke geographical questions and to learn practical skills through critical review.
understand the patterns of human behavior and the processes of regionalization.

713.435 Teaching of Transportation Geography

This course is concerned with various aspects of spatial interaction focused on transportation. Spatial interaction refers to inter-regional flows and linkages of various geographic elements including people, goods, information, and capital. This course deals with both infrastructures for spatial interaction and spatial patterns of flows and linkages occurring on them. The main contents are divided into two parts, network analysis and flow analysis, for each of which major concepts, theories, and techniques are taught.

713.436 Spatial Analysis and Geography Education

This course is concerned with various techniques of spatial analysis with a special attention given to how they are applied to geographic problem solving. Spatial analysis techniques are divided into two categories, some from general statistics and others from spatial data analysis. Main contents include descriptive statistics, inferential statistics, spatial pattern analysis, and spatial autocorrelation analysis. Lectures are supplemented by lab exercises utilizing statistical packages and real-world data.

713.437 Soil and Geographic Biography

The purpose of the course is to help students to understand natures, formation processes and distribution patterns of soil and natural vegetation. The course deals with the interaction among soil, natural vegetation, climate and topography.

M1861.000900 Geography Education using Technology

A wide range of technologies, including GIS(Geographic Information System), GPS(Global Positioning System), Google Earth, artificial intelligence can be adopted effectively for geographic learning. Technology is used in various areas from providing location information to spatial analysis and inquiry-based learning to improve spatial thinking. The purpose of this course is to promote the ability to investigate real-world problems through geographic perspectives and solve them using technologies. Students understand technology in authentic contexts and cultivate competencies that can be transferred to diverse areas.
Theories of Democracy

Kant insisted on the preference of the practical reason to the theoretical reason, ethics is an important study that deals with our primary concerns such as 'What should we do?', 'How should we live?', 'What is really valuable?'; 'What is the meaning of life?'; 'What makes life livable?'. This lecture deals with important theories and disputed points of modern ethics.

Culture and Ethics

This aim of this course is to provide students with the necessary perspective to think about the relationship between culture and ethics. For this, this course examines what relationships ethics has with food, clothing, housing, music, fine arts and playing, and so on.

This course also examines what efforts we need to make to get Korean culture to flourish as a competitive culture. Furthermore, we cover ethical issues in multicultural societies.
714.213 한국사상개론 3-3-0
Introduction to Korean Thoughts

The aim of this course is to promote understanding of Korean traditional thoughts that have founded Korean modern society and culture by a general survey of traditional thoughts through analysis of balanced Korean thought, eventually to re-illuminate the orig-runs, support groups.

714.216A 시민과 덕목 2-2-0
Citizenship and Virtues

Citizenship refers not only to a legal status, but also to a normative ideal - the governed should be full and equal participants in the political process. As such, it is a distinctively democratic ideal. One important topic in citizenship theory concerns the need for citizens to cultivate virtues. This class will focus on how we learn to be virtuous citizens. It will also discuss international ethics.

714.217A* 도덕윤리교육론 3-3-0
Theories of Moral and Ethical Education

This course is intended to help students learn the theories of moral & ethical education which will be required to know as teachers of ‘Ethics Education’ in high school selectric curriculum. The establishment of firm identification as a student majoring in national ethics education is also required through this course work. Especially, in this course crucial tasks in the area of secondary moral education will be discussed.

714.218A 국제관계와 윤리 3-3-0
International Affairs & Ethics

This course teaches such theories as realism, idealism, pacifism, and examines case studies regarding humanitarian intervention or human rights violations from ethical perspective. Students are expected to learn important relationship between international affairs and ethics from this course.

714.220A 현대사회의 윤리적 쟁점 3-3-0
Seminar in Ethical Issues of Contemporary Social Problems

The objective of this course is to teach undergraduate students increasing importance of ethics in international affairs, although international community is characterized by the conflict of national interests and sovereign rights. Some argue that international relations has nothing to do with morality or ethics, but national policies or activities can face criticisms and opposition if they ignore ethical considerations and consequences. In the age of globalization, the importance of international ethics is growing.

This course teaches such theories as realism, idealism, pacifism, and examines case studies regarding humanitarian intervention or human rights violations from ethical perspective. Students are expected to learn important relationship between international affairs and ethics from this course.

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viding an opportunity for the students to prepare themselves in the ethical issues of the social problems in the areas of occupation and profession, economic (corporate and consumer), information and communication, upholding the value of life (including life science, biotechnology, human rights), and the like.

714,306* 한국윤리사상 3-3-0

Korean Ethical Thoughts

The aim of this course is to observe the significance and background of the times when Confucianism, Buddhism, Taoism and traditional Shamanism have been accepted as the root of Korean Ethics thoughts with the general understanding of those thoughts. By examining the differences of each thought and comparing and analyzing the characteristics of the thoughts of Korea, China and Japan, students are able to re-illuminate the value and significance of Korean Ethics thoughts and thus to recognize them in a new light in a modern ethical thinking. The contents and scope of this course will be to understand shamanism and country foundation myth and to re-illuminate the value and significance of Korean ethic thought by comparing and analyzing the thoughts of Confucianism, Buddhism and Taoism.

714,316A 남북한사회연구 3-3-0

Study of South & North Korean Society

North and South Korean society is meant to help students to have an insight in the ethical issues of the social problems in the areas of occupation and profession, economic (corporate and consumer), information and communication, upholding the value of life (including life science, biotechnology, human rights), and the like.

714,319A 도덕·가치교육론 3-3-0

Moral, Values, Education

This course is intended to help students understand current moral issues and enhance the stages of moral development. In order to be an excellent teacher in the area of moral education, teachers need to be capable of discussing complex moral issues without hesitation and maintain higher stages of moral development than their students. For the reason, in this course using inquiry and analysis on moral issues, students will develop their abilities for reasonable value analysis and moral judgment, and facilitate moral development for others.

714,323 국가와 윤리 3-3-0

The State and Ethics

The modern state claims supreme authority over the lives of all its citizens. Despite the fact that authority is the distinctive mode of political action, contemporary educators of democratic citizenship, in their preoccupation with the theories of justice, equality, liberty, and rights, often tend to ignore the unique and fundamental problem of the state and its authority. How, if at all, can this be justified?

This class investigates the nature of authority and the character and function of the state. Various popular and influential theories-conventionalism, contractarianism, and communitarianism- will be assessed in a critical way. While it is difficult to accept the argument that there is a general obligation to obey the law, we will nonetheless reject philosophically anarchism and defend political obedience as a political virtue.

714,330 통일교육론 3-3-0

Theories of Education National Unification

This course is intended to help student have an insight in-
to the unification and form future-oriented mind, under the
circumstance of ideological conflicts in Korean peninsula. In
other words, in addition to prerequisites for the unification,
directions of our efforts for the unification, future features of
a unified nation, and desirable images of Koreans after the
unification will be discussed. These experiences will be help-
ful for future teachers who will deal with the problems of
the unification of North and South.

714.334
Oriental Human Nature and
Oriental Cosmology

본 강의의 목적은 동양 윤리사상의 두 핵심인 동양 인성론과
dong yang 우주론을 파악할 수 있는 기회를 수상생들에게 제공하는데 있다. 형이상학적 인식론에 주력한 서양이 동양에서는 인
성론과 우주론을 이론적으로 발전시켰다. 형이상학적 인식론 에 숨겨져 인간 본성이 인간 본성에 대한 동양인의 사유를 보여주며, 이는 주요에 물과 보리가 사상의 영향으로 더욱 전개화되어 갔다. 현
설에 들어서는 주요(부교)의 우주의 개념은 기반한 우주론적 사변 체계에 근거해 주요와 우주를 정합적으로 이해나
는 이 시대의 근본적 문제의식이었다. 본 강의에서는 동양인성론
과 우주론을 현대적 맥락으로 어떻게 재해석할 수 있는지에 대해
서도 심도 있게 논의한다.

The goal of the course is to provide students with an oppor-
tunity to understand both Oriental Human Nature Theory and
Oriental Cosmology which are two core parts of Eastern
ethics. Compared to the West which focused on metaphysics
and epistemology, the East had developed theoretically both
Cosmology and Human Nature Theory. Mencius’ idea which
states that human nature is fundamentally good and Hsun
tzu’s theory that human nature is fundamentally evil reveal the
thoughts of Asians about human nature. Both became more
elaborate under the influence of Buddhism and Taoism.

Meanwhile, during the Song dynasty, cosmological spec-
ulation systems which were based on theory of the Supreme
Ultimate in the Book of Changes became more and more
important, because they were fundamental elements which
consistently understood the relationship between human being
and cosmos. This lecture will also discuss in-depth how to
reinterpret both Oriental Human Nature Theory and Oriental
Cosmology from a modern view.

714.335
Neo-Confucian Ethical Thoughts

본 과목의 목표는 승부 사대의 윤리사상을 설명하며 학생들이
동아시아 근대와 근대화 관련이 있는 이 시기의 윤리사를 이해하
도록 하는데 있다. 응교대의 신학은 조선 성리학의 형성과 발전
ed에도 심한 영향을 미쳤으며, 주요의 사상과 동아시아 문화 전반에
저울 수 없는 영향을 미쳤다. 동아시아의 윤리문화 전반은 윤리
학박과 사상에 대한 윤리학적 이해를 필요하다. 그러므로 본 강
화에서는 주요과 사상, 윤리학과 주요 등을 다루어 조선 윤리의 이해를 기초로 한다.

This course will help students understand the ethical
thoughts of the Song-Ming dynasty, which are deeply related
to modern East-Asia. Neo-Confucians in the Song-Ming era
exerted a strong influence on the formation and development of
Neo-Confucianism in the Joseon Dynasty period along with
the thoughts of Chu Hsi. The appreciation of Neo-Confucianism
is essential in understanding the traditional ethics of East-Asia.

Therefore, in this lecture, it is important to understand the
fundamentals of the Joseon Dynasty era’s Neo-Confucianism
through Chou Tun-i, Chang Tsai, Lu Chuyuan, and Chu Hsi.
Thoughts of Oriental Ethics

The course will discuss their implications for some important topics, strengths and weaknesses of different political theories, this state, justice, democracy, and citizenship. To assess the well-ordered society. It considers the ways in which they contribute to a broader conversation about the sovereign state, justice, democracy, and citizenship. To assess the strengths and weaknesses of different political theories, this course will discuss their implications for some important topics that are central to understanding political life of citizens. Particular attention will be directed to the ways in which different political philosophers have given expression to various forms of political institutions and ways of life. Students are expected to gain a normative perspective on their own and to pursue the subject in depth through suggested reading.

Education of Political Thought

This course examines major texts in great books of political thought and the questions they raise about the design of the well-ordered society. It considers the ways in which they contribute to a broader conversation about the sovereign state, justice, democracy, and citizenship. To assess the strengths and weaknesses of different political theories, this course will discuss their implications for some important topics that are central to understanding political life of citizens. Particular attention will be directed to the ways in which different political philosophers have given expression to various forms of political institutions and ways of life. Students are expected to gain a normative perspective on their own and to pursue the subject in depth through suggested reading.

State and Justice

The idea of justice lies at the heart of moral education. It is a necessary virtue of individuals in their interactions with others, and the principal virtue of social institutions, although not the only one. Just as an individual can display qualities such as integrity, charity, loyalty, so a society can also be more or less economically prosperous, artistically cultivated, and so on. Traditionally defined by Ulpianus 'sum cuique tribuere' -to allocate to each his own-justice has always been closely connected to the ideas of desert and needs. Rewards and punishments are justly distributed if they go to those who deserve them.

Within the sphere of distributive justice, there is disagree-
about the content of just principles. The proponents of the merit principle claim that what is due to each person is given by what he deserves. Theorists of the needs principle believe that what we need is the supreme guide to just distribution. Theorists of the merit principle think that what is due to each person is given by what he deserves. Theorists of the needs principle believe that what we need is the supreme guide to just distribution. Theorists of the merit principle think that what is due to each person is given by what he deserves. Theorists of the needs principle believe that what we need is the supreme guide to just distribution.

This course aims at promoting students' academic intelligence through general understanding and improvement in recognition on Oriental Classics. By observing the way the thoughts and concepts in Oriental Classics have been understood and analyzed historically, students are trying to find out new solutions and theories on problems related with modern society.

Reading materials will be Confucius Four great books and three other books, Buddhist reading books, The book of Lao Zi, and other books of Chuangtzu, etc.

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**M1865.001000** 윤리학개론 3-3-0

**Introduction to Ethics**

Ung workplaces, human survival, and the impact of human activities are discussed.

This course deals with important theories and disputed points of modern ethics.

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**M1865.001100** 서양윤리사상 3-3-0

**Western Ethical Thoughts**

This course aims to improve students’ knowledge about Western ethical thoughts by putting an emphasis on main streams and characteristics of Western ethical thoughts.

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**M1865.001120** 을리고교강독 3-3-0

**Readings in Oriental Classics**

This course aims to improve students’ knowledge about Western ethical thoughts by putting an emphasis on main streams and characteristics of Western ethical thoughts.

This course includes a diverse topics, covering the areas of culture, emotions, empathy, conscience, socialization, nature, altruism, aggression, gender, biology, reciprocity, and youth development.

This course is intended to examine in terms of cognition, emotions, behavior, neuroscience, and understand how morality develops through childhood, adolescence, and adulthood. This course includes a diverse topics, covering the areas of culture, emotions, empathy, conscience, socialization, nature, altruism, aggression, gender, biology, reciprocity, and youth development.

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**M1865.001300** 도덕교육론 3-3-0

**Theories of Moral & Ethics Education**

This course consists of a diverse topics, covering the areas of culture, emotions, empathy, conscience, socialization, nature, altruism, aggression, gender, biology, reciprocity, and youth development.

This course is intended to examine in terms of cognition, emotions, behavior, neuroscience, and understand how morality develops through childhood, adolescence, and adulthood. This course includes a diverse topics, covering the areas of culture, emotions, empathy, conscience, socialization, nature, altruism, aggression, gender, biology, reciprocity, and youth development.

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**M1865.002100** 도덕심리학 3-3-0

**Moral Psychology**

This course includes a diverse topics, covering the areas of culture, emotions, empathy, conscience, socialization, nature, altruism, aggression, gender, biology, reciprocity, and youth development.

This course is intended to examine in terms of cognition, emotions, behavior, neuroscience, and understand how morality develops through childhood, adolescence, and adulthood. This course includes a diverse topics, covering the areas of culture, emotions, empathy, conscience, socialization, nature, altruism, aggression, gender, biology, reciprocity, and youth development.
This course is intended to help pre-service teachers’ key competencies for developing and implementing effective teaching materials and the teaching & evaluation methods that will be used when they become moral and ethical education teachers in the secondary school. For these purposes, pre-service teachers will have meaningful opportunities to analyze secondary moral education textbooks and search for these application plans. Further, they will explore the effective ways to use teaching & evaluation methods.

The purpose of this course is to improve pre-service teachers' competencies for using logical writing in accordance with the nature and essence of moral and ethics education. For the purpose, this course will comprehensively deal with objectives, teaching and evaluation methods of logical thinking and writing education for moral and ethics education, and then, give pre-service students the opportunity to explore more effective teaching and evaluation methods of logical thinking and writing. For the purpose, this course focuses on the concepts of character and character education, core virtues and competencies of character education, the tradition of character education in the East and the West, moral psychology and ethics as core disciplines of character education, and the basic principles for effective character education.

This course aims to enable students to develop and extend understandings of the nature and possibility of citizenship education. Through lectures, participant-centered discussions, and workshops, students will explore the literature, current research, and best practices of citizenship education through local, national, regional, and global perspectives. Emphasizing and incorporating students’ needs and experiences, the course will create a critical space where they can share, debate, network, and construct viable curricula, practices, and pedagogies for the implementation of citizenship education inside and outside the school settings.

This course is intended to help pre-service teachers’ competencies for implementing instructional designs, strategies, and analysis necessary for achieving instructional objectives in secondary moral and ethics education. These competencies are key and essential parts for the development of teachers’ teaching and learning expertise. For this reason, this course provides meaningful opportunities to understand and implement instructional designs (e.g., analysing curriculum and the characteristics of students, describing learning objectives, selecting teaching methods and content knowledge, organizing student groups, and creating teaching & learning environments), instructional strategies (e.g., questioning strategies, motivating strategies, and meaningful and effective feedback strategies), and an instructional analysis to improve the quality of instruction through self-reflection and peer feedback.
deals with ethical issues in the social level is called ‘social ethics’.

In the sight of the fundamental order and social norm, this lecture debate with the problems of social ethics, i.d.: the problems of family ethics, professional ethics, economical ethics, feminist ethics, and applied ethics like the ethics of sexuality, biomedical ethics, environmental ethics, information ethics etc.

M1865.002600 기술과 윤리 3-3-0

Ethics and Technology

In the era of the Fourth Industrial Revolution, the emerging technologies—such as artificial intelligence, robot engineering, social network services, and genetic engineering—are radically changing the forms of our life. New forms of life require new ethical insights. This course will prepare students for the new era of technology by inviting them to reflect on emerging technologies and their ethical implications. The discussion questions include the following:

“Can we trust robots to help or replace human caregivers in the practice of caring for vulnerable people such as the elderly, young, or disabled?”

“If a driverless car causes an accident, who is morally responsible for the accident?”

“Is it ethically permissible to use genetic engineering to enhance a baby’s intelligence?”
715.201* 해석개론 1 3-3-0

Advanced Calculus 1

715.202 해석개론 2 3-3-0

Advanced Calculus 2

715.213A 이산수학 3-3-0

Discrete Mathematics

715.214 미분방정식개론 3-3-0

Introduction to Differential Equations

715.215* 선형대수학 1 3-3-0

Linear Algebra 1

715.216 선형대수학 2 3-3-0

Linear Algebra 2

715.217 정수론 3-3-0

Number Theory

715.218B 수학교육과 교육공학 2-2-0

Educational Technology in Mathematics Education

715.219 확률론 2-2-0

Probability Theory

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characteristic value, rational canonical form and Jordan canonical form, and theories of linear mapping.
iance, covariance, various probability distribution models (normal, binomial, poisson, exponential etc.), joint probability distribution, sample, sample mean and variance, convergence in probability and distribution, central limit theorem.

715.301* 현대대수학 1 3-3-0

Modern Algebra 1

군, 환, 체와 같은 대수체가 소개된 예제이다. 수학적 추론 능력과 쓰기능력의 기초를 마련하여 논리적이고 정확한 의사소통을 할 수 있게 할 뿐 아니라 강사 산술, 군, 환, 체의 도입, 다양식환에 서의 산술, 합동류 산술, 정규부분군과 상군, 아이디얼과 상환, 상 군과 준동형, 대칭군과 교대군 등을 다룰 예정이다.

Algebraic structures such as groups, rings, and fields will be introduced. This course will provide the students with a foundation in mathematical reasoning and writing that will aid the students in their future mathematics courses, as well as give them tools with which to communicate in a logical and organized way. Topics include arithmetic in the integer ring, modular arithmetic, introduction to groups, rings, and fields, arithmetic in polynomial rings, congruence-class arithmetic, normal subgroups and quotient groups, ideals and quotient rings, quotient groups and homomorphisms, the symmetric and alternating groups.

715.302 현대대수학 2 3-3-0

Modern Algebra 2

<현대대수학 1>에 이어 본 과목은, 유한 아벨군의 구조, 군의 작 용, 실패우 정리, 유한군의 구조, 정리에서의 산술, 체의 확대, 기 화적 작도 등을 다룰 예정이다.

This course is a continuation of <Modern Algebra 1>. Topics include structure of finite abelian groups, group actions, Sylow’s theorems, the structure of finite groups, arithmetic in integral domains, field extensions, geometric constructions.

715.307 다변수수론 3-3-0

Functions of Several Variables

다변수수론의 미분, 음함수의 정리, Multiplier Rule, 다변수수론의 적분, 선적분, Exterior 대수, Differential Form, 다양체상의 적분, Stokes 정리 등을 학습한다.

In this course, students will study differentiation of several variable functions, implicit function theorem, multipler rule, integral of several variable functions, line integral, exterior algebra, differential form, integral on manifolds, and Stokes Theorem.

715.313A 수학교육론 및 지도법 3-3-0

Materials and Methods in Teaching of Mathematics

물리학과 수학교육과 교수학적 체계를 분석하고, 이를 바탕으로 교수학습 과정을 개발하고 수업 설계를 경험한다.

This course will cover an analysis of middle and high school mathematics teaching materials, development of a lesson plan and performance of simulated instruction.

715.315* 수학교육론 3-3-0

Teaching of Mathematics

고등학교 수학교육의 목표 및 교육과정을 이해하고, 각종 내용 영역과 관련된 수학 학습 지도 원리와 방법을 검토한다.

This course will cover an understanding of aims of middle and high school mathematics education and its curriculum and an examination of the principles and methods of learning and teaching mathematics relevant to each content area.

715.401* 위상수학 1 3-3-0

Topology 1

실직선 위에서의 위상구조에 대하여 학습하고, 위상공간, 연결 공간, 컴팩트공간, 동일화 공간, 완비공간, 그 밖의 공간들을 다룬 다. 이 과목은 해석학, 기하학, 미분위상학, 대수위상학 등의 분야 에 기초를 둔다.

Covering general topology, this course will deal with topology on the real line, topological spaces, connected spaces, compact spaces, identification spaces, complete spaces, and other spaces. It will form the foundation for all advanced courses in analysis, geometry, and topology.

715.402 위상수학 2 3-3-0

Topology 2

공간의 기본군, Van Kampen’s theorem, 피복공간, groups of covering transformation, 일반적인 피복공간의 존재성, theorems of Brouwer, Borsuk-Ulam and Van Kampen을 학습하고, 극한 집합을 분류하는 위상수학에서의 대수적 방법의 응용을 학습한다.

An introduction to algebraic topology, this course will deal with the fundamental group of a space, Van Kampen’s theorem, covering spaces and groups of covering transformation, existence of universal covering spaces and theorems of Brouwer, Borsuk-Ulam and Van Kampen. It will also cover applications of algebraic techniques in topology to the classification of surfaces.

715.412B 수리통계 2-2-0

Mathematical Statistics

본 과목에서는 추정과 검정의 통계적 이론과 그 적용법을 배 우나. 다양한 조건에서 점추정과 구간추정의 방법 및 가설을 설정 하고 가설 검정, P값을 구하여 가설검정 하는 과정과 그 이론을 배운다. 제 1종 오류 및 제 2종 오류의 개념을 배운다. 회귀분석과 분산분석의 이론을 배운다.

This course covers statistical theory related to estimation and hypothesis testing. Topics will include point estimation, maximum likelihood estimate, interval estimation, hypothesis testing for one or two groups (means and proportions), testing for equality of variances. Also, linear regression and analysis of variance methods will be dealt with.

715.413B 수학사와 수학교육 3-3-0

History of Mathematics and Mathematics Education

고등학교 수학교육 과정과 수학사를 기반으로 수학 교수학습 이론과 그 적용을 다룬다.

This course will cover the mathematics teaching-learning
theory and its implications in connection with mathematics curriculums and history of mathematics.

715.425 수치해석 3-3-0

Numerical Analysis

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In this course, numerical methods for solving ordinary and partial differential equations will be discussed. The course will cover iterative methods for solving equations, numerical linear algebra, iterative methods for solving linear systems, interpolation, numerical integration and differentiation, and numerical solutions for initial and boundary value problems.
This course aims to teach practical as well as theoretical knowledges of the thinking and understanding of secondary school students. This requisite course is one of the basic courses for students majoring in common science education. Charge, electric field, Gauss’ law, electric potential, emf and circuit, magnetic field, Ampere’s law, Faraday’s law, inductance, magnetic properties of matters, electromagnetic waves, geometrical optics, wave optics, quantum physics, relativity, and the dual nature of matter will be discussed. Experiments including magnetic field, Ohm’s law, RLC resonance circuit, impedance, Lissajous figures, current balance, laser, and the vibration of strings will be performed.

This course develops the students’ mathematical competence that is needed for undergraduate physics. Specifically, the course examines the major physics-related topics such as vector analysis, general coordinates, matrix, group theories, series expansion, and complex variables.

This course will teach the principles of electronic devices with curriculum, students’ understanding, assessment and effective teaching methods. Through the instructional use of electromagnetism, including vector interpretation, electrostatics, magnetic and electromagnetic field. It also deals with curriculum, students’ understanding, assessment and effective teaching methods for secondary school students.
This advanced undergraduate course is essential for understanding fundamental concepts of modern physics. The course includes such topics as limits of classical physics, basic concepts of quantum mechanics, Schrödinger equation and its applications, operators, hydrogen atom, simple harmonic oscillator, and electromagnetic waves. Relevant electromagnetic concepts for secondary school students will be included in aspects of curriculum, students’ understanding, assessment and effective teaching methods of electromagnetism.

As an advanced course for "Quantum physics and education 1", this class deals with basic concepts such as the properties of matters in magnetic fields, boundary conditions, Maxwell equations, radiation of electromagnetic waves, and electrodynamics. Relevant electromagnetic concepts for secondary school students will be included in aspects of curriculum, students’ understanding, assessment and effective teaching methods of electromagnetism.
quantum optics. In addition, the course deals with effective ways to teach optics toward secondary students.

717.414 물리교재 연구 및 지도법 3-3-0

Materials and Methods in Teaching of Physics

중·고교 물리를 학습하고 지도하는데 사용되는 다양한 교재를 조사·분석하고 이를 기초로 효과적인 학습지도 능력을 기른다.

This class analyzes various teaching materials for secondary physics in order to develop effective teaching skills.

717.418A 양자물리 및 교육 2 3-3-0

Quantum Physics and Education 2

<양자물리 및 교육 1>의 연장으로서 언안과 방법, 전자기장에서의 전자의 운동, 각운동량이론, 싱드롬과 근사론, 산란이론 등을 공부하게 된다.

An advanced course of <Quantum Physics and Education 1>, the class discusses such topics as operator method, electron’s motion in electromagnetic fields, angular momentum, perturbation and approximation, and scattering theories.

717.428A 열통계물리 및 교육 3-3-0

Statistical Physics Education

경험적이고 객관적인 열역학과 분자 운동론을 바탕으로 모형적이고 미시적인 통계역학을 통하여 열 및 통계역학의 개념을 학습하고, 효과적인 교육방법을 탐색한다.

This course studies the basic concepts of thermal and statistical mechanics, starting from empirical and macroscopic thermal physics to microscopic statistical physics. The course also discusses effective pedagogical methodologies.

717.430 물리학 개념의 역사적 발달 3-3-0

Historical Development in the Concepts of Physics

본 강좌는 고대 그리스 이후 20세기 전반에 이르기까지의 물리학의 역사적 발전과정을 그 주요 개념을 중심으로 개관한다. 고대 그리스에서 중세까지의 우주관과 운동론, 중세 이후의 철학적 학문과 운동학의 발전, 뉴턴에 의한 역학학문의 완성, 맥스웰의 전자기학 통합, 에테르 이론과 아인슈타인의 상대성 이론, 양자역학의 성립과 코펜하겐 해석 등이 그 주요 내용에 해당한다. 이러한 물리학 개념의 역사적 발전과 함께, 관찰과 이론의 관계, 경제 이론간의 선택, 경험론과 도구주의, 과학적 성과 해석의 문제 등 과학철학의 제 문제들을 물리학의 역사적 맥락 속에서 다루게 될 것이다.

This course will outline the historical development of physics from the ancient Greece to the first half of the 20th century, with a special reference to its major concepts. Theories of motion and universe from early Greek and Middle Ages, Revolution in Astronomy and Kinematics, Newton’s revolution of mechanics, Maxwell’s integration of electromagnetism, theory of ether and Einstein’s relativity theory, establishment of quantum mechanics and Copenhagen interpretation etc. will be major contents to be discussed. In addition to these historical development of physics concepts, philosophical issues like relationship between observation and theory, selection among rival theories, realism versus instrumentalism, scientific explanation and interpretation will be discussed too in the context of the history of physics.

717.326 음향학탐구 및 교육 3-3-0

Acoustics Inquiring Teaching

음향학은 건축, 음악, 심리학 등 일상 생활의 모든 현상을 통해 경험되는 소리에 대한 물리적 설명을 추구하는 학문이다. 본 강좌에서는 운동, 에너지, 파동과 그 밖의 다양한 물리적 원리를 이용하여 소리의 성질을 이해하고, 소리를 이용한 도구 속의 물리를 탐구한다. 또한, 일상 생활에서 활용 가능한 교수-학습에 의한 자료를 통하여 각급 학교 학생 수준에 적합한 교육법을 개발하고 논의한다.

This course studies the properties of sound and physical concepts involved in acoustic devices, by discussing motion, energy, waves and other physical principles concerning sounds. In addition, the course develops effective pedagogy and practical teaching materials.

M1870.000100 물리교수법 3-3-0

Physics Teaching Methods

이 강좌는 우리나라 중고등 과학교육 과정 하의 물리 수업 실험 및 수업분석능력 개발에 중점을 둔다. 강의에서는 물리학, 의사소통, 물리교과 분야, 실제 물리 수업 과제를 위한 이론과 방법 등을 구체적으로 다룬다. 본 강좌를 통하여 학생들은 반성적 실험 능력을 갖춘 예비교사로 성장할 것을 기대한다.

This course addresses the development of practices and analysis in teaching physics in our secondary school science curriculum. We will conduct the important issues such as the nature of Physics knowledge, the foundation of Physics education, theory and practices of ‘good’ teaching in detail. We expect students become a pre-service teacher who is able to do reflective practice.
718.210* 유기화학 1 3-3-0

Organic Chemistry 1

유기화합물의 명명법, 구조, 성질, 반응 및 합성에 관한 기초적인 내용을 다룬다. 반응 메커니즘에 대한 분류 체계에 따라 계통적으로 학습한다.

This course covers simple organic compounds with emphasis on structure, bonding and reaction. Its pre-requisite is Fundamentals of General physics, General Chemistry and Calculus.

718.210* 유기화학 2 3-3-0

Organic Chemistry 2

<유기화학 1>의 계속 강의로서 방향을 화합물, 천연물의 구조, 성질, 반응 및 합성에 관한 기초적인 내용을 다룬다.

Following <Organic Chemistry 1>, this course covers simple organic compounds with emphasis on bonding and reaction, structure and various functional groups. Its pre-requisite is <Organic Chemistry 1>.

718.208*물리화학 1 3-3-0

Physical Chemistry 1

양자 화학의 기본 원리와 이론을 바탕으로 원자 및 분자의 구조와 에너지에 대한 양자 화학 이론을 다루고 원자와 분자의 특성 속성과 관찰하는 기본 도구 학문인 분광학을 다룬다.

As one of the major requirement courses in the Department of Chemistry Education, this course covers basic principles of quantum chemistry and quantum theories and approaches describing structures and energies of atoms followed by spectroscopy as a tool to investigate properties of atoms and molecules. This course has pre-requisites of General physics, General Chemistry and Calculus.

718.214* 분석화학 1 3-3-0

Analytical Chemistry 1

화학의 모든 분야에 관련된 기본적인 여러 가지 화학반응 평형에 대한 체계적 접근방법을 다룬다. 그리고 농도, 활동도, 두께와 부피 분석법, 침전법의 생장반응을 이용한 정량법, 산 염기 화합음과 이에 따른 정량법, 키타미트 접합법 생성반응과 이를 이용한 금속원율의 정량과 적정법을 다룬다. 이런 기본적인 화학반응의 이해를 기초로 하여 미지시료의 화학적 성질을 조사, 합성, 반응, 전기형태학적 변화와 전기화학적 변화를 설명하고 정량화한다.

This course discusses systematical approaching method to deal with an equilibrium in several kinds of fundamental chemical reaction which is related to all fields of chemical science. It also covers basic topics such as activity, concentration, gravimetric and volumetric analysis, titrations using precipitation formation and acid-base neutralization, and determination of metal ion concentration using chelates complex formation/EDTA titration. Theories and methodology measuring composition, quantity, and concentration of unknown samples will be dealt with based on understanding of fundamental chemical reactions in this course.

718.215* 분석화학 2 3-3-0

Analytical Chemistry 2

물질의 화학적 물리적 성질의 차이를 이용하여 순수한 성분분리하고 추출하는 여러 가지 종류의 크로마트그래피법의 원리와 카운트크런트 분배법, 물질의 화학 분자반응과 이를 이용한 화학 환원 적정법, 기초적인 전기화학적 반응, 전화, 전류, 전기량의 측정을 통한 물질의 전기화학적인 성분확인과 정량분석법, 뇌 기호나 음영도의 변화를 이용하는 분광분석법의 기초와 원리, 전기분배 반응과 전기두께분석법, 전자차량법에 대한 강의한다.

Fundamentals of several types of chromatography and count current distribution for separation and extraction of pure components will be covered using different physical/chemical properties of chemical substances in the mixtures. This course involves oxidation/reduction of materials, fundamental electrochemistry, redox titrations, electrolysis, electrogravimetric, and coulometric analyses, voltammetry, fundamentals of spectrophotometry and spectroscopic analyses using light properties.

718.305* 유기화학실험 2-0-4

Organic Chemistry Lab.

간단한 유기화합물의 분리, 정제, 검출 등의 유기화학실험에 관한 기본 조작법을 습득하고 기초적인 분석 학습 과정에서 필요한 유기화학적 기초 개념을 이해할 수 있도록 한다. 또한, 습득한 실험 조작 법을 바탕으로 보다 복잡한 시료를 합성, 분리, 정량하고 이들을 분광적 방법으로 확인하는 법을 익힌다.

This class deals with characterization and purification of organic compounds, as well as purification techniques and related experiments. Also this class studies the purification techniques, characterization and synthesis of organic compounds.

718.308* 분석화학실험 2-0-4

Analytical Chemistry Lab.

부피분석법의 기초가 되는 체계적 분리, 정제는 생물학적 반응, 살균작용 반응, 칼리데트 금속약화합물이 생성되며 반응을 이용한 다양한 적정법에 의해 미지시료 용액 속에 존재하는 분석 물질의 성분을 검출하고 정량화한다. 또한 금속원율의 분광적 측정, 피트바인의 요도 적정법, 구리의 전기무게분석법, 카보네이트와 바이카보네이트 혼합물의 분석, 표준참가물 분석법 등에 대해 실험에 진행될 것이다.

The laboratory experiments cover several types of volumetric analyses using titration such as precipitation reaction, acid-base neutralization, redox reaction, chelate EDTA complex formation reaction in order to detect and quantize a specific component existing in the unknown mixture solution. In addition, spectrophotometric determination of metal ion, iodometric titration of vitamin C, electrogravimetric analysis of copper ion, analysis of a mixture of carbonate and bicarbonate, and standard addition method will be included in this lab course.

718.309* 물리화학실험 2 3-3-0

Physical Chemistry 2

이 강좌에서는 통계열역학을 다루어 <물리화학 1>에서 다룬 원자와 분자의 양자 화학적 성질의 물질의 기상학적 성질과 연결하며, 열역학 제1·2·3·4 법칙을 바탕으로 기체, 액체, 고체의 상표와 구조, 상의 변화와 평형, 화학 액화와 정량, 음력의 측정과 상표를 체계적으로 다룬다. <물리화학 1>은 필수 수학과목이다.

In this course, by covering statistical thermodynamics quan-
점화물의 여러 가지 반응, 액체학 및 속도론에 관한 기본적인 사항을 다룬다.

Inorganic Chemistry 2
베위화합물의 결합이론, 구조, 원자화합물과 전자분광학 및 반응 메커니즘, 유기금속화합물 및 촉매, 거대 무기분자 화합물 등을 다룬다.

This course covers such topics as bonding theory, structure, stereochemistry, electronic spectroscopy, and reaction mechan-ism of coordination complexes, organometallic chemistry, catalysis and inorganic macro molecules.

The objective of this course is to provide students with an overview of the role of chemistry in nanosciences. We will introduce some basic knowledge related to this field, and survey the unique properties of nanoparticles and their applications, which includes bioconjugation methods, solution-based probes/sensors, in vitro and in vivo imaging, and nanoparticle therapeutics. Students should be able to 1) understand the general methods for fabricating nanomaterials; 2) understand the physical properties of nanomaterials; 3) apply the unique properties of some nanomaterials to create specific probes. Typical topics include supramolecular chemistry, basic photophysics, syntheses of nanoparticles, luminescent probes. Typical topics include supramolecular chemistry, basic photophysics, syntheses of nanoparticles, luminescent quantum dots, gold and silver nanoparticles, other inorganic nanoparticles, organic nanoparticles, bioconjugate chemistry, bioimaging, drug delivery and toxicity of nanoparticles.
Organic Spectroscopy


This course studies the elucidation of organic structure by physical techniques. It also deals with theories about infra-red, ultraviolet, as well as nuclear magnetic resonance and mass spectra.

Research in Chemistry Education

Research in Chemistry Education

This course includes contemporary theories about the nature of science and implications of them in science education, as well as its evaluation methods.

Chemistry Education Lab.

Chemistry Education Lab.

This course provides chemistry experiments related to secondary school curricula including discussions on lab education.

Inorganic Chemistry Lab.

Inorganic Chemistry Lab.

This course enables students to acquire skills for synthesis and characterizations. Separation, electronic spectroscopy, analytical methods of various inorganic compounds and porous materials, preparation and stereochemistry of coordination complexes, and techniques of Schlenk lines for air-sensitive materials are included.

Chemistry Research 1

Chemistry Research 1

This course studies the systematic research procedures in a given area of chemistry. It involves researches into relevant literature, oral presentations, experiments, and written theses.
This course has a basic aim to classify the plants above ferns living in our country today. In this course, students will learn the basic of plant taxonomy which make them understand the origin of life and the evolutionary truth.

This course will make students understand the concepts and theories about taxonomy, grasp the way of classifying more than a million different animal groups, and classify various animal groups based on the theory of animal classification.

This course covers mainly the experiment and practice of teaching the material themselves, and try to discover better ways of teaching the material to their future students.

This course covers the following topics: cellular structure, growth, growth control, energy and metabolism; heredity and regulation mechanism of genetic information will help students understand the principles of cell-based life forms.

This course is designed for sophomores to understand the basic concepts needed for molecular biology, biochemistry, etc. Learning the basic molecular mechanism and properties of phospholipid and proteins, and the constitution, expression and regulation mechanism of genetic information will help students understand the principles of cell-based life forms.

This course is for junior students who major in biology and try to discover better ways of teaching the material to their future students.

As a basic course for secondary school biology, this course introduces overall educational topics, focusing on the purposes of biology education.

As a basic course for secondary school biology, this course introduces general educational topics, focusing on the purposes of biology education.
education. And this course gives the students deeper theoretical knowledge in the structure and function of plants as well as their interactions with the environment. Subjects to be dealt with include: uptake, transport and loss of water; uptake, transport and assimilation of mineral nutrients; nitrogen fixation; the biochemistry and physiology of photosynthesis and respiration; synthesis, metabolism and transport of carbohydrates; growth and development at the cell, organ and whole-plant level. Responses and adaptations to environmental factors (e.g. the availability of water and nutrients, the quantity and quality of light, and low temperature) are emphasized as well as the importance of gene expression and plant hormones in the regulation of growth and development.

719.332A 동물생리학교육 3-3-0

This course is designed for junior students who learned Animal Physiology & Education. This course is essential for students studying cell biology, cell genetics and cell biology courses. This lecture covers the basic concept and also deals with deeper part of genetics. Students will learn the principles of heredity and its extension, DNA structure and replication, transcription and translation, the regulation of gene expression in prokaryotes and eukaryotes, Developmental genetics and population genetics.

719.334* 생물교육 3-3-0

Developmental Biology & Education

This course is for junior students who took the general biology and cell biology courses. This lecture covers the basic concept and also deals with deeper part of genetics. Students will learn the principles of heredity and its extension, DNA structure and replication, transcription and translation, the regulation of gene expression in prokaryotes and eukaryotes, Developmental genetics and population genetics.
This course discusses recent biological researches and lab equipment.

Field Biology and Instruction

This course is for a sophomore, who will collect directly materials in the field. Students collect marine animals, and study their taxonomy and developmental process using some animals. They also learn marine ecology and classification on plants around beach.

Teaching Materials in Biology

Specifically, it covers the use of the Internet and multimedia materials.

Logic and Writing in Science

This course aims to teach practical as well as theoretical knowledges of the features of the thinking and understanding in science and of the linguistic ways to communicate them. Special focus will be given to the ability of secondary teachers to improve students' scientific and logical thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students' reading and discussion in teaching them science will be explored.
Future Planning in Earth Science

This course provides the freshman students with an introduction to earth science and earth science education. This introduces current trends of recent research results in the field of earth science and earth science education for freshmen to help them understand the importance and role of earth science in the future. By introducing the detailed majors of earth science, students can experience various academic approaches to earth science. Through meeting with earth science researchers and educators, students can be familiar with environment of the research and education field.

This course adopts geophysical methods to investigate the structure and composition of the solid Earth. It introduces theories of elastic waves and Earth’s gravity field. In addition, the course summarizes current knowledge of the interiors of Earth through seismic and gravity methods.

### 721.224* 
**Solid Earth Geophysics and Lab. 2**

This course adopts geophysical methods to investigate the structure and composition of the solid Earth. It introduces theories of geomagnetic field, geoelectrical field, heat flow and radioactivity. In addition, the course summarizes current knowledge of the interiors of Earth through magnetic, electrical, geothermal and radioactivity methods.
A course on oceanography and its experimental activities.

This course introduces oceanography and its experimental activities. It covers such topics as the structure and characteristics of atmosphere, radiation and energy budget, stability, cloud formation and rain processes, as well as horizontal and vertical motion and climate changes.

721.312* 
**Atmospheric Science and Lab. 2**

This class focuses on basic understanding the causes and the characteristics of atmosphere. It covers such topics as the structure and the characteristics of atmosphere, radiation and energy budget, stability, cloud formation and rain processes, as well as horizontal and vertical motion and climate changes.

721.321* 
**Oceanography and Lab. 1**

This course introduces oceanography and its experimental drills. It focuses on the theories about the temperature and salinity distribution. The course also studies currents, waves, tides, as well as various measuring instruments.

721.322* 
**Oceanography and Lab. 2**

This course is a sequel to "Oceanography and Lab. 1".

721.355 
**Meteorites and the Solar System**

Meteorites are rocks that originated from the outer solar system bodies, such as asteroids, satellites and other planets, and provide critical information on the origin and evolution of the solar system. Major topics of this course include the classification of meteorites and the origin of each group, the theory and evidences of the origin of the solar system, and the source materials of the solar system and their evolution.

The subtopics are: (1) the evolution of materials since the birth of the universe, (2) the origin and evolution of the solar system, (3) definition and classification of meteorites, (4) asteroids and comets, (5) chondrites, (6) differentiated meteorites, (7) planetary meteorites, (8) lunar meteorites, and (9) asteroidal and cometary impacts on the earth.
익히고, 교육과정의 내용과 목표에 부합하는 새로운 실험 활동을 개발하는 능력을 키워주기 위한 교육의 목적이다. 주요 내용은 지구과학 탐구의 특성, 지구과학 탐구 학습 지도 방법 및 유의점, 지구과학 탐구 학습 지도의 실제로 반성 및 개선, 지구과학 주요 영역의 대표적인 실험 활동, 외국의 새로운 지구과학 실험 활동, 새로운 지구과학 실험 활동 개발 및 평가 등이다.

The major purposes of this lecture are (1) to enhance earth science teacher candidates' earth science inquiry teaching ability, (2) to introduce earth science laboratory activities, and (3) to foster ability to develop new earth science laboratory activities for school earth science classroom. The characteristics of earth science inquiry, earth science inquiry teaching methods, the practice of earth science inquiry instruction, laboratory activities in earth science, new global trends in earth science laboratory teaching, and developing new earth science laboratory activities are the major topics of the lecture.

M1882.000100 지구과학 자료처리 및 연구 3-3-0
Earth Science data processing and research

Matlab 기본 및 지구과학 자료처리 기법을 배운다. 기초통계, 디지털 필터, 최소자승법, 주기에 변환, 몬테카를로, Empirical Orthogonal Function의 원리 및 실습을 이해한다. 이를 바탕으로 실제 지구과학 자료를 처리하여 논문연구의 기본을 습득한다.

This course involves Earth science data processing using Matlab. Students will learn fundamental probability and statistics, digital filter, least square methods, Fourier transform, Monte Carlo experiment and Empirical Orthogonal function. Based on data processing techniques, research projects are made during the semester, and final term projects will be completed.

M1882.000200 지구과학 커뮤니케이션 3-2-2
Theory and Practice of Earth Science Communication

기후변화와 자연재해의 급증, 자원의 고갈 등 과학자와 기업의 이해가 급증하고 있다. 이에 대한 대응을 위해서는 전문가뿐만 아니라 일반인의 지구과학적 이해가 매우 중요한 시대이다. 이 강의의 목표는 지구과학과 관련된 정보를 수집하고, 지구과학을 대중에게 쉽게 전달하고자 한다. 이를 위해 지구과학 커뮤니케이션의 기존 이해를 도모하고, 지구과학의 현실과 홍보가 있는 소통/문화/기술 분야의 역량을 활용하여 커뮤니케이션을 위한 작품, 상품 등을 개발하는 것이다.

M1882.000400 지구과학야외답사 3-3-0
Field Excursions in Earth Science

지구과학은 지구와 우주를 대상으로 하는 학문으로 아의 자연을 관찰하고 분석하는 것에서 출발한다. 본 교과에서는 지구과학 아외답사에 필요한 기초지식을 습득하고 이를 아외에서 적용시키는 과정을 다룬다. 수강생들은 1박2일의 아외답사에 참여하는 것을 원칙으로 한다. 지구과학야외답사는 (1) 지형도와 지질도 읽는 법, (2) 아외에서 대표적인 암석과 광물 구별하기, (3) 아외에서 다양한 종류의 암석과 광물 구별하기, (4) 간단한 지질 구조의 해석 등, (5) 생물에 따른 암석의 종류 구분, (6) 대규모 지질 구조 해석 등을 학습한다.

In Earth Science, it is critical to learn how to observe and describe the nature. This class is to learn some basic knowledge for field works in Earth Science. The students have to participate in a compulsory field course, and hand in a field report. Field Excursions in Earth Science is to learn (1) how to read geographic and geological maps, (2) how to distinguish most common rocks and minerals in the field, (3) how to distinguish rocks and minerals, (4) how to analyze geological structures in the field, (5) characteristics of rocks with different origins, and (6) how to analyze global geological structures.

M1882.001000 유체지구과학 빅데이터처리 3-3-0
Big Data Processing for Fluid Earth Science

인공위성 관측과 해양과 대기의 관측 기술의 발달로 지구 관측 자료는 시간이 지남수록 비약적으로 증가하고 있고 다양한 목적으 로 광범위하게 활용되고 있다. 이 수업에서는 유체지구과학 분야의 데이터 처리를 이해하기 위하여 자료 분석 이론을 학습하고, 컴퓨터 프로그래밍을 통한 자료 처리 기초를 학습하고 코딩 과정에 대해 학습한다.

With the development of satellite observations and the development of ocean and atmosphere observation technology, earth observation data has been growing rapidly over time and extensively used for various purposes. In this course, to understand big data processing in the field of fluid earth science, students will learn the theory of data analysis, the basics of data processing through computer coding process.
722.102 한국무용입문 1-0-2
Introduction to Korean Dance

우리나라 전통 춤의 본질을 사적 고찰하고 이론적 배경을 분석한 후, 기본적인 전통 춤양식의 습득에 중점을 두어 이루어진다. 구체적으로 한국춤의 역사, 한국춤의 종류(공중 무용, 민속 무용, 의식 무용, 견면 무용, 신무용) 등이 포함되어 한국춤의 기본 움직임, 단계, 감각, 양각 등에서 자연스럽게 익힌다.

This course studies the nature and the history of Korean traditional dances, as well as their basic steps and forms. Specifically, students will learn different types of Korean dances such as court dance, folk dance, ritual dance, and mask dance.

722.103 현대무용입문 1-0-2
Introduction to Modern Dance

 현실무용 과목은 모두 4개로 이루어져 있으며, 현대무용입문은 그 첫 단계로서 일련의 현대무용 1, 2, 3 단계를 위한 기초 단계라고 할 수 있다. 이 수업은 Body conditioning activities를 통해 신체의 기능을 향상하고 다음 단계의 현대무용에 필요한 동작기술을 익히는데 목적이 있다.

This course develops body functions through body conditioning activities. It provides exercises of techniques necessary for the advanced courses.

722.104 야외활동 2-1-2
Camping

 본 수업은 야외에서의 여러 가지 활동을 교육적인 측면에서 파악하여 이것을 교육활동으로서 활용함과 동시에 그 교육적 효과를 조작하며 체계적으로 발전시키는 인간성 함양을 위한 수업의 목표로 한다. 아영을 통하여 자연 속에서 인간성을 탐구하여 체력과 정신력을 단련한다.

The course is designed to help understand the various camping exercise in the perspective of education. The purpose of the course is to promote educational effects through cooperative and systematic measures. Through camping, students are able to experience collective and free life and a time to look over themselves objectively. Skills of camping are also learned while physical and mental strength are enhanced.

722.105 건강운동과학개론 3-3-0
Introduction to Health and Exercise Science

건강증진과 관련한 운동과학의 중요성을 이해하는데 초점을 두고 한다. 특히 다양한 분야의 운동과학 전문가로부터 듣는 강의로서 학생들이 체계적인 지도를 결정하기에 앞서 여러 운동학의 정보를 접할 수 있는 기회를 제공하고자 한다.

This course is designed to provide students with an understanding of significane of the exercise science related to health promotion. This course is also intended to provide an unique opportunity for students who are in the decision-making phase of their studies to test a career choice through lectures from experts from different areas of science prior to completing professional courses.
This course deals with the techniques of breaststroke. It also discusses related safety issues.

A vaulting horse has 4 steps, which are run-up, jump, action in the air, and landing. These 4 steps are integrated with each movement (step) through physical cause-effect relationship. For instance, run-up has an effect on jump, and jump has an effect on action in the air, action in the air has effect on landing. This course has students perform the step of hand-spring movement without difficulty by practicing jumping along with above 4 basic forms. In addition, students will repeat movements they learned in Gymnastics.

And, Bar sport is divided into two basic forms, one is exercise by hanging without force and the other is swinging bar with form of lay-away. Routine is consisted of front-back turn without stopping and front-back shoulder twisted turn. This course emphasized on studying basic skills, such as swing,kip, back up rise, and backward hip circle and practicing what students learned at Gymnastics.
722.212 수영 1 0-2

Swimming 2

본 과목은 자율성을 배우고 심판하는 체육교육과 학생들을 위 한 과목으로서, 사용형 기술을 습득하는 데 목적이 있다. 학생의 초점은 수상에서의 기술, 사전, 지구력 등을 향상시키기 위한 보 다 발전적인 사용형 압력을 학습하는 데에 있다.

This course practices the skills of crawl swimming, focusing on the development of better stroke techniques.

722.225A 복합활동 1-0-2

Sport Activity

다양한 스포츠 종목에 대한 일인 일기 습득을 중심으로 체육과 학 인과 체육활동의 개인적·사회적 문제 등을 고민하면서 교수 한다. 즉, 대학 졸업 후 체육활동을 계속함으로써 삶의 질 높이고 삶을 윤택하게 하기 위해 다양한 레저 및 스포츠 활동의 기회를 제공하고, 체육활동은 중심으로 나타나는 사회문화적 현상 이나 체육활동의 효율성에 관한 문제 등을 집중적으로 논의한다.

This course teaches generally the theory of sports science and the issues regarding individual/social physical activities. It emphasizes on how physical activity can improve the physiological aspect of a person. The efficiency and the results that appear due to the emphasizing of physical activity will be discussed thoroughly.

722.230B 체육측정평가 2-2-0

Measurement and Evaluation of Physical Education

스포츠 정보분석은 스포츠 현장과 체육현장에서 나타나는 현상 을 정량화하여 체계적으로 분류, 분석하는 것을 의미한다. 본 과목 은 과거의 측정 및 평가의 개념을 확장한 것으로 정보분석의 목적이 명확히 정립되고 이 목적이 따라서 정보를 선택, 수집하고 관리하여 최종적으로 분석하는 것을 포함한다. 이를 위해서는 측정 및 평가 분야에서 논의되는 다수의 산업의 개념 둘 아리 정보를 분류하고 관리할 수 있는 능력 및 다양한 분석기법으로 정보를 요약, 분석하는 방법에 대한 자질을 필요로 한다. 본 과목의 내용은 앞에 나열된 내용 구성요소의 기초 이론과 현장에서 실제로 적용할 수 있는 실습을 포함한다. 체육 및 스포츠 현장에서 나타날 수 있는 상황을 정리하고 이 상황에 다양한 정보분석의 예시를 포함하며 학생들은 정보분석에 필요한 자료처리와 기초통 계 기법을 경험하하여 학습하는 기회를 가진다. 학생들은 수업을 통하여 각 분야에서의 정보수집 시스템 구축, 기지기록 및 관련 자료의 정량화와 분석, 스포츠 사업현장에서의 정보 수집 및 중요정보 선택 및 분석, 체육 현장에서의 운동수행 관련 정보 수집, 분류, 평가 및 이용 등에 대해 학습하게 된다.

Sport informatics is an area that studies measuring, categorizing and analyzing phenomena that occur in sport and exercise world. This course is an extension of traditional measurement and evaluation, and applied statistics course. Students learn how to set the purpose of information analysis, how to select, collect, categorize and analyze information based on various purpose of information management. To accomplish this, students are required to learn some basic measurement theory including measurement scale, validity and reliability theory, and data management and analysis skills. This course includes both the knowledge on basic theory and the practice in the real life situation. In the course, students experience the simulated situation that may occur in sport and exercise practice and investigate how to approach to information and how to collect and analyze the collected information. Students also have an opportunity to use various statistical methods and computer programs to practice the real life situation. Through this course, students learn methods of constructing information collection system in various environments, sports game records collection and analysis, management and analysis of information from sport industry, and physical performance related information collection and analysis in school physical education system.

722.239A 배구 1-0-2

Basketball

배구는 레크레이션 경기로서 누구나 손쉽게 행할 수 있는 종목 중의 하나이다. 다른 구기 종목과 비교하여 배구의 독특성을 이해하고 실제 경기를 통해 협동성, 책임감, 예의를 함양하도록 하며 규칙을 지키고 상대방을 존중하는 올바른 사회성을 기르도록 한다. 구체적인 교육내용으로는 경기의 개요(배구의 역사)와 서브, 리시브, 토스, 페스 등의 기초기능, 팀플레이의 현장도 위한 효율적인 서브 리시브, 스파이크 리시브, 공격 형태 등의 운용 기능, 그리고 경기방법 및 경기규칙, 지도법, 심판법 등이 포함된다.

Volleyball is one of the sports that can be practiced by anyone. Other than the skills needed, the rules, responsibilities, and manners will be taught through the actual practicing of games. We will practice basic skills (game summary, serve, receive, toss, pass), practical skills (effective serve receiving, spike receiving, attacking formation), game rule, teaching skills, refereeing, and methods.

722.240A 축구 1-0-2

Soccer

이 과목에서는 페스, 드리블, 킥, 드래임과 같은 축구의 기본기 술을 인수함에 이르러 기본기술을 연습하며 이로인한 기술을 바탕으로 다양한 추심술을 익혀 축구경기를 할 때 효과적이고 풍미를 죽추기 경기를 할 수 있도록 하는 데 목적이 있다. 또한 축구 매직 관찰 및 테크닉, 전략 및 과학적 원리도 소개하여 축구를 보다 재미있게 즐길 수 있도록 한다.

This course focuses on training basic skills like pass, dribble, and kick. This basic training will familiarize students with various strategies, thus enabling them to play efficiently in actual games. Also, this course provides soccer-related...
events and scientific information. This course will increase the pleasure of playing soccer.

722.243A  교육육무용 1-0-2

Educational Dance

Educational Dance is aiming for Self-Mirroring through inner and elements around body. Through a dance movement cognition of expressive desire, body movement, natural rhythm and space is expected to improve communication between inner and outer elements around body.

722.244A  건강교육 2-2-0

Health Education

이 과목에서는 건강증진 및 건강교육에 대한 내용을 학습한다. 건강증진에 대한 부분에서는 건강에 대한 개념 이해와 휴면, 운주, 스트레스와 같은 건강에 유해한 영향을 미치는 요소, 현대인들이 깊게 탐구하고 싶은 당뇨병, 비만과 같은 성인병에 대해 알아보고, 건강교육에 대한 부분에서는 건강증진 교육에 대한 다양한 접근 방법을 통해 자신에게 맞는 프로그램을 계획할 수 있도록 한다.

This lecture prioritizes health improvement education. In the beginning of the semester, we will learn about the harm of like smoking, drinking, and stress. In the latter part of the semester, we will take various approaches towards good health. The ultimate goal is to motivate students to create exercise programs and care for their health.

722.247A  무용교육 2-2-0

Dance Education

이 과목은 무용의 의미, 무용의 표현형식과 리듬, 무용표현과 추상적 운동, 무용 강상, 음악의 성격, 무용교육, 무용과 음악, 무용 요법, 한국무용사와 서양무용사, 현대에 있어서의 무용, 무용과 인류학 등의 주제들을 통한 무용에 대한 개괄적인 이해를 목적으로 한다.

This course provides a general understanding of dance through studies about the meaning of dance, expression forms and rhythm, expression and abstract movement, dancing body, and music. This course also discusses issues related to dance therapy, Korean and Western dance history, and the relation between dance and anthropology.

722.248  무용단장 1-0-2

Rhythm of Dance

이 과목은 재즈악기의 발달과 재즈 음악에 대해 이해하고 실제로 작곡을 한다. 재즈음악에서 가장 많이 사용되는 장단인 굿거리, 그리고 염불, 장조, 등모리, 중모리, 자진 등의 기본 소리 등이 음악과 재즈악기의 뉴워드 형태로 이해하고 실제로 작곡, 재즈 음악 기법을 익힌다.

The instruments used in making music for Korea’s traditional dances will be studied in this course. The gutguri, yeumbull, jinyangjo, joongjoognmori, jjainmori are main areas of interest. We will also practice the changu (Korean drum).

722.249  기능해부학 3-2-2

Functional Anatomy

이 과목에서는 인체의 해부학적 지식을 바탕으로 움직임 기능의 이해와 운동 부상에 초점을 맞추고 있다. 따라서 머리, 팔, 다리, 몸통 등 각 기관의 명칭 및 움직임뿐 아니라 인체를 이루고 있는 뼈, 근육 및 신경에 대해서도 학습하게 된다. 또한 실습을 통해 강의시간에 배운 내용을 완전히 숙지하도록 하여 현장 적용을 가능하게 하는 목적으로 있다.

This lecture focuses on practical anatomical ways to examine the movements of all organs in the human body. The movement of bones, muscles, and nerves will be studied. Practice sessions will familiarize students with anatomy and aims at the utilization of anatomy in actual sport games.
Modern Dance

Balanced with a contrast to ballet, modern dance is a movement in which free expressions take up the most part. The purpose of this class is to help students develop their ability to express their inner-most feelings through the medium called dance. At the same time, by spectating modern dance performance, acknowledge the development of modern dance today.

Taekwondo

This course deals with the basic skills needed for playing tennis, including, the grip, ready posture, ground stroke, volley, smash, and serve. We will practice tactics for tennis doubles. This course emphasizes the principles and logic of various basic skills and game tactics. We will also improve tennis etiquette between teammates and opponents.

History of Dance

The purpose of this class is to help students develop their knowledge in specific research methods needed for special interest and to promote longevity.

Physical Fitness Training

This course is centered on methods of fitness training and on the value of effective training methods. Furthermore, this course also enables students to recognize the physical and psychological benefits of exercise in its role to maintain a healthy lifestyle, to reduce weight, to prevent illness, and to promote longevity.

Tennis

Tennis is a physical activity class designed to develop tennis skills including, the grip, ready posture, ground stroke, volley, smash, and serve. We will practice tactics for tennis doubles. This course emphasizes the principles and logic of various basic skills and game tactics. We will also improve tennis etiquette between teammates and opponents.

Table Tennis

This course deals with the administrative issues that are related with sports. Athletic organizations that will be discussed include schools, public facilities, and sports centers.

History of Physical Education in Korea

This course is centered on methods of fitness training and on the value of effective training methods. Furthermore, this course also enables students to recognize the physical and psychological benefits of exercise in its role to maintain a healthy lifestyle, to reduce weight, to prevent illness, and to promote longevity.

Traditional Martial Arts

This course deals with the basic skills needed for playing tennis, including, the grip, ready posture, ground stroke, volley, smash, and serve. We will practice tactics for tennis doubles. This course emphasizes the principles and logic of various basic skills and game tactics. We will also improve tennis etiquette between teammates and opponents.
### 722.301 - Exercise Physiology

This course concerns the biological control system, bioenergetics, metabolism, endocrine system function, techniques of measurement of work power, energy expenditure, neuromuscular function, cardiopulmonary, temperature regulation in exercise, and how the endurance training have an effect on various organs of the body in exercise. This course also are devoted improving one’s fitness performance using basic physiological principles. We especially focus on health concerns for exercise programs tailored to improve an elite athlete’s performance.

### 722.303B - Humanities-Oriented Sport

This curriculum's purpose is to develop one’s creative thinking ability and to plan one’s talent by intensifying the understanding of verity of perspectives and functional parts of sports. Therefore, in this curriculum, the students will experience many different kinds of sports and study literature, religion, art, history, and philosophy to view sports as one of the humanistic values.

### 722.264 - Korea Archery

Korea Archery

Students will study Gukgung (Korean Archery) which is Korea’s representative martial-arts and special skill. This course aims to develop one’s creative thinking ability and to plan one’s talent by intensifying the understanding of various perspectives and functional parts of sports. Therefore, in this curriculum, the students will experience many different kinds of sports and study literature, religion, art, history, and philosophy to view sports as one of the humanistic values.

### 722.263 - Yacht

Yacht

Yacht is Korea’s favorite leisure sport since the popularization of aquatics. From “non-decker” yachts to large luxurious vessels, there are many kinds of yachts in the world.

### 722.300 - Water Safety & First Aid

Water Safety & First Aid

A minor injury can lead to a serious harm crisis without an appropriate safety measures and/or first-aid treatment. Incidents of bodily harm requires the treatment of a specialist. However, there are numerous incidents when we are in a situation that lacks nearby clinical facilities. Therefore, it is vital to learn first-aid in case of emergency situations.
This course is designed for students who have a good command of the crawl or breast stroke and wishes to improve their strokes (backstroke and butterfly). The improvement of stroke techniques and development of endurance on the crawl and breaststroke will be the first goal of the class. The second goal is to learn teaching methods and learn the breaststroke and butterfly.

722.318  
Handball

This course focuses on the fundamentals of team handball. Students will have opportunities to increase their team handball knowledge and skills. This course includes basic individual skills (pass, catch, shooting, dribbling etc.), applied skills (fainting, blocking etc.), strategy skills (team offence and defense etc.), and game skills.

M1886.001000  
Exercise Nutrition

Exercise Nutrition involves suggesting a suitable diet to an individual in order to maximize one's physical performance. This course provides an understanding on the notion of sports as a organized game and the game phenomenon. The purpose of this course is to understand the notion of sports as a social phenomenon.

722.333  
Ballet

Ballet is a basic class that includes traditional Barre and center for every class. Throughout the semester, students will practice several repertories according to the level of each individual.

722.336  
Archery

Archery course provides an introduction on the notion of archery. Individuals will regularly practice their mastery of the sport. We will not only practice posture and manners but also increase basic physical strength throughout the semester. Moreover, we will study teaching methods (pedagogy) and professional skills.

722.337  
Rugby Football

Rugby Football course develops one’s ability to play games through an understanding of the history of rugby and maximizing one’s game skills. Students will exercise their individual skills to perfect their ability to play games. We will study areas related to physical strength, team strategy, and decision making under game situations. The ultimate goal of this course is to enable students to develop leadership to elevate Korea’s status in international hockey competitions and train beginning players.

722.329A  
Sport Sociology
null
Taekyun is Korean traditional and folk martial art. Especially, Taekyun is registered as an intangible cultural asset #76 in Korea. Taekyun consists of steps with unique rhythms and various skills. Therefore, students can learn about this martial art with enjoyment.

This course covers training methods and its significance in physical education. We will analyze the development of physical education, instruction methods, and the qualifications of a physical education teacher. The class is intended to be an enjoyable class that helps students understand the value and importance of physical education.

Health exercise uses the entire body without the use of equipments and gears. Free gymnastics consists of consecutive gymnastics, couple gymnastics, formation gymnastics, and stretching. Students are expected to learn pre-exercise and post-exercise stretching methods and stretching methods for various sports.

Physical activity and the movement of the human body embody the central idea of physical education. This class focuses on general research methods of physical education, specific research examples, and the writing of a thesis.

This course increases one's understanding of the physical and scientific principle of training and its physiological effects. Korean circle dance will be practiced in the class.
**M1886.000400 스포츠공학 개론 2-2-0**

**Introduction to Sports Engineering**

과학적으로 스포츠를 이해하고 공학적으로 인체 움직임을 설명하기 위해 필요한 기초 중 하나는 인간의 움직임을 정량적으로 평가하고 예측하는 것이다. 본 강의에서는 인간 운동을 이해하기 위해 사용되는 공학적인 접근 방법들을 소개하고 각종 스포츠와 일반생활에서의 인간의 움직임을 정량적으로 이해하는 데 필요한 기초적인 물리학적 수학적 이론들을 설명한다. 또한 소개된 이론과 단순한 모델을 통해 집과 운동이 어떻게 연관되는지 학습한다.

In the field of sports science and engineering, it is essential to evaluate and predict human motor performance quantitatively. This course introduces the examples of sports engineering, and the necessary theories in Physics and Mathematics to analyze human movements quantitatively. Students are expected to learn how to relate force and the corresponding motor output using the theories and simple models.

**722.430 무용예술론 2-2-0**

**Artistic Theory of Dance**

예술의 본질을 이해하고 예술의 한 분야로서의 춤에 대한 인식을 높이는 데 중점을 두고 다룬다. 또한 무용을 통해 발현할 수 있는 표현예, 육동근, 형식미 등을 중심으로 학습하며 춤의 미학적 구조와 원리를 중심적으로 다루어 춤의 본질적인 문제와 예술로서의 가치를 보여준다.

This course concerned understanding the essence of art and appreciating dance. We will concentrate on artistic elements of dance such as artistic presentation, rhythmical beauty, and the beauty of form. Students will study the main issues regarding the essence of the dance and its artistic value.

**722.431A 체육교육과 논술 2-2-0**

**Logic and Essay in Physical Education**

본 과목은 체육 및 스포츠를 중심으로 하는 신체문화와 연관된 제반의 사회현상과 그 속에서 발생하는 문제를 비판하고 발전 대안을 모색하고자 하는 데도 및 의무적 형상도 도모한다. 이를 위하여 고교에서 현대에 이르기까지의 동·사상신체문화와 관련된 통식적인 기술의 개발과 함께 다양한사회나는 체육 및 스포츠 실천과 관련된 가치와 윤리문제에 관한 논의가 이루어진다.

This course criticizes social problems that related with sports. Students are encouraged to offer alternatives for existing problems, and will debate problems regarding the culture of body. We will study the history of the East and the West as well as the moral problems related with sports.

**722.437 야구 1-0-2**

**Baseball**

본 강좌는 단체운동으로서의 야구의 기초를 가르치는 데 초점을 맞추고 있다. 본 과목은 웃으며하는 학생들은 야구지식과 관련 기술(포구, 손구, 타구, 주루, 수비 및 공격 기술) 및 팀을 승리할 수 있도록 다음과 같이 구성을 한다. 기초기술(공을잡기, 타격, 타구 곡이익하기). 복잡기술(타격을 목표로 골을 받고 터지기, 각 수비 위치에 기술적 기능 익히기, 실제 타격하기), 전술기술(히트 앤드 런, 볼트 앤드 런, 데그 앤 패레이, 아마 패레이, 벙터 패레이), 경기(팀으로 나누어 실제 야구경기하기).

This course will focus on the fundamentals of baseball as a team sport. Emphasis will be placed in the following areas: catching, throwing, hitting, defense strategy, and offense strategy. This course will provide learning opportunities in the following areas: basic skills (catching, throwing, and hitting), complex skills (catching and throwing, position, and hitting the pitched ball), and strategy skills (hit and run, bunt and run, tag up play, double play, relay play). Practice game sessions are included.

**722.444A 골프 1-0-2**

**Golf**

골프의 특성과 가치를 이해하고, 골프의 기초기술을 배운다. 학습환경의 여건 상 아이언 샷을 통해 기본적인 그립과 스윙을, 그리고 골프를 통해 고전적인 구질과 구질에서의 실수를 배운다. 골프는 매니, 경기방법, 경기규칙을 이해하여 장례 스스로 골프를 즐기고 기능의 함양을 도모할 수 있는 기본적인 자질을 갖추도록 한다.

The characteristics and basic skills of golf are practiced in this course. Due to the limited facilities, the iron club will be used to teach skills such as address, grip, and swing. The manners required in the sport will be learned in addition to game rules and regulations. This class will enable the student to enjoy golf on his or her own.

**722.445A 볼링 1-0-2**

**Bowling**

경기를 통해 볼링의 역사, 경기규칙, 요와 등을 이해시키고 기초 기술의 학습을 통해 볼링의 경기기술을 실제로 체득하고 능숙하게 구사할 수 있도록 한다. 구체적인 교수내용으로는 볼링의 개요(역사, 특성 및 효과, 볼링장의 설비와 볼링장구, 그룹과 볼의 선택요령), 투구동작(어드레스, 투자이메, 다운스윙, 백스윙, 포워드 스윙, 펄리스, 줄로 스투), 구질(스트레이드 볼, 커브 볼, 헤드 볼, 투크 볼), 투구자극 방법(목표를 잡는 방법, 스토리아웃 제방, 스펙터제방, 헤드 투어 제방) 및 스탠드 보기방법, 경기진행방법 등이 포함된다.

This course begins with an introduction to the history, rules, and terms of bowling. Basic skills are taught to enable students to play the game. Throwing movements (address, push-away, down-swing, back-swing, foreword-swing, release, rally, followthrough) and modes of the ball (straight ball, curve ball, hook ball) will be studied in this course.

**722.447 스포츠마케팅 2-2-0**

**Sport Marketing**

이 과목에서는 스포츠마케팅의 기본개념과 원리를 소개한다. 본
The course introduces the basic concepts and principles of sports marketing. The objective of this course is to recognize the importance of sport marketing and become capable of analyzing sports marketing phenomena.

This course includes lecture from specialists in the various sports-related fields, and covers diverse topic related to various qualities to become future physical education teachers, researchers, and professionals in the kinesiology.

**Courses**

<table>
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<td>Scuba Diving</td>
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<tr>
<td>722.452</td>
<td>Seminar in Physical Education</td>
<td>2-2-0</td>
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</tr>
<tr>
<td>722.453</td>
<td>Understanding Applied Sport Psychology</td>
<td>2-2-0</td>
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</table>
Diagnostic groups in Adapted Physical Activity

The main intent of the course is to provide students with knowledge and practical skills to design adapted physical activity programs for people with various special needs. The course will emphasize evidence-based approach to the school physical education, sport for all, and elite sports. In this course, students will examine theory and evidence-based knowledge on teaching and learning in various physical activities such as sport, exercise, dance, and leisure activities. Students will be able to apply theoretical knowledge to the school physical education, sport for all, and elite sports, and develop skills and professional dispositions to work as professional sport educators.

Handball

Handball will be able to:

- identify varying types of positive organizational behaviors, relationship management, and professional development.
- develop effective political skills for future HR application.
- understand the nature, causes and consequences of psychological processes that underlie individual and group behavior in sport organizational settings.
- demonstrate understanding of the workplace well-being, organizational justice, political skill, leading change, positive organizational behaviors, relationship management, and professional development.
- attain fundamental knowledge related to strategic human resource management and organizational behavior to apply them in the sport context.

Sport pedagogy

Sport pedagogy, a discipline of pedagogical inquiry and practice on sport and physical activity, has expanded its boundary beyond school physical education by including sport for all and elite sports. With the expansion of the boundary, there is an increasing need for integrative and systemic education in the field of sport pedagogy. The goal of this course is to promote general and systematic understanding on content, pedagogy, and instructor education in the field of school physical education, sport for all, and elite sports. In this course, students will examine theory and evidence-based knowledge on teaching and learning in various physical activities such as sport, exercise, dance, and leisure activities. Students will be able to apply theoretical knowledge to the school physical education, sport for all, and elite sports, and develop skills and professional dispositions to work as professional sport educators.

Sport Organizational Behavior

Sport Organizational Behavior

- identify varying types of positive organizational behaviors, relationship management, and professional development.
- develop effective political skills for future HR application.
This course will provide students with a detailed understanding of eSports, enabling them to analyze the current ecosystem and identify the potential that it has for future growth and development. This course will examine the concept and history of eSports, different modalities for play, eSports organizations, eSports players and fans, media platforms for hosting and streaming events, types and structures of competition, and the organization of teams and entities. Students will also learn both the positive and toxic sides of eSports, the socio-cultural influences of eSports, and the relationship between eSports and Olympics. Students will become familiar with the unique fandom of eSports, the similarities and differences from the traditional sports, and how the organization and institutionalization of a computer-mediated culture have created a global phenomenon that is changing the way we think about sports.
생활과학대학
College of Human Ecology
 공동과목(Extradepartmental Courses)

350.101A*  생활과학의 이해  1-1-0

**Introduction to Human Ecology**

생활과학대학의 신입생을 대상으로 개설되는 본 과목은 생활과학에 대한 학문적 특성을 소개하고, 각 영역에 대한 이해를 높이기 위한 전공 선택에 도움을 주는 것을 목적으로 한다. 일반적인 생활환경에서 생활과학의 쓰임과 역할, 생활환경 문화의 다양한 측면, 생활환경과 산업 사이의 관계에 대한 주제가 소개된다.

This course will introduce freshmen of the College of Human Ecology to the academic natures of human ecology. Topics include the usage and role of human ecology in the living environment, different aspects of living environment culture, and the relationship between human ecology and industry.

350.302A  가정과교재연구 및 지도법  3-3-0

**Materials and Methods in Home Economics Education**

제 외국의 가정과 교재 개발 및 지도법, 우리나라의 중등학교 가정과 수업 실천사례의 비판적 분석, 검토를 통해, 자주적이고 창의적인 교재 및 지도법을 개발하고자 한다.

This course is for students in the Divisions of Clothing and Textiles and the Division of Food and Nutrition who plan to obtain the home economics teaching license. The purpose of the course is to learn to develop and apply practical materials to home economics education.

350.309  가정과 논술지도법  2-2-0

**Logical Thinking and Writing in Home Economics Education**

본 교과는 생활과학 관점에서 중등학교 가정과교육의 이론과 실제를 다룬다. 구체적으로 중등학교의 가정과 교육과정, 학교교육과정의 개발과 운영, 가정과 교육관련 주의 사항 등 가정과교육을 위한 기본적인 이해를 돕고, 가정과교사의 전문성을 증진하기 위해 가정과 교수학습 및 평가방법과 실제 등을 소개한다. 이 과목은 생활과학대학 교직이수학생들의 기본 이수과목으로 지정된다.

This course aims to provide students essential background of the home economics education in secondary school. Academic and practical relations between home economics education and human ecology are addressed. Students learn basic concepts and theories of curriculum development, and teaching and assessment methods. Students are expected to discuss recent issues and trends in home economics education. This course is one of the basic courses for students who apply for secondary teacher qualification.

350.306A  주거생활교육론  3-3-0

**Teaching of Housing**

이 과목은 가정과 교사양성을 위한 주거생활 문화의 교육훈련을 목적으로 한다. 먼저 합리적이고 창의적이며 안정된 주거생활의 의미를 규명하기 위하여 먼저 전통적인 한국의 주거생활문화를 고찰하고 현재 도시환경 속에서의 주거생활의 특성을 파악하며 주거에 대한 의식, 심리적, 예술적, 사회학적, 경제학적 관점을 학습한다. 그 후 현대사회에서 바람직한 주거생활문화를 무엇인지 목표로 삼아 체계화된다. 나아가 이를 효과적으로 교육하기 위한 구체적이고 창의적이며 안정된 교육모델을 모색하고 직접 주거생활교육모형 및 교안을 구성한다.

This course is for students in the Division of Textiles, Merchandising, and Fashion Design and the Division of Food and Nutrition who plan to obtain the home economics teaching license. Students will investigate critical properties of traditional housing culture and important attributes of housing in modern urban environments from historical, psychological, physical, sociological, and economical viewpoints. Furthermore, students will explore how to build desirable housing environment and how to promote quality of Korean housing culture. And various housing education models and eligible teaching methods will be searched. Students will also compose practical housing education models and teaching plan by themselves.

M2174.001300  가정교육론  3-3-0

**Theories of Home Economics Education**

본 교과는 생활과학 관점에서 중등학교 가정과교육의 이론과 실제를 다룬다. 구체적으로 중등학교의 가정과 교육과정, 학교교육과정의 개발과 운영, 가정과 교육관련 주의 사항 등 가정과교육을 위한 기본적인 이해를 돕고, 가정과교사의 전문성을 증진하기 위해 가정과 교수학습 및 평가방법과 실제 등을 소개한다. 이 과목은 생활과학대학 교직이수학생들의 기본 이수과목으로 지정된다.

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### 식품영양학과(Dept. of Food and Nutrition)

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### Biochemistry

생명현상에 관한 것을 화학적으로 연구하는 학문으로 생체성분의 현상, 기능, 세포의 구조와 기능, 단백질, 탄수화물, 지질, 아미노산, 물리적 특성을 이해함으로써, 효소의 분류, 종류, 성질, 조효소에 관하여 증언한하다. Bioenergetics, Glycolysis, Citric acid cycle, Electron Transport chain과 Oxidative phosphorylation을 강연한다. 또한, 체내에서 단수화물, 탄수화물, 아미노산 및 지방산의 심화 매너에서 그 조절작용, 지질의 규명레이테이, 단수화물의 생성성, 생합성 및 그 조절작용에 대하여 고찰한다. 요리로 대사조절 메카니즘과 대사의 조절에 대하여 학습한다.

In this course, students will study the chemistry of molecules in living organisms. Topics will cover the basic principles of spectrometric identification of organic molecules.

### Food Chemistry

Food Science and Lab.

### Advanced Nutrition

주요 질병에 대하여 질병으로 인해 일어나는 생리학적 및 생화학적 원인을 설명하고, 이들의 원인을 설명하고, 이들의 조절작용에 대하여 고찰한다. 요리로 대사조절 메카니즘과 대사의 조절에 대하여 학습한다. 이들 구성인간의 반응 및 서로에게 미치는 영향을 파악할 수 있도록 학습한다. 이들은 인간의 그 질병에 대한 종합적인 이해를 돕는다.

This course covers the chemistry of main food components including the chemical and physical properties of water, proteins, lipids, and carbohydrates in the context of their functional roles in foods. It also emphasizes reactions and physical interactions between the components and environmental factors, including air, humidity, temperature, or light as well as interactions among the food components themselves.
This course will study the role of diet in the prevention and management of various diseases. Topics will cover the assessment of nutritional needs of patients, process of nutritional care, modification of diet, mode of nutrition delivery, and patient education.

**352.325A 식품분석실습 3-1-4**

**Food Analysis Lab.**

Students in this course study the principles, concepts and application of the science of human nutrition. Individual nutrient needs energy balance and metabolism, nutrition related physiological functions. This course covers absorption, metabolism, nutrition related physiological functions and requirements of macro-nutrients: Carbohydrates, Proteins, and lipids including chronic disease association. Subjects will learn principles of food analysis lab. as a basic nutrition. This course will cover special nutrition issues at different periods of the life cycle. Topics will cover the nutritional characteristics, food patterns, dietary intakes, nutritional requirements, and common nutritional problems of pregnant and lactating women, infants, children, adolescents, and aging adults.

This course will introduce tests used by food analysts for fats, proteins, carbohydrates, and selected minor nutrients as well as contaminants. Emphasis will be on understanding and using good analytical techniques including gravimetric, volumetric, chromatographic, and spectrophotometric methods.

**352.326A 생애주기영양학 3-3-0**

*Food Microbiology and Lab.*

This course covers the biochemical and physiological aspects of microorganism in food processing and spoilage including the principles governing fermentation and microbial food poisoning. Also Food microbiomes are intimately related to the occurrence of human disease and play a crucial role in the manufacture of the fermented foods and probiotics. Food safety issues are drawing considerable interests with respect to international trades and consumer demands.

**352.327B 기초영양학 3-3-0**

*Food Microbiology and Lab.*

This course will study the role of diet in the prevention and management of various diseases. Topics will cover the assessment of nutritional needs of patients, process of nutritional care, modification of diet, mode of nutrition delivery, and patient education.

This course will cover the biochemical and physiological aspects of microorganism in food processing and spoilage including the principles governing fermentation and microbial food poisoning. Also Food microbiomes are intimately related to the occurrence of human disease and play a crucial role in the manufacture of the fermented foods and probiotics. Food safety issues are drawing considerable interests with respect to international trades and consumer demands.

**352.328A 식품영양학과 실험 4-2-4**

*Food Microbiology and Lab.*

This course will study the role of diet in the prevention and management of various diseases. Topics will cover the assessment of nutritional needs of patients, process of nutritional care, modification of diet, mode of nutrition delivery, and patient education.

This course will cover the biochemical and physiological aspects of microorganism in food processing and spoilage including the principles governing fermentation and microbial food poisoning. Also Food microbiomes are intimately related to the occurrence of human disease and play a crucial role in the manufacture of the fermented foods and probiotics. Food safety issues are drawing considerable interests with respect to international trades and consumer demands.
Food Chemistry and Material

The objectives of this course is to help students learn about the appropriate selection of food and the processing method of food preparation. Students will study the preservation, processing, preservation of food products and the food quality, components, characteristics of agricultural food living, processing, preservation of food products and the method of food preparation. Students will study the preparation of food, the appropriate selection of food and the processing methods to be performed, and practical experience under the guidance of the professor in the Department of Food and Nutrition or provide working experience in the industry or other official institutes in the field of food and nutrition.

M1460.000300 식품영양산업연구 인턴십 1 1-0-160

M1460.000400 식품영양산업연구 인턴십 2 1-0-160

Internship in Food and Nutrition 2

This course is designed for students to offer research experience under the guidance of the professor in the Department of Food and Nutrition or provide working experience in the industry or other official institutes in the field of food and nutrition. This course will help the participating students to better understand the necessary skills for the job performance or research abilities in the research or industry fields.

M1460.000200 식품영양산업연구 인턴십 1 0-0-160

Internship in Food and Nutrition 1

This course is designed for students to offer research experience under the guidance of the professor in the Department of Food and Nutrition or provide working experience in the industry or other official institutes in the field of food and nutrition. This course will help the participating students to better understand the necessary skills for the job performance or research abilities in the research or industry fields.

Community Nutrition

This course will cover the identification of community health and nutritional problems, factors influencing diet in the community, techniques to assess public nutritional needs, and methodology for planning, implementing, and evaluating public nutrition programs.

Food Hygiene and Safety

This course will cover an overview of food preservation and handling. Community nutrition, basic toxicology and toxicological aspects of many chemical contaminants became a concern for the modern society, basic toxicology and toxicological aspects of many chemical contaminants became a concern for the modern society.

M1460.000100 지역사회영양학 3-3-0

Internship in Food and Nutrition 2

This course is designed for students to offer research experience under the guidance of the professor in the Department of Food and Nutrition or provide working experience in the industry or other official institutes in the field of food and nutrition. This course will help the participating students to better understand the necessary skills for the job performance or research abilities in the research or industry fields.

M1460.000200 식품영양산업연구 인턴십 1 0-0-160

Internship in Food and Nutrition 1

This course is designed for students to offer research experience under the guidance of the professor in the Department of Food and Nutrition or provide working experience in the industry or other official institutes in the field of food and nutrition. This course will help the participating students to better understand the necessary skills for the job performance or research abilities in the research or industry fields.
industry or other official institutes in the field of food and nutrition. This course will help the participating students to better understand the necessary skills for the job performance or research abilities in the research or industry fields.

M1460.000500 식품영양정책 2-2-0
Food and nutrition policy

이 과목에서는 국내외 식품영양분야의 주요 정책과 정책 수립을 위한 다양한 이론적 접근방법을 탐구한다. 또한 식품영양분야에서 직면하고 있는 협화 및 문제점의 성격 및 원인을 분석하여 정책 수립을 위한 자료수집 및 분석, 실험방안, 효과분석, 사례 연구 등을 학습한다.

Throughout the course we will discuss various approaches to establish main policies and regulations in food & nutrition field, both in domestic and foreign. This course will also deal with current issues in food and nutrition, and also analyze how these problems have occurred. In this course, you will collect and analyze data, and review cases which will help you develop a greater understanding of establishing policies.

M1460.000600 식품영양학의 이해 1-1-0
Understanding Food and Nutrition

이 과목은 현재 식품영양학과에서 진행되고 있는 각 분야의 연구를 소개하며, 최근 식품산업 및 연구소에서 이루어지고 있는 연구 동향 및 국내외의 다양한 최근 이슈를 살펴보는 것을 내용으로 한다. 이를 통해 앞으로 식품영양학을 전공하고자 하는 학생들에게 전공 전반에 대한 기초 지식과 전망을 제시한다.

This course is designed to give students an overview of several various research areas in the field of food and nutrition, especially exploring recent research topics discussed in food companies and research institutes (domestic and foreign). This series of research talks suggests basic knowledge and prospects to students majoring in food and nutrition.

M1460.000700 식품영양 커뮤니케이션 3-3-0
Communication in Food and Nutrition

현대 사회에서 식품과 영양에 대한 커뮤니케이션은 다양한 분야에서 그 중요성이 증가하고 있다. 본 과목에서는 인간과 광고 매체를 통한 식품과 영양 커뮤니케이션의 구조 및 콘텐츠 활용과 문제점 등을 학습한다. 신문, 방송, 마케팅, 광고와 같이 식품영양 전문가들의 비전적 전문분야의 커뮤니케이션 기법을 모색하고자 하는 학생들을 위한 개론 과목이다.

The importance of food and nutrition communication is increasing in various areas of the modern society. This course introduces food and nutrition communication in the area of such mass communication as newspapers, broadcasting, and advertising, which are atypical career paths for food and nutrition major students. Students will learn about the current status and problems in the structure and contents of food and nutrition communication in such areas.

M1460.001200 식품영양학 및 실습 3-2-2
Food Culture

다양한 식생활문화를 자연적, 사회문화적 영향 요인과 함께 살펴보고, 21C 식품영양 전문가로서 알아야 할 식문화 관련 지식과 기술을 실습을 통해 익힌다.

This course will cover the ecological and sociocultural influences on diverse food culture. The relevant labs will provide opportunities to learn knowledge and techniques necessary for food and nutrition majoring students.

M1460.001300 임상영양학 및 실험 3-2-2
Clinical Nutrition and Lab.

저 질병에 있어서는 생리적 반응과 영양소 대사의 변화를 이해할 수 있도록 함으로써, 임상영양치료 또는 식이요법 수업에서 영양치료 및 식사조절을 적용할 수 있도록 한다. 임상영양치료를 위해 영양상태 관리에 사용되는 지표들의 측정 원리와 결과의 해석 등을 이해하고 혈액, 요 등을 실험 재료로 사용하여 실습한다.

Overview of changes in physiological and biochemical responses, and nutritional metabolism associated with selected diseases will be addressed. By understanding the mechanisms of these changes, students will gain the knowledge to apply nutritional and dietary interventions in Diet Therapy course.

M0000.016800 실험조리 및 관능검사실습 3-2-2
Experimental Food and Sensory Evaluation Lab.

조리 및 가공 중의 식품의 감각 특성을 이용하여 식품의 재공조리, 신체적 또는 식사학적 조리, 식품판매조리 및 식품유통조리 등에 대해 원리, 방식법, 시행상의 주의점, 자료 수집, 자료분석, 결과해석 방법 등을 공부하고 실습하며, 현대사회에서 문제시 되는 환자들에 대한 영양평가 및 실험방법과 임상진단을 위한 지역사회 영양평가 방법을 다룬다.

This course covers the principles and techniques for evaluating the nutritional status of individuals and groups.

M0000.016700 영양평가 및 실험 3-2-2
Nutritional Assessment and Practice

개인과 집단의 영양 상태를 평가하는데 사용되는 기본적인 조사방법 및 현대 사회의 영양문제 해결을 위한 자료 사용방법을 다룬다.

Basic methods of nutritional assessment include dietary, anthropometric, biochemical and clinical assessments. Students will practice collection, interpretation and analysis of data.

M0000.016800 실험조리 및 관능검사실습 3-2-2
Experimental Food and Sensory Evaluation Lab.

This course introduces food and nutrition communication in the area of such mass communication as newspapers, broadcasting, and advertising, which are atypical career paths for food and nutrition major students. Students will learn about the current status and problems in the structure and contents of food and nutrition communication in such areas.
M1460.002300 식품영양연구 1-0-2

Studies in Food and Nutrition

This class is designed to facilitate independent studies of students on various issues in food and nutrition studies. Students are expected to participate in the research process with initiatives and to make a presentation to the annual department research symposium. This class is based on a team project.

M1460.002400 영양정보관리 및 상담 2-2-0

Nutrition Information Management and Counseling

This course will cover: the principles, techniques, methods, and materials for teaching nutrition to individuals and groups in a variety of settings; the development of communication techniques for nutrition to the public through a variety of media format; and the development and implementation of nutritional care plans.
의류학과 (Dept. of Textiles, Merchandising and Fashion Design) 353.213A 패션드로잉 3-2-2

Fashion Drawing

앞으로 학습할 패션일러스트레이션의 기초가 되는 과목으로서, 패션디자인의 기반이 되는 인체를 관찰하고 표현하는 연습과정이다. 인체의 비례와 균형을 비롯하여 인체의 세부와 움직임에 따른 근육의 변화 등 다양한 포즈의 빠르고 명확한 표현을 위해서 아름답고 개성적인 인체미를 표현하는 능력을 기른다.

In this basic course in fashion illustration, students will study anatomy as the basis for understanding the human figure. Topics will cover an analysis of skeletal and muscular structures, proportions and movements of the human figure through quick sketches from live models in various poses in the studio.

353.214 패션일러스트레이션 3-2-2

Fashion Illustration

크로키 과목에서 습득한 인체 묘사능력을 기초로 하여 기본적인 패션 일러스트레이션을 위한 각종 스킬과 테크닉을 연습한다. 여러 가지 재질과 기법의 변화로 패션일러스트레이션의 기초를 터득함으로써 독창적인 패션디자인의 시각적 표현능력을 기른다.

This course will cover the techniques and approaches for illustrating fashion designs on the human figure. To develop an understanding of fashion design, students will use a variety of illustration techniques, approaches, and media.

353.216B 의류소재구성 3-2-2

Textile Fabrics

의복재료로 사용되는 섬유제품인 실, 직물, 캐주스, 부직포 등의 조직 및 특성을 학습함으로써 의복을 디자인하고 생산, 관리하는 단계에서 소재에 관한 기초 지식을 습득한다.

Study on the structures and properties of yarns, fabrics, knits, and other textile products in relation to serviceability and appearance.

353.227 의류과 건강 3-2-2

Clothing & Health

인간의 생활환경 중 의류를 포함한 은밀적 생활환경과 인체 건강과의 관련성을 학습한다.

Learn the relationship between physical health and thermal living environment of human including clothing microclimate. Based on this relationship, further investigate
1) various therapeutic clothing gears that help preventing and treating disease of patients; and 2) daily clothing life programs that helps improving health of general population.

353.328 의류소재관리 및 실험 3-2-2

Textile Care and Experimental Lab.

의복의 선택, 구입, 사용, 관리 및 폐기과정에서 필요한 지식을 학습하며, 실제 실험을 통하여 경험하고 고찰하는 기회를 갖는다.

This course will provide the basic knowledge for textile care including laundering and disposal. Topics will cover the theory of detergency and its evaluation, bleaching and softening, and the relationship between textiles and environmental pollution.

353.331A 한복구성학 및 실습 3-2-2

Construction of Korean Costume

한국의 전통적인 미적 가치를 인식하고, 구성하여 적용해 볼수 있는 양식과 사명감을 고취시킨다. 한복 패턴을 참고로 한복 패턴을 발전시키는 데 기초적인 능력을 기르고, 한복으로부터 응용한 의복을 제작한다.

Introduction to the principles of Korean traditional costume: emphasis on learning the construction and sewing methods of Korean women's costume. Students will understand the Korean aesthetic sense embedded in the costume, hence, comprehend the importance of harmonizing the beauty of the Korean traditional costume with modern clothing. Students will be given the opportunity to produce their own Korean costume, using the skills of pattern making learned earlier in the course. This course will help form the basis of Han-bok pattern development so that we can apply the
knowledge attained to make other adaptations of the Korean traditional costume.

353.332A 의류소비자행동 및 실험 3-2-2
Finishing and Dyeing of Textiles Lab.

영업의 특성 및 응답방법, 영업 전후의 기타 부수적인 곁을 포함한 영역에 대해 제고적인 심화에서 실제 응용과 이르기까지 겪어본 것의 경과 및 성과를 통해 알리는데 중점을 두며, 공업경제를 통해 영업작업을 의미도록 한다.

As an introduction to the use of colorants, this course teaches various ways to apply the dyes on yarns, fabrics, and other textile materials. Laboratory work covers the basic experiment on dyes and dyeing, and several techniques of practical dyeing and printing.

353.333 패션마케팅 3-3-0
Fashion Marketing

소비자에게 최대의 만족을 주는 의류상품의 생산과 유통을 위한 마케팅 방법을 학습한다. 사회현상으로서 복식됨행과, 패션상품에 대한 소비자행동의 특성을 이해한 후 이것을 패션 마케팅에 활용한다. 패션상품의 특성, 상품과 상표, 시장점유, 점포 등에 대한 학습하고, 패션상품의 소비자 행동특성을 이해하여 효율적인 패션 마케팅을 princípio 와 자연의 기반을 갖는다.

This course introduces distinctive characteristics of fashion products in terms of marketing. The major concepts of this course include fashion fundamentals, strategies for products and brands, market segmentations, fashion retailing, consumer behavior, and production planning.

353.335 글로벌패션비즈니스 3-3-0
Global Fashion Business

세계화 속에서 패션비즈니스가 당면한 현안과 문제점, 발전방안을 살펴보고, 패션비즈니스가 국제화되어 가는 과정 속에 의류학 전공자가 습득해야 할 실무적 역량을 갖기 위한 이론적 기반을 갖는다.

Under the globalized context, students will study current issues, characteristics, and prospects of the fashion business. Practical capabilities required for fashion majors will be covered.

353.336 패션마케팅이론 3-3-0
Fashion Merchandising

패션산업은 현가하는 경제과 시장, 소비자에 대한 이해로부터 시작된다. 본 수업에서는 패션기업의 의외갈등에 기초가 되는 기시적, 시장적 환경을 이해하고 관련 정보를 수집하는 방법, 수집된 자료를 분석하고 그 결과를 해석하는 방법, 인가된 지식을 의외갈등 해결법과 판매, 광고시장에 영향을 미치는 과정에 대해 학습한다. SPSS 통계 프로그램을 활용한 자료 분석기술이 포함된다.

Fashion industry heavily depends on knowledge of ever changing environment. This course is designed to cover the whole process of fashion market research from collecting data, analyzing, interpreting, and applying them in fashion firms’ decision making. Students will practice data analysis with the help of a statistical package (SPSS) in computer lab.

353.337 패션소비자분석 3-3-0
Fashion Market Research

패션산업은 현가하는 경제과 시장, 소비자에 대한 이해로부터 시작된다. 본 수업에서는 패션기업의 의외갈등에 기초가 되는 기시적, 시장적 환경을 이해하고 관련 정보를 수집하는 방법, 수집된 자료를 분석하고 그 결과를 해석하는 방법, 인가된 지식을 의외갈등 해결법과 판매, 광고시장에 영향을 미치는 과정에 대해 학습한다.

Fashion industry heavily depends on knowledge of ever changing environment. This course is designed to cover the whole process of fashion market research from collecting data, analyzing, interpreting, and applying them in fashion firms’ decision making. Students will practice data analysis with the help of a statistical package (SPSS) in computer lab.

353.416A 복식사회심리 3-3-0
Socio-psychological Aspects of Clothing

본 강좌는 인간의 의복행동이 사회문화적 상황 속에서 어떻게 변화하며, 인간관계를 보다 바람직하게 하기 위해 또 한 심적 만족을 위하여 어떠한 의복행동이 이루어져야 하는가 등 의 문제를 탐구한다. 이를 위해 인간이 의복을 착용하게 된 동기, 사회문화에 따른 의복행동과 그에 영향을 미치는 사회요인들, 개인의 성격, 가치관, 태도, 흥미, 자아개념 등의 심리적 요인과 의 복식행동의 관계를 학습한다. 이를 통해 인간의 복식행동을 이해하고, 개인의 의복관리뿐 아니라 패션마케팅의 기초로 삼는다.

Clothing is an important phenomenon in corporate culture. This course applies concepts and theories of social psychology to explain human behavior related to clothing. Major concepts are psychological factors such as personal characteristics, desire, and self-concept, as well as social factors such as sex, age, role, status, symbolic communication, and impression formation. Understanding these various factors can make comprehension of human clothing behavior and fashion marketing.

353.428B 의류소재기획 3-2-2
Apparel Fabrication

패션디자인의 중요한 요소인 소재를 검토하여 시대적 경향에 합치는 소재를 선정하고 개발할 수 있는 능력을 배양한다. 최근 개발된 첨단소재를 공부하고 그들이 갖는 기능과 감성을 논한다. 이를 토대로 미래의 트렌드에 맞는 소재를 기획하고 예측하는 것을 실습한다.

To practice the planning & developing trendy fabrics by the analysis of the fashion trend and their effect on textiles. Newly developed textiles are studied and their functions and fashionabilities are discussed. Also students practice forecasting textile trends on the basis of textiles knowledge and current fashion textiles.

353.429A 패션리테일링 3-3-0
Fashion Retailing

패션상품의 소매유통 과정에서의 판매전략에 대해 학습한다. 패션상품의 국내 및 국제 소매유통의 현황에 대하여 이해하고, 효과적인 판매전략에 대하여 학습한다. 또한 점포의 유행과 특성, 판매원 관리 전략, VMD, 판매촉진에 대해 학습한다.

Emphasis on retailing strategies of fashion products with a
353.430 한국복식문화사 3-3-0

History of Korean Costume

The course surveys the clothing styles of Korean men and women from prehistoric times to the present. The overview includes the origin, adoption, and abandonment of style. Emphasis will be on the unique aesthetic sense of Korean clothing from a cultural perspective.

353.431D 패션트렌드 및 디자인기획 3-3-0

Fashion Trend and Design Planning

This course gives the student the opportunity to observe professionals fulfilling their job responsibilities. Enables the student to test competency in the skills in the fashion field. (Restrictions: requires permission of instructor)

353.434 패션산업인턴십 1-0-2

Internship in Fashion Industry

The course focuses on issues such as mass-customization of fashion products and service, 3D visual fashion retailing, and mobile communication in fashion promotion.

353.435 테크니컬 디자인 3-3-0

Technical Design

This course is an introduction to the use of color as a designing tool for fashion design. It will help to understand the interrelationship between color and form.

353.436 패션문화사 3-3-0

History of Fashion and Culture

This course focuses on issues such as mass-customization of fashion products and service, 3D visual fashion retailing, and mobile communication in fashion promotion.

353.437 패션컬렉션 3-2-2

Fashion Collection

The course focuses on issues such as mass-customization of fashion products and service, 3D visual fashion retailing, and mobile communication in fashion promotion.

M1461.000100 패션 e-Business 3-3-0

Fashion e-Business

The course is an introduction to the use of color as a designing tool for fashion design. It will help to understand the interrelationship between color and form.

M1461.000700 패션문화사 3-3-0

History of Fashion and Culture

The course focuses on issues such as mass-customization of fashion products and service, 3D visual fashion retailing, and mobile communication in fashion promotion.

M1461.000900 패션협력 3-2-2

Fashion Collection

The course focuses on issues such as mass-customization of fashion products and service, 3D visual fashion retailing, and mobile communication in fashion promotion.
패션 디자인의 세계를 좀 더 실질적으로 체험할 기회를 갖는다.

This course is a continuation of Basic Fashion Design. Design sketch is translated into a production process. Developing of fashion design from analysis of various trends, ethnic costumes, works of famous fashion designers and understanding of contemporary art and design will deepen students’ design worlds. Students have the opportunity to show their fashion works on the real stage and do the planning for their own show and directing the fashion for themselves.

M2174.000400 의류소재 기초화학 및 실험 3-2-2
Textile and Fiber Chemistry

의류소재의 감성과 기능을 구현하고 용도에 맞게 적용하기 위해서는 과학적 지식과 기술을 필요로 한다. 따라서 이를 정확하게 이해하기 위해 필요한 기초적 화학지식을 학습시키고자 한다. 의류 소재를 이루는 유기화합물의 분자구조, 분자유전 결합, 촉합 또는 부가 반응 등 기본적 특성을 습득한다. 또한 의류소재의 성질을 분석하기 위한 원리를 이해하고, 기초적 실험을 병행한다.

In order to express aesthetic appearance and functions of fashion textiles, scientific knowledge and technology are required. The course intends to study the basic chemistry of the textiles and fibers. Basic organic compounds for textile fibers will be examined with respect to their chemical structure, inter/intramolecular bonding, condensation/addition reaction, etc. This course also involves experiments as a preparation step to analyze the纤维 properties and to fabricate fashion textiles.

M2174.000500 패션마케팅커뮤니케이션 3-3-0
Fashion Marketing Communication

패션 제품은 시각적 이미지가 중요한 상품으로 패션 시스템 내 커뮤니케이션은 타 산업과 구별되는 특수성을 가진다. 이 강의는 패션 마케팅의 필요성과 양방향 목표 달성을 위한 효과적인 커뮤니케이션 전략 도출을 위한 관련 학문을 내용으로 한다. 현장 전문가의 특허과 사례 토론을 통해 글로벌 시장의 패션마케팅커뮤니케이션에 대한 심화된 지식과 전망을 제시한다.

Visual image is a focal component for marketing fashion products and makes the marketing communication process unique. This course is designed to give an overview of the various aspects of fashion marketing communication. Various class activities will be implemented including special speeches of industry experts and case studies. The goal of the course is to provide in-depth knowledge and vision to students on fashion marketing communication strategies and its changing future.

M2174.000700 패션 테크놀로지 3-3-0
Fashion Technology

최근 전통적인 패션 산업과 현대 디지털 기술을 융합하여 새로운 부가가치를 제공하는 제품을 개발하고자 하는 연구가 이루어지고 있다. 이 강의에서는 패션디자인과 패션을 효과적으로 결합하는데 필요한 미학, 기능, 기술적 요소 등에 대한 정보를 제공하여 의류의 창작이 첨단 테크놀로지를 활용할 수 있는 기본 지식을 습득하게 하고자 한다.

Recently, many studies are being made on the development of value added fashion items by combining the traditional fashion products and state-of-the-art digital technology.

This lecture aims at providing the students with the essential knowledge for fusing those technologies regarding the aesthetic, functional, and technical perspectives.

M1461.001500 여성복 테일러링 3-2-2
Women’s Tailoring

의복산업과 패션디자인, 의류소재 등의 과목에서 수학한 내용을 토대로 여성복 테일러링 디자인과 그에 적합한 소재선택을 학습하고 패턴 설계와 제작 과정을 심화하는 과목이다. 안감과 실감을 사용하는 때의 특성을 이해하고 제복의 구성방법과 봉제법을 심화한다. 제형에 따른 패턴설계를 배우고 실감함으로써 제형에 대한 이해와 패턴설계 제작 능력을 향상시킨다. 또한 3차원 가상 의복스테이트를 활용하여 여성복 테일러링 디자인 변형, 색색, 소재를 다양하게 적용해보면서 창의성을 기른다.

It is a course to practice about designing women’s tailored clothes, selecting appropriate fabrics, pattern making and manufacture process, based on the knowledge from Textile Fabrics, Theory of Fashion Design and Planning of Clothing Construction. The student will be practicing how to construct and sew a Jacket through understanding a lined clothes using Lining and Interfacing. Understanding body shape and pattern making technique will be developed through studying and practicing pattern making with body shape. Moreover, the student will develop their creativity to match design variation, color, material comfortably with virtual pattern making system.

M2174.001200 패션디자인 CAD 3-2-2
CAD for Fashion

컴퓨터에 의한 패션디자인을 실습하는 과목으로 포토샵, 일러스트레이터 등 다양한 컴퓨터 프로그램의 활용을 학습하고 산, 형, 색, 재료표현에 대한 기초적인 방법을 터득함으로써, 다양한 패션디자인 및 적용품안의 표현에 익숙하게도록 연습한다.

In this course, students will study the operation and function of computer programs that are used for apparel design, textile design and other design industry applications. Students will be taught the various tools to express lines, shape, col-

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our and texture as well as learning how to apply such knowledge into fashion illustration, fashion design and textile design.

M1461.001400 스마트의류제조기술 3-3-0

Smart Garment Manufacturing Technology

 최근 전자공학의 발달로 각종 전자장치가 소형화, 경량화되고 있다. 이러한 장치들을 의복에 통합한 디지털 스마트 의류에 대한 관심이 점차 증가하고 있다. 이 강의에서는 스마트 의류의 개발 현황을 소개하고, 스마트 의류를 만드는 데 필요한 하드웨어 및 소프트웨어에 대해 알아보고, 전문가와의 인터뷰를 통해 학생들에게 스마트 의류 제조와 관련된 기본 지식을 제공하고자 한다.

Due to the recent advancement in electronics, various electronic devices have become smaller and lighter. There is a growing worldwide interest in smart garments, which can be realized by the incorporation of such devices. This lecture aims at providing the students who are majoring in clothing science with the basic knowledge of smart garments by introducing the technology trend, hardware, and software development methodology.

353.739 패션산업디자인개발 3-3-0

Developing Leadership in Fashion Industry

패션 산업의 주요 분야인 섬유화학, 섬유 및 의류 디자인, 제조, 소매 유통, 패션 언론, 패션 커뮤니케이션 등에서 창의적인 경영 능력과 지도력을 인정받은 10인의 CEO급 인사들을 매주 특별강사로 초청하여 패션 산업 현황을 파악하고 비전을 공유함과 동시에, 산업의 리더들로부터 리더로서의 소양과 지도력을 함양할 수 있는 기회를 마련할 계획이다. 패션산업의 박람회를 기회로 초기자원의 패션 산업을 진단하고 더불어 대학원 교육이 패션 산업에 기여할 수 있는 방안을 제시하는 제안서를 작성해야 한다.

This course provides 10 special lectures by inviting 10 CEO’s in the clothing and textile industry who are recognized by their outstanding and prominent leadership and expertise in their fields. Special lecturers from the core sectors including fiber and textiles, fabric and fashion product design, manufacturing, retailing, fashion journalism, and fashion marketing communications will share their keen insight to the industry. The students enrolled are required to submit a final report based on the lectures to envision feasible solutions and directions for the industry.

M0000.029000 인간중심웨어러블개발 3-3-0

Human-centered wearables development

웨어러블이란 사람이 입거나 사용할 모든 형태의 의복, 기기, 그리고 시스템을 말한다. 본 과목은 특정한 사용자를 대상으로 한, 인간중심 웨어러블 개발을 그 목표로 한다. 학생들은 일반적인 제품개발 프로세스뿐만 아니라 웨어러블 개발을 위한 다양한 기능, 디지털화 핵심요소를 hands-on 프로젝트를 통해 배운다.

Wearables defines all clothes, devices or systems that can be worn or attached to the human body. This course aims to explore human-oriented approaches to the design and development of wearables with specific users in mind. Students will be able to learn the general product development process as well as necessary requirements to execute a hands-on wearables development project.

M1461.002200 패션스타일링 3-2-2

Fashion Styling

패션디자이너 작업의 기초를 배우는 과목으로 창의적 패션디자이너를 위해 창의적인 패션 디자인의 원리를 이용하여 트렌드에 맞도록 창조적 작업에 대해 학습한다. 패션디자이너의 기본이 되는 다양한 디테일 디자인에 대해 배우고 그것을 변화시켜 창작하는 능력을 키워 놓아, 특성이 완성도를 갖춘 디자인을 위해 디자이너가 기본적으로 익히는 아이템의 조합 및 변형 그리고 표준 테크닉에 대해 이해하도록 한다.

This course is for learning the basics of creative fashion design work, developing design elements such as lines, shapes, colors, and materials to fit the trend by applying design principles. The objective of this course is to understand the basics of fashion design details, and learning how to produce design pieces through the modification of such designs. Furthermore, this course helps students understand the coordination and transformation of different fashion items and understand the expression techniques needed to complete the style.

M1461.002300 2D 패션스튜디오 3-2-2

2D Fashion Studio

패션 디자이너와 기획자의 입장에서 2-D 패션디자인 구성 원리에 대해 이해하고 창의적인 패션 캐릭터와 양상을 학습하는 과목이다. 공극적으로 창작자의 인체 위에서 입체적으로 완성되는 패션디자인을 위해 패션디자이너의 스타일을 디자인으로 구현가능하게 하는 의상 구성원리를 이해하고, 소재 및 디테일 디자인을 고려하여 창의적으로 완성할 수 있는 디자인 테크닉을 익히도록 한다.

The object of this course is to learn the basics of 2D fashion design and creative pattern management as well as modification, from the perspective of fashion designers and providers. For fashion designs are ultimately completed on the three-dimensional body, the designer should have a firm grasp of a design structure that makes sketches realistic and feasible. This course helps understand the design techniques that can be creatively completed with various materials and design details in mind.

M1461.002600 3D 패션스튜디오 3-2-2

3D Fashion Studio

인체를 3차원으로 인식하는 시각을 학습하고 입체적 제작법을 습득함으로써 더욱 창조적인 패션디자인 능력을 개발한다. 평면인 전문가 인체에 적용되어 그 구성과 실용성이 변화하는 과정의 이해를 통해 더욱 폭넓은 디자인 작업을 진행할 수 있도록 한다.

The specific view point of seeing 3-D body shape will be obtained through practices to develop the capacity for more creative fashion design. Understanding the process that 2-D fabric applies into the 3-D body will make students have sharp eyes for the constructions and silhouette.

M1461.002700 패션디자인발상 3-2-2

Fashion Design Developing

패션디자이너와 기획자의 입장에서 2-D 패션디자인 구성 원리를 이해하고 창의적인 패션 캐릭터와 양상을 학습하는 과목이다. 공극적으로 창작자의 인체 위에서 입체적으로 완성되는 패션디자인을 위해 패션디자이너의 스타일을 디자인으로 구현가능하게 하는 디
자인 구성을 이해하고, 소재 및 디자인의 태도를 고려하여 창의적으로 완성할 수 있는 디자인 테크닉을 익힐 수 있도록 한다.

The object of this course is to learn the basics of 2D fashion design and creative pattern management as well as modification, from the perspective of fashion designers and providers. For fashion designs are ultimately completed on the three-dimensional body, the designer should have a firm grasp of a design structure that makes sketches realistic and feasible. This course helps understand the design techniques that can be creatively completed with various materials and design details in mind.

M1461.003400 3D 패턴 CAD 및 가상착의 1 3-2-2

3D Pattern CAD and Virtual Fit 1

본 과목은 3학년 1학기 과목인 '3D 패턴 CAD 및 가상착의 1' 수업에서 배운 내용을 토대로, 실제 의류작품의 다양한 디자인적 요소와 인체-의복 맞춤성에 사실적으로 현실감 있게 간주함으로부터 구현하는 방법을 배우는 데 목적이 있다. 따라서, 본 과목을 통해 학생들은 인체에 맞게 디자인을 구현하고, 인체 착용에 적합한 패턴을 설계하여 현실과 흡사한 가상 프로토타입을 제작할 수 있게 되며, 퍼포브 변형하는 다양한 의류산업에 필요한 전문지식을 습득하게 될 것이다.

The primary goal of this course is to teach students how to develop virtual prototypes that simulate various design and fit elements of physical garments in an accurate and realistic manner. Through this course, students will be able to gain necessary digital CAD and virtual prototyping skills in preparing for the rapidly-changing apparel industry.

M1461.003500 3D 패턴 CAD 및 가상착의 2 3-2-2

3D Pattern CAD and Virtual Fit 2

본 과목은 학생들이 3D 인체 모델을 이용하여 인체 의복 패턴을 설계하고 가상 프로토타입을 구현하여 인체-의복-맞춤성(Fit) 관계를 이해하는 데 필수적인 기술적, 실용적 기초를 제공하는 데 목적이 있다. 구체적으로, 본 과목은 학생들을 통해 전통적인 2D 디자인을 3D 인체모델에 대한 이해를 기반으로 인체 공학적 인체평판을 설계하고 3D 프로토타입을 제작하여 가상환경에서 의복 맞춤성을 시스템적으로 평가하고 분석하는 방법에 대해 소개하게 한다.

The teaching goal of this course is to provide students with a core technical and practical foundation in understanding the body-clothing-fit relationship when developing 3D clothing patterns and virtual prototypes. Specifically, through this course, students will be introduced to the systematic approaches for evaluation and analysis of 3D pattern engineering and virtual fitting, built on the conventional 2D pattern making techniques.

M1461.003800 우주복의 이해 및 실험 3-2-2

Understanding Spacesuits and Lab.

○ 미국과 러시아 우주 개발에서 사용된 우주복의 역사, 기능 및 구조에 대해 학습한다.
○ 신체유명장비(EVA) 및 선내 활동(IVA), 화성 탐사 등을 위한 우주복의 체온조절 기능에 대해 학습한다.
○ 우주복용 체온조절복의 구조와 기능을 이해하고, 부위별 체온조절복을 이용하여 인공기후실에서 체온조절실험을 수행한다.
○ 실험 결과를 바탕으로 개선된 체온조절 디자인을 제안한다.
○ Learning about the history, functions, and structures of US and Russian spacesuits

M1461.003900 액티브웨어 개발 3-3-0

Activewear Development

본 과목은 의료학과 학부 커리큘럼을 통해 이미 습득한 의복구성, 패턴, 데크나 컨디셔너 등의 전공지식, 실제 액티브웨어 개발 프로젝트에 응용하고 심화하는 과목이다. 본 과목을 통해, 학생들은 의류작품 개발 프로세스를 이해하고, 액티브웨어 개발을 위한 핵심 요소를 도출, 구체적인 개별 가이드라인을 설정하는 방법론을 배운다. 또한, 시스템적 접근 방식을 통해 기능성과 착용성의 복합화를 동시에 고려한 효과적인 액티브웨어를 개발하고, 실제 시장에의 적용 가능성을 타진한다. 따라서, 본 과목을 통해 학생들은 종합 후 소프트웨어, 아웃도어와 같은 글로벌 액티브웨어 시장에 필요한 PPE 전문인력으로써 실험할 수 있도록 실질적인 기여를 제공해 주고자 한다.

This course intends to provide students with a practical opportunity to apply knowledge that they have gained through the department’s undergraduate curriculum including clothing construction, pattern CAD and technical design, to a real-world activewear development project. Through this course, students will be able to comprehend the apparel product development process, identify root variables, and establish a concrete guideline for the activewear design and development efforts. Further, taking a systematic approach, they will learn how to develop effective activewear satisfying both necessary functionality and wearability, and explore the potential of the developed outcome on the market. It is expected that this course will help students gain competency for post-graduation career development as a R&D expert in the global activewear industries such as sportswear, outdoor or other relevant markets.

M1461.004000 의복생리학 및 개인보호복 실험 3-2-2

Clothing Physiology and Personal Protective Equipment Lab.

○ 유해 환경에서 노출된 작업자 보호를 위한 개인보호복의 기능 및 구조를 학습한다.
○ 고온 및 혹은 저온 환경에서 개인보호복 적용에 의한 이상이 일어날 수 있는 인체 생리비용을 학습한다.
○ 개인보호복 (예: 소방복, 군복, 경찰복, 방화복, 생명보호복, 의료용 보호복, 축산용 보호복 등) 중 1종을 선정한 후 인공기후실에서의 인체작용실험을 수행한다. 실험 결과를 바탕으로 작업자의 인체생리적 부담을 감소시킬 수 있는 개인보호복 디자인을 제안한다.
○ Learning about the functions and structures of personal protective equipment (PPE) for workers who are exposed to hazardous environments.

M1461.004900 의류학과(Dept. of Textiles, Merchandising and Fashion Design)
design of PPE to alleviate physiological strain of workers.

**M1461.004100**  
**Fundamentals of Ergonomic Clothing Design**

The interaction between clothing and the human body is a critical consideration for ergonomic clothing design. The purpose of this course is to teach students fundamental knowledge for the design of optimum ergonomic clothing systems, based on a understanding of human body diversity learned from direct and automatic body measurement methods and the relationships among psychological, physical and design elements for positive clothing fit experience. The knowledge gained from this course will offer foundational concepts and principles in establishing design guidelines for daily ready-to-wear (RTW) to functional clothing such as sports-wear, work wear and smart wearables.
소비자학전공(Consumer Science Major)

M1471.001300 소비자학의 이해 3-3-0

Understanding Consumer Science

소비자학 전공자 신입생들을 대상으로 소비자학을 소개하는 과목이다. 소비자학의 기원과 발전, 소비자와 소비자들을 둘러싼 시장환경의 상호작용에 대해서는 소비자 행동과 소비자 문제, 소비자권익 증진을 위한 방안 등에 대하여 소개한다. 이를 바탕으로 현대 소비사회에서 소비자와 소비자가 갖는 함의를 이해하고, 소비자행동의 정의를 기초로 소비자학의 역할에 대한 이해를 높인다. 이는 현대 소비사회에서 소비자와 소비자가 갖는 함의를 이해하고, 소비자행동의 정의를 기초로 소비자학의 역할에 대한 이해를 높인다는 목적으로 설계되었다. 이는 현대 소비사회에서 소비자와 소비자가 갖는 함의를 이해하고, 소비자행동의 정의를 기초로 소비자학의 역할에 대한 이해를 높인다는 목적으로 설계되었다.

357.208 가계경제론 3-3-0

Family Economics

소비자학의 영역 중 가계에 초점을 두는 가계경제관계 영역의 기초모습으로 가정경제학의 의외, 영역 및 연구방법을 이해하며, 가계와 국민경제, 한국의 경제문제와 가계, 가계의 경제구조 및 가계운영이론을 포괄함으로써 가계의 경제적 복지에 관하여 수학한다.

This introductory course is designed for freshmen in Consumer Science major. This course provides introduction to perspectives of consumer science, consumer behaviors and problems in the market, and efforts to improve consumer rights and interest. Students are expected to understand the importance of understanding consumers and consumption in the current market and the role of consumer science to improve consumer sovereignty.

357.204 소비자행동론 3-3-0

Consumer Behavior

소비자보호와 소비자교육을 위한 기초로서 소비자행동을 연구한다. 소비자 구매사례결과 및 경제리조직을 사회심리적 모델을 중심으로 분석하고 이에 영향을 미치는 심리적, 사회적, 문화적 요인들을 검토한다.

This course researches consumer behavior as a foundation for consumer protection and education.

357.216A 소비자주의론 3-3-0

Consumerism

학문적 연구와 실전적 관점에서 수행되는 모든 소비자활동을 포괄하며 현대적인 소비자운동에 관여하는 개념과 본질, 기진과 역사적 전개과정을 다룬다.

This course deals with the nature of consumerism, and the history and structure of the consumer movement. Students will discuss the role of consumer activities, and compare consumer movements among various countries. This discussion will lead to envisioning the future of global consumerism.

357.217 소비자정책론 3-3-0

Economics of Consumer Policy

소비자정보부족과 시장실패에 따른 소비자정책의 해결을 위한 정부의 정책간접적인 소비자보호정책들의 이론적 토대를 학습함으로써 우리나라소비자정책의 현실을 분석하고 정부의 시장개입을 평가할수 있도록 한다.

The course acquaints students with the basic approaches to consumer policy. They will perform economic analyses of specific consumer policy issues. Three specific areas of policy intervention are addressed: markets characterized by imperfect information, anti-trust and regulation of “natural” monopolies, and the political-economy of consumer protection. Policy discussions are reinforced through the use of specific real-world examples.

M1471.001500 소비자와 시간 3-3-0

Time as Consumer Resource

시간이란 인적자원, 물적자원과 함께 가장 중요한 자원 중 하나로 새로운 시장환경에서 시간자원에 대한 관심이 더욱 커지고 있다. 이에 본 과목에서는 “생활을 영위하는 중심적인 자원”로서의 시간을 이해하고, 이와 관련된 이론 및 연구들을 체계적으로 정리함에 따라 시간자원의 활용을 이해하기 위한 역량을 키우고자 한다. 또한 소비자 시간사용 실태를 이해하고 분석하기 위한 역량을 키우기 위하여 생활시간연구의 적용과 방향을 보고자 한다.

This class includes discussion and research reviews about
the theories and researches in relation to time use. The course examines time management concepts and applications of time as 'the core resource to one’s life plans' and investigates changes in time allocations made by family members and individuals. The course pursues to enhance the expert ability as well as the individual ability of time management.

357.306 소비자포트폴리오 3-3-0
Consumer Portfolio
가계의 경제적 의사결정에 영향을 주는 경제적 환경과 각종 제도 변화 속도가 매우 빠른 현 시점에서 재무관리의 지식은 더욱 절실히 요구된다. 본 과목에서는 가계의 경제적 자원의 인내와 기여할 수 있는 실질적인 직업기반의 다각화 한다.
The objective of this course is to study financial planning principles and practices taught through a case study approach. Students are encouraged to analyze and evaluate financial decisions made by consumers at various points in the life cycle and apply counseling skills to aid consumers facing financial decisions, especially, investment and risk management.

357.307 소비자재무설계 3-3-0
Consumer Financial Planning
가족생활주기에 따라 가계의 재무자원을 효율적으로 관리하는 전략을 소유재산의 보호, 소득의 최적화 및 소득의 증대 등 세 가지 측면에서 다루고, 각 원리와 실제 시장의 선택 안을 비교하여 학습한다.
This course covers an introduction to financial goal setting and planning process in various life-cycle stages and financial status. Topics include budgeting, credit, saving, and financial planning process in various life-cycle stages and financial status. This course covers an introduction to financial goal setting and planning process in various life-cycle stages and financial status. Topics include budgeting, credit, saving, investing, personal taxation, insurance, retirement and estate planning.

M1471.001700 소비자교육론 3-3-0
Consumer Education
소비자의 특성과 위치, 소비자유형의 분류와 소비자역할을 고찰하고 소비자주의의 전개과정을 배경으로 하여 소비자교육의 형태를 가정교육, 학교교육, 사회교육차원에서 분석, 연구한다.

This course will focus on synthesizing the conclusion drawn from consumer studies and family resource management. The course covers an introduction to financial goal setting and planning process in various life-cycle stages and financial status. Topics include budgeting, credit, saving, investing, personal taxation, insurance, retirement and estate planning.

M1471.001200 소비자교육론 3-3-0
Consumer Education
소비자의 특성과 위치, 소비자유형의 분류와 소비자역할을 고찰하고 소비자주의의 전개과정을 배경으로 하여 소비자교육의 형태를 가정교육, 학교교육, 사회교육차원에서 분석, 연구한다.

Topics included in this class are; concepts and the evolution of consumer education, consumer problems of special groups (children, adolescent, and the elderly), consumer socialization, consumer competency, and development of consumer education programs.

357.328 소비자유통론 3-3-0
Consumer Retailing
세계화, 정보화사회로 일변어지는 현대사회에서 시장 환경은 급변하고 있으며, 생산자와 소비자 사이의 분리가 더욱 성립하고 있다. 소비자유통론에서는 소비자의 활발한 시장참여와 기업의 소비자 지향적 경영활동이 요구되는 현대사회에서 소비자와의 의결 과정을 소비자주권적 시각에서 고찰하고, 유통과정에서 발생할 수 있는 소비자문제와 대처방안에 대해서 논의하는 것을 목표로 한다. 또한, 소비자주의 유통사례를 살펴보고 소비자와 기업이 상생을 추구할 수 있는 유통의 발전방향에 대해서도 논의한다.
Distribution is an important function that connects the gap that exists between producers and consumers. With globalization and IT development, the market environment is rapidly changing. The distribution channels and distribution environment are also rapidly changing as active consumer involvement in the value creation process is increasing from consumer perspective, and consumer oriented marketing is required from the marketing perspective. The purpose of Consumer Distribution is to provide a systematic overview of the meaning of distribution, the steps of distribution processes, and distribution related consumer choices and decision making processes. Consumer problems that could arise during the distribution process and their potential remedies will be discussed, and pro-consumer distribution and retail management cases will be studied to provide insight about the future direction of distribution practice that is beneficial for both consumers and producers.

357.404 소비자시장환경분석론 3-3-0
Analysis of Market Environment
거시적으로는 시장구조와 유동경로를 분석하고 미시적으로는 개별기업의 가격결정, 유통, 광고, 판매촉진 등을 바탕으로 소비자와 기업의 가격결정에 영향을 미치는 다양한 경제적 영향요소를 고찰한다.

Microeconomics and marketing theories regarding the industry and profit maximizing firms are applied to analyze and understand the market. This course emphasizes on advanced topics relevant to analysis of the current market mechanism.

357.416A 소비자학연구 3-2-2
Researches in Consumer Studies
소비자가 전반에 관련되는 문헌조사를 하여 학문연구의 이론적 바탕을 제득하고, 사회에 진출한 소비자학 전공자들의 경험담을 통해 실제적인 적용에 대해서 이해한다. 논문의 평가, 연구문제의 설정 및 연구방향을 선택할 수 있는 능력을 향상시킨다.
This course covers a concise review of the key aspects of consumer studies and family resource management. The course will focus on synthesizing the conclusion drawn from different fields of study.

357.418 소비자보호관련법 3-3-0
The Laws on Consumer Protection
본 과목은 소비자 보호와 관련된 다양한 법을 다룬다. 공정거래와 달용금지, 소비자 안전, 신용, 정보와 관련된 법, 가격 결정과 소비자참여와 관련된 이슈를 다루고, 아직 한국에 도입되지 않은 법에 대한 이슈들도 함께 다룬다.
소비자문제분석
3-3-0

Analysis of Current Consumer Issues

사회의 기능이 분화되고 복잡해지면서 소비자가 당면하는 문제도 다양해졌다. 이에 본 교과목에서는 현대사회에서 발생하는 소비자문제의 현황과 사회경제적, 문화적 배경을 이해하고, 그 해결방안을 검토한다. 특히 소비자주의와 소비자보호활동의 관점에서 다양한 소비자문제들을 논의하고 분석함으로써 실제적인 교육적, 정책적 해결방안을 모색할 수 있도록 한다.

As the social function has been divided and complicated, consumer problem is getting various and complex. This course intends to give an overview of the various aspects of current consumer problems, their socioeconomic and cultural context, and possible solutions. The course will facilitate student discussions on the various consumer issues from the consumerism and consumer welfare viewpoints, and lead to find practical resolutions including educational and political ones.

M1471.000200 글로벌시장과 소비자 3-3-0

Global Market and Consumer

본 과목에서는 글로벌 시장에서의 소비자행동, 시장환경과 법, 정책 환경을 살펴보며 글로벌 시장에서 발생하는 소비자문제를 고찰하고, 더 나아가 소비자권익 보호기제의 원리에 대해 논의한다.

The goal of this course is to provide a understanding of how to empower and protect consumers in the new global market. Topics such as consumer behaviors, retail environment, marketing strategies, and consumer laws and policies in the global market are discussed to understand new consumer issues in the new global market.
M1471.000400 Qualitative Research Methods for Consumer Science

The purpose of this course is to introduce and to provide opportunities to exercise qualitative research methods that are currently used to analyse consumer needs and behaviors. Students learn various qualitative data collection/analyse methodologies and practice those methodologies within the context of empirical research.

M1471.000800 Consumer Counseling and Arbitration

This course aims to investigate which consumption is good and which is bad, and interested by Consumer Science.

M1471.001100 Analysis of Consumer Big Data

This course provides various methodologies to develop new products by delving into theoretical and practical needs analysis of consumers. It will help students to build consumer needs not only into new products but also into policies and services.

M1471.001000 Consumption & Ethics

The course provides various methodologies to develop new products by delving into theoretical and practical needs analysis of consumers. It will help students to build consumer needs not only into new products but also into policies and services.

M1471.000900 Readings on Consumer Science Classics

The purpose of this course is to develop capability to understand, analyze, and interpret big data on consumer behaviors. This course provides introduction to the core concepts big data problems, data management methodologies, and analytical methods and tools. Based on the theoretical and methodological knowledge on big data analysis, exercises to inter-
pren the analysis results are covered. After this course, students are expected to be able to apply big data to understand and anticipate consumer behaviors in the market.

**M1471.001400** Social Welfare Taxation 3-2-2

**Consumer Field Practice**

This course provides an opportunity to develop consumer expertise and to understand various consumer activities and their roles in the local community for students who will grow into consumer experts. This course consists of lectures about the basic knowledge of consumer-related activities, field practice, and an evaluation and sharing session. Field practice is to participate in consumer education, consumer counseling and redress, and consumer research conducted by government and public institutions, consumer non-profit organizations, specialized institutions, and research institutions.

Students are expected to have deeper understanding of the current consumer issues in the market and acquire problem-solving capabilities through practical experience.

**357.211B Early Childhood Education** 3-3-0

**Research Methods in Child and Family Studies**

The basic research designs employed in child & family studies are examined. This course focuses on proposal writing, conduct pilot research project, collecting data, and interpreting & reporting research results.

**357.311B Children and Play** 3-2-2

Children and Play

A course to introduce the development of children's play in terms of social, physical, emotional, and intellectual development. This course provides an introduction of early childhood educare. Programs, staff, scheduling, environmental design, equipment, evaluation, and financing of early child care are included. To understand the potential benefits and problems associated with early child care, it also covers recent findings of early child care. Through this course, students can learn major insights into how the type, amount, and quality of child care interact with child's nurturing experiences, socio-economic variables, and other child and family factors to influence individual trajectories.

**357.313B Early Childhood Education** 3-3-0

**Early Childhood Education**

This course examines origins of play as the roots of creativity and learning. It also covers recent findings of early child care. To understand the potential benefits and problems associated with early child care, it also covers recent findings of early child care. This course focuses on proposal writing, conduct pilot research project, collecting data, and interpreting & reporting research results.

**357.313B Early Childhood Education** 3-2-2

**Children and Play**

This course provides an introduction of early childhood educare. Programs, staff, scheduling, environmental design, equipment, evaluation, and financing of early child care are included. To understand the potential benefits and problems associated with early child care, it also covers recent findings of early child care. Through this course, students can learn major insights into how the type, amount, and quality of child care interact with child's nurturing experiences, socio-economic variables, and other child and family factors to influence individual trajectories.
### 357.321B 언어지도 3-3-0

**Children’s Language Development and Guidance**

영유아와의 언어대화와 언어발달에 관한 주요 이론과 국내외의 연구결과를 검토한다. 이와 함께 영유아의 언어의 기능과 특성을 따라 학습 및 교육을 통해 자신을 표현하고 타인과 상호작용하는 능력을 향상시킬 수 있는 지도방법을 모색한다. 또한 영유아 언어적 발달에 관한 요인을 조사하고, 영유아 언어지도에 효과적인 접근방법에 대해 보고 및 교사와의 역할과 몰입성 및 환경의 구성으로 나누어 살펴본다. 영유아 언어지도에서 구체적으로 구성하고 평가 방법에 따라 영유아의 언어발달 특성에 적합한 지도안을 구성하는 능력을 기르는。

This class aims to learn and compare major theoretical issues and researches in language acquisition of phonology, syntax, and semantics from infancy. Ways of creating optimal environment in home and child care center, and effective training methods for language development are probed. The course integrates theory and practice for caregivers to facilitate children’s communication competence. Through this course, students are guided in methods of supporting children’s language competence.

### 357.322A 가족생활교육 3-2-2

**Family Life Education**

가족을 강화하기 위한 프로그램으로 가족생활교육의 의의와 체도적 장치 및 육성현황을 학습한다. 가족생활교육에 적용되는 가족주기 차원, 내용적 차원, 일반적-전문적 차원에 대한 지식을 익힌 후 각 차원별 특성에 따른 교육프로그램을 분석하는 동시에, 교육 프로그램에 따른 필요한 기법을 학습한다.

This class surveys a comprehensive understanding of main purpose, history, theories about the family life education. Comparison and analysis of various family life education programs and program construction techniques will be learned. Furthermore, planned work experience in one or more family life education programs will be approved in advance by an instructor.

### 357.331 아동가족자유연구 2-1-2

**Independent Studies on Child and Family Issues**

이 과목은 아동학 및 가족학 전공의 다양한 학습주제들을 선택하여 학생들이 자주적이고 연구를 시행하여 발표하는 과정으로 이루어진다. 학습주제의 선택, 방법론의 결정, 자료 조사 및 분석, 결과 해석 등의 과정을 자율적으로 주도하여 학습한다. 아동가족 자유연구는 하나 또는 여러 개의 팀을 구성하여 진행한다.

This class is designed to facilitate independent studies of students on various issues in child development and family studies. Students are expected to participate in the research process with initiatives and to make a presentation to the annual department research symposium. This class is based on a team project.

### 357.407A 보육실습 3-0-6

**Practicum in Educare**

영아의 시정 보육에 대한 지식과 이론을 학습하고, 영아의 실제 보육에 필요한 기술을 익힌다.

This course reviews developmentally appropriate infant education programs to students. Practices includes physical and social activities, lessons for language.

### 357.411A 가족치료 3-3-0

**Family Therapy**

가족치료의 기초이론을 바탕으로 가족판단 및 가족문제에 대한 개입 방법을 파악하고 가족문제의 유형별로 role play의 실험과 전화상담기관에서의 현장실퓨를 통하여 이론적, 실천적 태도를 통합시킨 가족치료자의 자질을 함양한다.

This class will provide students with clinical experiences in preparation for family therapist. Students will focus on integrating therapy skills and clinical problem-solving processes, as well as supervised counselling experience in family therapy.

### 357.421A 가족현장실습 3-1-4

**Practicum in Family Studies**

이 과목은 가족학과 전공학생들이 전공과정 중에 학습한 내용을 현장에 적용, 실습하기 위한 과정이다. 건강가정사업이나 가족복지서비스를 제공하는 관련기관, 즉 건강가정지원센터, 가족복지센터, 가족상담소 등에서 체계적인 실습훈련을 받아 실습실습을 각각 실시한다. 이 과목은 2학기로 개설되며 실습은 방학 중에 집중적으로 이루어진다. 현장실습을 통해 가족학 영역의 다양한 분야를 경험하고, 학문과 현장의 연계 과정을 배우며, 나아가 가족학 전공인으로서의 자질과 윤리성에 대한 훈련과정을 거친다.

This course provides a practicum opportunity for students with child development and family studies concentration. Students are expected to participate in various programs and services in family-related service providers and institutes such as Healthy Family Support Center. Through intensive training and observations, students can learn how to link the field and academics and build qualification for the professionals. The course offers in Fall semester with an intensive practicum and supervision during the summer break.

### 357.424 가족정책론 3-3-0

**Family Policy**

가족정책론은 가족을 대상으로 한 국내외의 다양한 공공정책에 대한 공부를 목적으로 한다. 공공정책의 형성과정에 대한 일반적인 지식에서 출발하여, 가족정책의 수행, 시행 및 평가에 이르는 전반적인 정책과정에 대해 다룬다. 특히 가족정책의 역사적 전개 과정을 살펴봄으로써 우리나라 가족정책의 특수성을 파악하고, 우리나라의 구체적인 가족정책 사업들에 대해 알아보며 그 양상을 평가한다. 우리나라의 가족정책 뿐 아니라 외국의 가족정책의 전개과정과 구체적 사례를 파악하며 시사점을 발견한다. 이러한 과정을 통해 가족학 전공자로서 공공정책 영역에서 어떤 활동을 할 수 있는지에 대하여 함께 논의하게 된다.

This course is designed to introduce domestic and foreign public policies about families. Built on the coursework on the general process of policy making, implementation, and evaluation, this course teaches the process of family policymaking at the various levels of governments. By examining the historical development of family policy, we understand the uniqueness of family policy in Korea. Throughout the course, students are expected to discuss on the role of those who major Family Studies in public policy areas.
Studies in Child Behavior and Observation

This course provides an overview of theories on teacher development with specific emphasis on the ethics of teaching and caring. Students will gain in-depth understanding about the various roles as reflective and caring teachers for young children with professional knowledge and teaching pedagogy.

Curricular Activities in Early Childhood Educare

This class will provide an overview of adolescence developmental phrases and an understanding to qualitative, quantitative aspects in intellectual development.

Family Theories

This course is designed for students to learn about the family theories and why we need family theories and then we will focus on selected conceptual frameworks that are frequently used in family research today. Students will learn and practice how family theories can be applied to explain various family-related phenomena.

Art for Young Children

This course is designed for students to learn about the theoretical basis of children's art, various art education programs, and practical teaching methods. This class will enable students to understand the positive effects of art on children and to have teaching and learning methods to guide art in a developmentally appropriate and systematic way.
In this course, we will study the basic concepts, necessity, purpose, historical change, and theories of guiding young children. Students will learn the principles, methods, and techniques of guidance for infants, toddlers, and preschoolers to cultivate their ability to guide young children’s behaviors. Students will be able to teach desirable habits for daily routine and group lives and to correct maladjustment behaviors. Students will have the ability to construct math instruction for young children by looking at various mathematics education programs and resources.

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This course is designed to provide students with an overview of the developmental nature and needs of young children with special needs. Students will acquire an understanding of a wide spectrum of development including a variety of disabilities which may adversely affect normal development. Students will recognize the importance of educational support within inclusive early childhood education and care settings. Students will also develop awareness of children with special needs as a family member, the importance of comprehensive family-centered early intervention and the related laws and policies for early intervention and special education.

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adaptive techniques such as play therapy, art therapy, and bibliotherapy which work especially well with children. A review of the procedure and of the role of counselor in counseling children will familiarize students with relevant information and skills required of professionals working with children.

M2808.002500 아동가족 조사분석 3-2-2

Quantitative Research in Child and Family Studies

This course focuses on proposal writing, conduction pilot research project, collecting data, and interpreting & reporting research results.

M2808.002600 다문화가족과 글로벌이슈 3-3-0

Global Understanding of Multicultural Families

This course provides an introduction to concepts, theoretical perspectives, and empirical studies on adult development and aging from the lifespan developmental perspective. The course addresses changes in physical health, cognition, and psychosocial functioning and the implications of these changes for social issues. The course attends to how biological, cognitive and social changes combine to influence overall adaptation throughout the aging process and how research can be applied to promote healthy adult development and aging.

M2808.002900 성인발달과 노화 3-3-0

Adult Development and Aging

This course provides a deeper understanding of population aging and the challenges and opportunities adults face at the individual, familial, and societal level due to a prolonged adulthood. The topics include changing views of aging, social ties in later life, intergenerational relationships in aging families, work and retirement, family caregiving and support services for older adults, aging in place, death and bereavement, and social policy issues.

M2808.003000 아동청소년 발달진단 및 심리평가 3-2-2

Child and Adolescent Developmental Diagnosis and Psychological Assessment

This course will focus on assessment and diagnostic methods pertaining to development and psychological aspects of children and adolescents. Students will develop knowledge and skills related to multiple assessment techniques frequently used in determining diagnostic criteria. Such techniques include interviewing, behavior rating scales, behavior observations, and specific standardized instruments designed to aid in the identification of developmental disorders and delays, and the assessment of emotional/behavioral problems in children and adolescents.
학사과정(Undergraduate Courses)

M2808.003100 아동가족학논문작성 1-1-0

**Thesis Writing in Child Development and Family Studies**

이 교과목은 아동가족학전공 학사학위 취득의 필수요건인 학사학위논문을 효과적으로 작성할 수 있도록 지원한다. 아동가족학분야에서 요구되는 학술적 글쓰기 방법에 대하여 학습하고, 학위논문 작성을 위한 학습을 통해 배운다.

This course is designed to help students complete their undergraduate thesis in child development and family studies. Students will acquire skills and knowledge related to effective academic writing in the area of child development and family studies.

M2808.003200 아동가족인턴십 2-0-4

**Internship in Child Development and Family Studies**

본 교과목은 아동가족 관련 국내외 공공기관, 연구기관, 비영리단체, 기업 및 전문기관에서 실무경험을 통하여 전문적 소양을 익히고, 현장 기반의 문제해결 능력을 습득하는 것을 목적으로 한다. 인턴십 대상 기관의 선정은 담당교수와 협의하여 결정한다. 인턴십 기관의 감독자는 학생들에게 실무경험을 제공하고, 멘토로서 역할을 수행하며, 인턴십에 대한 평가를 학과에 제출한다.

This internship course provides students with opportunities for hands-on experience in a professional setting directed toward children, youth, and/or families. Students are expected to develop professional skills and to understand how to link their knowledge in child development and family studies to professional practices through practical training at domestic and international public agencies, research institutions, non-profit organizations, and related companies.

M2808.003300 아동가족과 법 3-3-0

**Child and Family Law**

본 교과목은 아동복지법, 소년법, 청소년기본법, 청년기본법, 민법 가족상속법과 아동과 가족에 관련된 법률을 통해 아동-청소년의 정의, 가족의 정의 등이 법적, 사회적으로 제도화되는 과정을 학습한다. 또한, 아동 및 가족과 관련된 사회문제의 규정, 법적 문제해결 방식을 학습함으로써 법이 아동과 가족의 삶에 미치는 영향을 살펴본다.

The course is designed to help students understand how legislation is intertwined with the social definitions and perceptions of issues related to children and families and how various laws and acts influence the well-being of children and families. Specifically, this course covers the Child Welfare Act, the Juvenile Act, the Framework Act on Youth, the Civil Act, and other related laws and acts.

M2808.003400 아동가족트렌드와 빅데이터분석 3-3-0

**Trends and Big Data Analysis in Child Development and Family Studies**

이 교과목은 크게 두 부분으로 나뉜다. 전반부에는 아동 및 가족과 관련된 산업계의 트렌드를 살펴보고, 이러한 동향이 개인(아동), 가족, 사회가 경험하는 변화와 어떻게 연결되어 있는지 이해한다. 후반부에는 전반부에 학습한 트렌드를 빅데이터를 활용하여 분석하는 과정과 구체적인 방법인 학습한다. 이러한 교과목을 통해 토피카 지식으로서 아동가족학적 관점의 유용성을 이해하고, 빅데이터를 활용하여 아동가족 관련 산업 및 사회 동향을 직접 분석하고 문제를 해결하는 능력을 함양한다.

This course is divided into two sections. During the first half of this course, students will understand industrial trends related to children and families and how these trends are intertwined with changes individuals (children), families, and societies are experiencing today. For the second half, students will learn how to utilize big data to analyze industrial and societal trends. The course will focus on the overall process and specific techniques of big data analysis. By taking this course, students will understand the usefulness of child development and family studies as domain knowledge in the era of big data and develop competency in analyzing big data to better understand industrial and societal trends.
수의과대학

College of Veterinary Medicine
Understanding Veterinary Medicine

This course aims to provide introduction of veterinary medicine. In lecture, the teacher takes the preventive approach by giving emphasis on veterinary medical school. In lecture, the teacher covers the importance of genetics to the existence of human life. This course is provided to enhance understanding of animals for pre-vet students by the education of animal breeding, animal education, obedience training, animal grooming, selection of diet and food additives. Also, students can learn about various animal behaviors according to characteristic of animals such as iguana, turtles, rabbits, birds, fishes and horses as well as companion animals.

552P.002* 
Self-Improvement for Pre-Vet Students

This course is designed for students who major in veterinary science or similar fields including biomedical science and bio engineering, and teaches basic knowledge in genetics from a classical and modern view. In addition to establishing basic knowledge in genetics, applications such as genetic engineering and biotechnology are studied so as to understand the importance of genetics to the existence of human life. Therefore, this course helps students to become familiar with the terms related with anatomy, physiology, microbiology, and clinical practice, etc. and the veterinary field more before entering the veterinary medical school. In lecture, the teacher explains the terms with practical application.

552P.003* 
Introduction to Medicine

This course is designed for students who major in veterinary science or similar fields including biomedical science and bio engineering, and teaches basic knowledge in genetics from a classical and modern view. In addition to establishing basic knowledge in genetics, applications such as genetic engineering and biotechnology are studied so as to understand the importance of genetics to the existence of human life.
수의과학(College of Veterinary Medicine) ∴ 수의예과(Preliminary Veterinary Medicine Courses)

M1744.000500 수의생물학 3-3-0

Veterinary Biology

일반 생물학의 전반적인 개요를 한 학기동안 다루는 과목으로 써. DNA, RNA, protein에서부터 시작하여 세포의 분열 및 대사, 세포의 기능 및 생존에 관여하는 프로세스를 이해한다. 기본 개념을 중심으로 심화된 수준에서의 이해를 도출해 볼 수 있는 능력을 기른다.

Students will be able to understand basic biological concepts including DNA, RNA, protein, cellular proliferation, metabolism, chemotaxis, and survival mechanisms in one semester. They will be able to derive in-depth understanding from the basic concepts taught from this course.

M2606.000100 의생명연구방법의 이해 1-0-2

Understanding of Biomedical Research Methods

‘의생명연구방법의 이해’ 과목은 의생명분야에서 실시하고 있는 연구방법을 이해하고, 더 나아가 연구 채택 및 결과 분석을 통해 의학개념 학생들의 전공에 대한 이해를 돕고자 한다. 이를 위해 기본적인 의생명연구방법을 이해하고 실험실에서 진행되고 있는 연구 방법들을 체험해 볼 수 있어, 의생명 관련 연구노문이 만들어지고, 생물체에 대한 이론과 실습을 이해할 수 있도록 한다.

The “Understanding Biomedical Research Methods” subject aims to understand the research methods conducted in the field of biomedical life and further to help biomedical students understand their majors through research experiences and analysis of results. To this end, by understanding basic biomedical research methods and experiencing practical research methods in the laboratory, undergraduate students get practical information how research papers related to biomedical life are created and theories on life phenomena are established.

M2606.000200 수의생명의학실습 2-0-4

Veterinary Biomedical Lab

본 과목에는 예후를 대상으로 업데이트된 생물학 지식을 바탕으로 수의생명의학에서 사용되는 기본적인 실험 기법과 그 원리에 대해 소개한다. 또한 수의의학에서 다루지 않는 기본 생물학 기법, 실험실 안전 및 실험방법, 그리고 동물특성의 구조적 차이를 이해할 수 있도록 하여, 학생들은 실험실 전반에 걸친 기본적인 실험기기 사용법, 세포구성, DNA 기법, 생물정보처리 등을 배우고, 실험방법과 주요 실험에 관한 다양한 실험을 수행하며 실험실 안전에 대한 이해를 높이기 위한 실험분석 방법을 이해하고 실습해 볼 것이다.

This course is designed to introduce basic laboratory techniques employed in modern veterinary biology to pre-vet students. In the first part of the course, students will be expected to learn basic techniques dealing with basic instrument in biology lab. In addition, students will have an experience on a series of experiments including DNA handling, lab safety, and bioinformation. In the middle of section, students will be expected to examine animal bone. In the last section, students will learn how to isolate and handle the mouse tissues. Through hands-on training over the course, students are expected to acquire practical understanding of how to deal with biological macromolecules, and tissues.

M2606.000300 수의통계학 3-3-0

Veterinary Biostatistics

방대한 생물학적 및 의료 데이터의 축적으로 인하여 데이터 분석을 통한 생물학적 현상 이해와 질병치료제 개발의 새로운 패러다임이 시작되었다. 이에 따라 수의학 전공자로서 데이터 분석의 필요성을 인식하고 기초적인 통계기법의 지식을 습득 요구된다. R-package로 hands-on activity를 수행하며 생물학적 데이터와 의료데이터를 통계적으로 분석하는 기법을 이해하고 기술을 습득 한다. 본 수업은 생명과학을 포함한 수의학 전공자를 위한 기초 통계 수업으로서, introduction to probability and statistics, descriptive statistics, linear regression, PCA, enrichment test, categorical test, 조건부 확률 (bayes’law), 가설검증 등과 같이 생명정보와 임상데이터 분석에 널리 사용되고 있는 통계분석 방법을 포함한다.

The technical advance has accumulated huge amount biological and clinical data and it led to open a new era of big data science. This course offers an introduction to an array of methods for biomedical data analysis with emphasis on a practical application of statistics to the biological and medical data. Student will utilize R-package to learn how to deal with a data including introduction to probability and statistics, descriptive statistics, linear regression, PCA, enrichment test, categorical test, bayes’law, hypothesis test that are popular statistical methods used for biological and clinical data.
552.114* 수의해부학 및 실습 1 6-90-72
Veterinary Anatomy & Lab. 1

본 과목에서는 개를 기본 동물로 하여 그 구조와 기능에 대하여 강의하고, 소, 말, 돼지, 등 주요 가축과 가금의 해부학적 구조를 비교하여, 질병심층을 배경한다.

This course will introduce the nomenclature and principles of mammalian gross anatomy. In addition, this course will provide lectures and laboratory presentations on the gross anatomic structure and functions of dogs and domestic animals including domestic ruminants, horses, pigs, and domestic fowls.

552.115A* 수의해부학 및 실습 2 2-30-24
Veterinary Anatomy & Lab. 2

본 과목에서는 개를 기본 동물로 하여 그 구조와 기능에 대하여 강의하고, 소, 말, 돼지, 등 주요 가축과 가금의 해부학적 구조를 비교하여, 질병심층을 배경한다.

This course will introduce the nomenclature and principles of mammalian gross anatomy. In addition, this course will provide lectures and laboratory presentations on the gross anatomic structure and functions of dogs and domestic animals including domestic ruminants, horses, pigs, and domestic fowls.

552.116* 수의조직학 및 실습 1 3-36-72
Veterinary Histology & Lab. 1

동물체의 성기, 조직을 구성하는 세포의 미세구조와 기능에 대하여 공부하고, 기본적인 생과학적, 생화학적, 근육조직 및 신경 조직 그리고 혈관계통을 이루는 각종세포의 형태와 구조의 특성 그리고 이들 세포의 위치와 위치에 대하여 공부하며 세포사이의 환경의 구성과 특성에 대해서도 공부하고 익힌다.

The aim of this course is to study the microstructure and functions of cells, which are the smallest structural units of animal organs and tissues. Also, the shape, structures, and characteristics of various cells as well as cell arrangements in epithelial, connective, muscular, nervous tissues and the vascular system will be covered for new veterinary medical students. The composition and properties of intercellular substances will also be examined.

552.117* 수의조직학 및 실습 2 2-18-24
Veterinary Histology & Lab. 2

동물계의 여러 가지 장기와 구성하는 각종 조직의 배양, 분포, 기능 그리고 이들의 상관관계에 대하여 체계적으로 공부하며 조직을 이루는 세포의 형태, 크기 및 세포구조를 현미경으로 면밀히 관찰하여 이들 세포의 특성을 이해하고 통합된 기능에 대하여 공부하며 익힌다.

In this course, students will systematically study the arrangement of various tissues as well as their distribution, functions, and interrelation in animal organs. Also, they will examine the shapes, sizes, and microstructure of cells in tissues with microscopes and study the characteristics and integral functions of cells.

552.120* 수의생리학 및 실습 1 5-72-72
Veterinary Physiology & Lab. 1

수의생리학은 수의학 전공에 필요한 기본적인 생화학적 원리에 대한 이해와, 특히 동물 및 수의학과 관련된 생화학적 측면을 강조한다. 학생들은 수의생리학을 이수함으로 동물생명체에 존재하는 화학물질의 구조와 기능을 배우고, 세포가 어떻게 화학반응을 거쳐 생명에 필요한 에너지를 얻으며 사용하여, 어떻게 유전정보를 저장하고 다음 세대에 전달하고 표현한다는에 대한 이해를 얻을 것이다. 그리고 이러한 생화학에 대한 이해가 왜 수의학에 필요하며 어떻게 수의학에 응용되는지가 강조될 것이다.

Veterinary biochemistry emphasizes the understanding of basic biochemical principles and aspects related to animals and veterinary medicine. This course is essential for veterinary students who plan to take advanced courses on veterinary physiology, pharmacology, toxicology, microbiology, and clinical science.

552.121* 수의생리학 및 실습 2 2-21-24
Veterinary Physiology & Lab. 2

수의생리학은 수의학 전공에 필요한 기본적인 생화학적 원리에 대한 이해와, 특히 동물 및 수의학과 관련된 생화학적 측면을 강조한다. 학생들은 수의생리학을 이수함으로 동물생명체에 존재하는 화학물질의 구조와 기능을 배우고, 세포가 어떻게 화학반응을 거쳐 생명에 필요한 에너지를 얻으며 사용하여, 어떻게 유전정보를 저장하고 다음 세대에 전달하고 표현한다는에 대한 이해를 얻을 것이다. 그리고 이러한 생화학에 대한 이해가 왜 수의학에 필요하며 어떻게 수의학에 응용되는지가 강조될 것이다.

Veterinary physiology emphasizes the understanding of basic biochemical principles and aspects related to animals and veterinary medicine. This course is essential for veterinary students who plan to take advanced courses on veterinary physiology, pharmacology, toxicology, microbiology, and clinical science.

552.122* 수의생화학 및 실습 1 4-72-72
Veterinary Physiological Biochemistry & Lab. 1

본 강좌는 신체를 구성하는 기관과 기관계의 생리학적 기능에 대한 이해와, 특히 동물 및 수의학과 관련된 생화학적 측면을 강조한다. 예를 들어 동물의 생학적 기능 및 조절 기전에 대해 강의하며, 세포수준뿐만 아니라 세포들의 유기적인 집합체인 각종 기관 및 그들이 구성하는 호흡기계, 순환기계 및 소화기계의 기능을 강화외 심층을 통해 상호작용한다.

This course will provide the basic information on the normal functions of the body including its various molecules, cells, and organ systems as well as the interrelation among them. It will focus on respiratory and cardiovascular systems.

552.123* 수의생화학 및 실습 2 3-36-24
Veterinary Physiological Biochemistry & Lab. 2

본 강좌는 세포내의 분자수준에서부터 기관에 이르는 생체현상에 대한 실험적 접근을 통해 개체의 생명현상을 이해하는 것을 목적으로 한다. 이를 위해 동물의 정상적인 기능 및 조절 기전에 대해 강의하며, 세포수준뿐만 아니라 세포들의 유기적인 집합체인 각종 기관 및 그들이 구성하는 호흡기계, 순환기계 및 소화기계의 기능을 강화외 심층을 통해 상호작용한다.

This course will focus on the basic functions and mechan-
soms of the all major body organs and organ systems. This lecture will provide the basic knowledge for energy metabolism, body temperature control, balance of body fluids, renal physiology, and the muscular, endocrine, and reproductive systems.

552.126* 수의약리학 및 실습 1 2-22-28
Veterinary Pharmacology and Practice 1

수의약리학 및 실습 과목에서는 생체에 투여된 약물의 작용 원리를 배운다. 약물과 수용체간의 상호작용(약리학), 약물의 체내동역학을 비롯하여 자유선형계 작용 약물의 약리작용, 동물 종간의 약물작용의 차이점에 대하여 강의와 심층을 통하여 학습한다. 교과서: Veterinary Pharmacology and Therapeutics (Riviere, Papich, 10th ed., 2001).

This course will provide the principles of drug actions such as drug-receptor interaction (pharmacodynamics) and drug disposition (pharmacokinetics) in the living body. In addition, the pharmacology of drugs acting on the autonomic nervous system, will be studied. Textbook: Veterinary Pharmacology and Therapeutics (R. Adams, 8th ed., 2018).

552.127* 수의미생물학 및 실습 1 2-27-32
Veterinary Microbiology & Practice 1

제공된 과목은 동물의 세균성, 바이러스성 및 진균 등을 포함한 미생물에 의한 식품동물, 애완동물 등의 질병발생 기전을 이해하고 이에 대한 진단, 예방, 치료 및 방역 등을 분자생물학적, 면역학적 기반 등으로 원인체 확인에 관한 전문적인 지식을 획득할 수 있는 내용이다.

This course provides an understanding of bacterial, viral and fungal diseases of meat-producing animals, companion animals by the analysis of mechanism of diseases, diagnosis, prevention, treatment and control using molecular biological, immunological techniques etc.

552.128* 수의기생충학 및 실습 1 2-21-36
Veterinary Parasitology & Practice 1

수의 기생충학은 동물을 기생하여 숙주동물에 증체율과 사료효율을 저하시키는 기생충에 의한 질병에 대하여 연구하는 학문이다. 기생충은 그들의 감염에 의하여 숙주동물이 폐사되거나, 축적성 더미와 같은 병원성을 잃어가며 경제적 손해를 초래한다. 이러한 기생충성 질병들은 씨앗과 동물의 진단, 치료 및 방역을 위해 중요하다.

Veterinary Parasitology is the study of the diseases caused by animal parasites, which are the causes for body weight reduction and lowering of feed conversion rates in domesticated animals. Because animals infected with parasites may not die immediately nor exhibit severe clinical symptoms, the farmers may not recognize the parasitic diseases for a long period of time. The result is that the animals will have lowered body weight gain and feed conversion rates, leading to an economic loss to the farms. These parasitic diseases must be diagnosed and treated early to prevent such losses. Zoonotic parasites are very important because many of the animal parasites are zoonoses, and affect not only animals but can give pain and death to humans. Parasites are divided into Protozoa, Helminthes and Arthropods. Malaria, caused by the protozoa Plasmodium spp. is the cause of death for between 1 and 2 million humans. There are many different types of protozoa, about 65,000 spp. Arthropods including viruses, bacteria, protozoa and nematodes, are vectors for other diseases. This semester, students will study the following: Trypanosoma, Leishmania, Amoeba, Coccidia, Malaria, Toxoplasma, Piroplasma, Lice, Flea, Mosquito, Fly, Tick, Mite and so on. The target of Veterinary Parasitology is to recognize the characteristics of these parasites, and diagnose, treat and control them.

552.130* 수의발생학 3-45-0
Veterinary Embryology

고등동물의 생식세포 발생, 배란, 수정, 포식형성, 원장형성, 배아발생 등 고등동물의 초기 발생 과정 중에 형성되는 구조체들의 형태와 구조에 대하여 이해하여 가족과 동품을 중합적 각 배엽에서의 세포분열과 증식, 세포의 분화, 세포의 이동 그리고 이들의 구조적 배열과 동함으로 이해하고 조직학적 발달과정의 조직세포의 형태학적 구조를 단계적으로 단단히 관찰하고 심화함을 된다.

This course provide new students with an understanding of the shapes, structures, gametogenesis, ovulation, fertilization,
This course will provide advanced knowledge of microorganisms including bacteria, viruses, and fungi through an understanding of the characteristics of each microorganism. Focus will be on the analysis of virulence factors of pathogens important to meat-producing animals and companion animals.

552.218*  
**Veterinary Immunology & Laboratory work**

This course will provide a general understanding of ever-changing modern immunology through the experimental results of major papers. Fundamental approaches will be studied in the application of immunological components to clinical study.

552.219*  
**Veterinary Pathology & Practice 1**

This course will provide an understanding of general pathology including circulatory disturbance, cellular degeneration, inflammation, and growth disturbance including neoplasia.

552.220*  
**Veterinary Pathology & Practice 2**

This course will provide an understanding of diseases related to major parenchymal organs of companion animals (dogs and cats) and industrial animals (cattle, swine, and sheep).

552.221*  
**Veterinary Parasitology & Practice 2**

This course will provide a general understanding of diseases connected with animal parasites, which cause the reduction of body weight and feed conversion rates in domesticated animals. Because animals infected with these parasites may not die immediately or exhibit severe clinical symptoms, farmers may not recognize the parasitic diseases for a long period. During that time, the body weight gains and feed conversion rates in domesticated animals.
rates of the animals will drop, causing economic loss to farmers. Therefore, these parasitic diseases must be diagnosed and treated early. Zoonotic parasites are very important because many animal parasites are zoonoses and in addition to affecting animals, can give pain and death to human beings. Parasites are divided into protozoa, helminthes, and arthropods. Malaria, which is caused by the protozoa plasmodium sp, is responsible for 1.2 million human deaths. There are about 65,000 spp protozoa. Arthropods such as viruses, bacteria, protozoa, and nematodes are the vectors of other diseases. Helminthes are composed of trematoda, cestoda, nematoda, and acanthocephala. The aim of veterinary parasitology is to recognize the characteristics of these parasites and to diagnose, treat, and control them.

552.224* 수의독성학 및 실습 1 2-22-28
Veterinary Toxicology & Practice 1

Toxicology is the study of the effects of toxicants on living organisms. This course deals with the effects of toxicants on animals and the ecosystem. To elucidate the precise effects, the students will focus on understanding the relationship between exposure to toxicants and toxic effects. Based upon the concerted knowledge of the above, students will be able to predict the toxicity and extend their understanding of the toxic mechanism.

552.223* 수의독성학 및 실습 2 2-18-30
Veterinary Toxicology & Practice 2

This course will cover a general introduction to veterinary infectious diseases and their etiology, epidemiology, diagnosis, treatment, and prevention. It will also cover the etiology, epidemiology, clinical signs, pathological findings, diagnosis, and treatment of the bovine, swine and equine diseases. Also, this course will provide the information on veterinary infectious diseases and their etiology, epidemiology, diagnosis, treatment, and prevention of important infectious diseases in dogs, and cats.

552.227* 실험동물의학 및 실습 4-54-48
Laboratory Animal Medicine & Practice

Environmental health refers to the theory and practice of assessing, controlling, and preventing factors in the environment that may adversely affect the health of present and future generations. This course will provide basic information and current research trends on the field of science.
erved. To archive ethical animal experiments, anesthesia and euthanasia concepts shall be lectured with the management of laboratory animal facilities. IACUC management shall be also lectured.

552.228* 동물-수의사-사회 1-18-0

Animals, Veterinarians, and Society

수의사로서의 기본 소양을 갖추기 위하여 신체적 검사, 생명의 학적 품질 그리고 입상적 체검, 의사소통방법, 정보수용, 사람-동물 관계, 동물 개체의 건강 유지, 수의성공건건, 수의사의 사회적 반응, 그리고 동물과 임상 경영 등에 대하여 교육함.

To become well educated veterinarians, its will be educated the physical examination, biomedical ethics and clinical genetics, communication skills, information management, human-animal bond, health maintenance in individual animals and populations, veterinary public health, professional development, societal responsibilities of veterinarians, and hospital and practice management.

552.302A* 수의공중보건학 및 실습 2-27-32

Veterinary Public Health & Practice 2

수의공중보건학 즉 식육위생, 계육 및 계란위생, 인간위생, 우유생산에 관련된 전반적인 내용을 다루며, 이를 토대로 안전한 축산물생산 및 관리에 대한 이해를 제공한다.

This course will provide an understanding of how we can deal with meat, egg, fish, and milk sanitation for the production and management of these animal products.

552.308A* 수의방사선과학 및 실습 1-27-24

Veterinary Radiology & Practice 2

이 과목에서는 방사선학의 역사, 발전원리, 기초방사선물리학 및 기초 수의방사선학 기술, 활영방법, 양상의 확득 및 평가를 비롯하여 최근 방사선 및 영상진단 장비의 소개 및 기초 방사선 생물학을 다루며 기초적인 실습을 병행한다.

This course will provide the knowledge on the history of radiology and X-ray projection as well as related physics, veterinary radiographic techniques, image acquisition and quality evaluation, and introduction to advanced image tools and basic radiation biology. It will also provide practice in radiography.

552.321* 가금질병학 및 실습 4-54-48

Poultry Disease & Lab.

1. 가금질병에 대한 이해 및 대응능력 교육

- 가금의 바이러스성 질병 원인체 및 역학, 암상증상과 범형, 예방대책 이해.
- 가금의 세균성 질병
- 기타 가금의 진균, 기생충, 원충, 양상성 질병에 대한 이해
- 감염내용에 대한 실습 및 관련 전문가 초청 이해현장학문과 향후 전망 특강
- 야외농장에서의 실질적인 예방법과 백신접종프로그램의 면역학적 원리

2. 조류질병에 대한 이해 및 대응능력 교육

- 야생조류 중 문서류의 전염병 이해와 감염 예방대책 등
- Understanding poultry diseases and intervention strategies.
- Etiology, epidemiology, pathological findings and prevention of viral diseases.
- Clinical Animal Behavior

552.324* 동물행동치료학 1-27-0

Clinical Animal Behavior

이 과목에서는 반려동물(개, 고양이)의 신체발달과 정서적인 행동 및 의사소통 방법, 활동행동, 행동의 불안 행동, 강박행동, 배설 관련 문제행동, 노동동물의 문제, 이상행동의 원인 분석, 효과적인 치료약물과 교정방법 등을 다룬다.

This course covers behavioral biology, behavioral development, social behavior, normal behavior, aggressive behaviors, fears and phobias, anxieties and stereotypes, elimination disorders, geriatric behavioral issues, treatment of behavioral problems, behavioral pharmacology and prevention of behavioral problems in small animals.

552.325* 수의임상병리학 및 실습 4-54-72

Veterinary Clinical Pathology & Practice

이 과목에서는 동물의 재생설, 혈액학학문과, 골수검사, 혈액기능 검사, 혈액분석, 적혈구용적, 각종 혈액학적 소견, 혈액단백질, 섬유소원, 적혈구 절반, 백혈구 절반, 혈소판 절반, 신기능검사, 요실증 검사, 체액 내 교감신경, 간기능검사, 신기능검사, 갑상선기능검사, 부신기능검사, 신경기능검사, 유산소검사, 세포학적 검사 등에 대해 다룬다.

This course will cover the collection of animal blood, blood smear, bone marrow examination, blood cell counts, hemoglobin, packed cell volume, plasma proteins, fibrinogen, and diseases of different blood cells, renal function test, urinalysis, clinical enzymology, liver function test, pancreas function test, thyroid function test, adrenocortex function test, cardiovascular examination, differential diagnosis of effusion, and cytologic examination.
수의외과학 및 실습 1 2-45-36
Veterinary Surgery & Practice 1
외과적 질환의 진단 및 치료에 기초가 되는 내용을 강의한다. 강의내용은 마취학, 외과조직학, 염증, 손상, 창상저치, 외과적 미생물학 감염, 속, 체액, 전해질 및 산업기 폐혈로 이루어져 있다. 실습에서는 강의를 통해 습득한 지식을 바탕으로 학생들이 직접 소동물, 동물원의 외과질환에 대한 수술을 하여서 각 질환을 완전히 이해하고 더불어 실제수술의 진행과정을 알 수 있게 한다.

이 과목에서는 동물의 부속기에서 발생할 수 있는 각종 질환에 대해 원인, 병인, 전단 및 치료방법을 강의 및 실습을 통해 습득한다.

수의외과학 및 실습 2 4-60-60
Veterinary Surgery & Practice 2
대동물 및 소동물에서의 외과적 질환을 각 기관별로 구분하여 강의한다. 강의내용은 대동물의 소화기계, 비뇨기계, 생식기계 및 운동기계 외과질환, 소화기의 의상, 외상부의 의상, 혈관관련, 비뇨기계, 생식기계, 신경외과적질환, 정형외과적질환, 방광외과 및 치과로 구성되어 있다. 실습에서는 강의를 통해 습득한 지식을 바탕으로 학생들이 직접 소동물, 동물원의 외과질환에 대하여 수술을 실시하여 각 질환을 완전히 이해하고 더불어 실제수술의 진행과정을 알 수 있게 한다.

이 과목에서는 동물의 정식, 분류와 영양, 생리학, 특이한 생리 해부, 사료관리 방법, 사료와 영양, 보조성 곰, 진단방법, 주요질병의 예방 및 치료, 변성, 동물원관리의 관리, 병종위기야생동물의 보건, 야생동물의 인수대응방법 등을 다룬다. 실습은 서울시 야생동물센터, 동물원 등을 방문하여 견학 및 치료실습을 한다.

수의산과학 및 실습 2 3-60-60
Veterinary Obstetrics & Practice 2
동물의 산과학적 질환을 진단, 치료 및 예방을 할 수 있는 지식을 배우고 실습을 통해 익힌다. 주요 질병으로 유산, 번식장애, 분만전후 질병, 경상분만 및 난산치료, 수리산이식 및 보조산이식에 관해서도 강의와 실습을 한다. 특히, 산업동물과 반려동물을 대상으로 한 질병의 진단 및 치료에 관한 강의와 실습을 실시한다.

This course provides the basic concepts and practical experience in abortion, reproductive disorders, normal parturition, disorders associated with parturition, infertility, and male reproductive disorders. Also, this course covers assisted reproductive technique include embryo transfer.

수의산과학 1 1-27-0
Veterinary Ophthalmology
동물의 눈과 그 부속기에서 발생할 수 있는 각종 질환에 대하여 원인, 병인, 전단 및 치료방법을 강의 및 실습을 통해 습득한다.

야생동물질병학 및 실습 2-27-24
Wildlife Animal Diseases & Practice
이 과목에서는 야생동물의 정의, 분류와 생물학, 특이한 생리 해부, 사료관리 방법, 사료와 영양, 보조성 곰, 진단방법, 주요질병의 예방 및 치료, 변성, 동물원관리의 관리, 병종위기야생동물의 보건, 야생동물의 인수대응방법 등을 다룬다. 실습은 서울시 야생동물센터, 동물원 등을 방문하여 견학 및 치료실습을 한다.

This course covers taxonomy and biology, unique anatomy and physiology, special housing requirements, feeding, restraint and handling, chemical restraint, anesthesia and sur-
gery, diagnostics, prevention and treatment, reproduction, management for zoo animals, conservation for endangered wild animals and zoonosis in zoo and wild animals.

552.337* 수의사법규 1-18-0
Veterinary Jurisprudence

이 과목에서는 수의사법을 기본으로 동물보호법, 가축진염병예방, 축산물상관관리법 및 동물용약품등 취급규제 등 수의사로서의 역할을 담당하기 위해 숙지하여야 할 법령에 대해 다룬다.

On the basis of VETERINARIANS ACT, this course provides ACT ON THE PREVENTION OF CONTAGIOUS ANIMAL DISEASES, ANIMAL PROTECTION ACT, LIVESTOCK PRODUCTS SANITARY CONTROL ACT and so on, which veterinarians should know well for performing their roles.

552.348* 소동물내과학 및 실습 1 2-45-36
Small Animal Internal Medicine and Practice 1

이 과목에서는 <소동물내과학 및 실습 1>에서 요구하는 다양한 질병에 대한 진단과 치료에 필요한 지식을 습득할 수 있도록 구성되어 있다. 즉 체세척, 방역접종, 식이요법, 치료에 있어 주의해야 할 사항, 전염성질환, 중장, 순환기질환, 신경계질환, 신장질환, 소화기질환, 내분비 및 대사질환, 요로계질환, 혈액 및 면역계질환 그리고 관절 및 골격계 질환 등을 강의한다. 소동물내과학 실습 1에서 요구하는 진단과 치료에 필요한 기법을 습득할 수 있도록 구성되어 있다. 즉 환자의 평가, 보정, 심전도, 체형, 정맥내 카테터삽입, 주사기술, 경구약물투여, 식이요법, 귀의 관리 등과 각종 검사기법 그리고 각종 치료 기구 설치법을 실습한다.

This course will cover clinical information needed for the diagnosis and therapy of many small animal diseases. General physical examination, history taking, dietary considerations of systemic problems, therapeutic considerations in medicine, and many small animal diseases will be studied. Patient evaluation, restraint and handling, blood sampling, intravenous catheterization, injection techniques, oral medication, skin, urine catheterization and other clinical techniques in small animals will be practiced.

3학년 1학기 <전공선택과목>
552.341* 수의임상약리학 1-15-0
Veterinary Clinical Pharmacology

수의임상약리학은 특정 개체나 집단의 동물에 대하여 최적화된 약물치료법에 대하여 연구하는 의학적 한 분야이다. 본 과목에서는 약물의 상호작용, 약물투여법, therapeuetic drug monitoring, 항생제 및 스테로이드제제의 합리적인 사용, 약물조직내 관류 등에 대하여 강의하고, 그 과정에서 토론을 통하여 공부하게 한다.

Veterinary clinical pharmacology is a field of pharmacology focused on the optimization of drug therapy. In this course, students will study the rational optimization of drug therapy through lectures and discussion on the following topics: drug-drug interaction, pharmacogenomics, therapeutic drug monitoring, rational use of anti-microbial drugs and corticosteroids, tissue residues of veterinary drugs, case study of major veterinary drugs.

552.349* 소동물내과학 및 실습 2 2-30-30
Small Animal Internal Medicine and Practice 2

이 과목에서는 <소동물내과학 및 실습 1>에서 요구하는 다양한 질병에 대한 진단과 치료에 필요한 지식을 습득할 수 있도록 구성되어 있다. 즉 신체검사, 방역접종, 식이요법, 치료에 있어 주의해야 할 사항, 전염성질환, 중장, 순환기질환, 신경계질환, 신장질환, 소화기질환, 내분비 및 대사질환, 요로계질환, 혈액 및 면역계질환 그리고 관절 및 골격계 질환 등을 강의한다. 소동물내과학 실습 1에서 요구하는 진단과 치료에 필요한 기법을 습득할 수 있도록 구성되어 있다. 즉 환자의 평가, 보정, 심전도, 체형, 정맥내 카테터삽입, 주사기술, 경구약물투여, 식이요법, 귀의 관리 등과 각종 검사기법 그리고 각종 치료 기구 설치법을 실습한다.

This course will cover clinical information needed for the diagnosis and therapy of many small animal diseases. Small animal practice 2 will cover clinical techniques needed for diagnosis and therapy in veterinary internal medicine. Urine catheter and other veterinary techniques will also be practiced.

M1744.000200 동물복지론 1-15-0
Introduction to Animal Welfare

동물보호 또는 권리에 대하여 실험동물, 반려동물, 축산용동물 그리고 야생동물로 구분하여 그 근본적인 개념에 대하여 설명한다. 제외국의 동물보호에 관한 제도와 사회적 요구에 대하여 검토하고 국내의 동물보호관련 실험 동물도토 지원, 실험동물의 복지에 대하여는 최근 동물실험관리 화학의 기준과 운영에 대하여 그리고 축산동물에 대하여는 생물학적, 기법적, 도구적 측면에 대해서는 보고한다. 각각의 동물에 대한 복지 기준이 어떻게 설정되어야 하는지 동물의 생리학적 및
About animal rights or protection, laboratory animals, companion animals, and livestock animals and wild animals will be separately described for the fundamental concepts. The regulations and social need regarding the protection of animals of foreign countries will be discussed and the realities of Korean animal protection law and the activity of animal protection organizations will be discussed. The function and operation of Institutional Animal Care and Use Committee to the welfare of the laboratory animals, the standards of maintaining system and transportation and euthanasia to the livestock animal and the prevention of abandon and treatment of diseases to pet animals, and behaviors of wild animals will be respectively discussed. Animal behavioral and physiological and pathological criteria will be lectured for the correct animal welfare standards in our country. Thus, animal rights or animal welfare will be discussed scientifically and the impact of the conclusion on our society will be discussed. Finally, we will find the ways to co-exist in harmony between animals and human beings.

### 552.346 전통수의학 1-15-0

**Traditional Veterinary Medicine**

The synthesis of traditional and/or alternative veterinary medicine with the complementary techniques and knowledge of western medicine is to be attempted for the diagnosis and treatment of animal diseases. Traditional or oriental veterinary medicine can be effective in cases that western medicine alone may fail to treat. Contents of this course include principles and theories of oriental medicine, herbal medicine, and acupuncture.

### 552.347A 수의세포조직공학개론 1-15-0

**Veterinary Cell & Tissue Engineering**

본 과목에서는 학생들이 동물로부터 줄기세포(stem cell)를 이용한 정비치료, 대체장기의 개발에 필요한 기초지식과 기술을 강의한다. 즉, 동물체를 구성하고, 생체 내에서 각종 장기조직의 재생 및 세포공장으로서의 역할을 하는 stem cell의 분리기법과 세포배양방법에 대한 지식을 습득하고, 이를 이용한 세포치료술의 원리와 인공장기의 난치성 질환치료에의 이용 가능성을 대하여도 강의한다.

This course will cover the basic concepts and techniques related to stem cell biotechnologies. Animal and human bodies contain stem cells for the re-establishment of damaged cells and tissues. Therefore, students can learn the isolation of stem cells from the animal and human body, how to culture them, and how to apply them to cell therapy and the xenotransplantation of animal cells and tissues to human body.

### M1744.00100 말의학 1-15-0

**Equine Medicine**

이 과목에서는 말에 대한 이해를 위해, 말에 대한 역사와 말에 대한 관리를 가르치며, 말의 질병에 대한 진단과 치료에 필요한 임상지식을 교육한다. 수의학을 전공한 자로서 말에 대한 영역에서 적절하게 생각하고, 정확하게 작동하고, 정책 환경의 방향에 따른 정확하고 적절한 의료 서비스를 제공하게 한다.

This course will cover horse knowledge about the history and management, and clinical information needed for the diagnosis and therapy of horse diseases. In this course, students gain experience in clinical practice and research techniques of the horse.

### 552.352 동물병원 경영학 1-30-0

**Business for Veterinary Hospital**

본 강좌에서는 동물병원을 경영하는데 있어서 필요한 직원관리, 밴프수리분석, 품목관리, 각종 진료 기록 관리, 보호자의 의사소통 기술, 영업 장단기계획 수립, 법적 서류 작성, 밴프 환영 방 법 등 기초적인 경영학적 마인드를 학생들이 가질 수 있도록 한다.

This course aims to introduce basic business management for veterinary hospital, including human resources, accounting, property management, medical records, professional communication skills, establishment of hospital development plans, preparing legal documents, advertising tools.

### 552.353 수의영양학 1-30-0

**Veterinary Nutrition**

본 강좌에서는 동물의 영양소의 역할과 건강에 대한 효과 및 다양한 질병의 이슈적 조절에 관한 기본적인 개념을 제공한다. 질병의 인지 및 이상 영양학적 정보를 이용하여 학생들은 가장 적합한 식품과 급여 방법을 배우게 된다.

This course aims to introduce basic nutritional concept regarding the role of nutrition and its effects upon health and wellness and the dietary management of various disorders of animals. By using the cutting-edge research and clinical nutrition information, student will learn appropriate pet food and proper feeding guidelines.

### M2180.00120 수의 응급의학 1-15-0

**Veterinary Emergency Medicine**

수의 응급수의학은 수의학의 전문분야로 급성질환이나 순상으로 인해 발생하는 이상에 대해 즉각적인 진단과 빠른 처치를 실시하여 환자의 생명을 구하고 환자상태를 최단시간내 정상으로 회복시키는 치료의 효과를 높이고 결과적으로 환자를 건강하게 회복시키기를 목표로 하는 과목이 된다. 이 과목의 목표는 응급의학과 의학의 기본적 사항을 이해하고, 급상황에서 적절한 치료 및 진단 방법들을 익히고 공통화하는 것으로 구성된다.

Veterinary Emergency Medicine is a specialized veterinary field in veterinary medicine. It provides immediate diagnosis and prompt treatments for problems caused by acute diseases or damage, then the patient can be restored the life with condition of normal or nearest state in the shortest time. The goal of this course is to learn and study appropriate treatment and diagnostic
Methods in animal patients with emergency and trauma. This class consists of lectures, interactive lectures, group discussions, individual presentations and joining ER clinic.

**552.434** 大동물병원실습 1-0-47

**Large Animal Hospital Practices**

본 과목은 대동물병원실습으로 본 대학의 대동물병원 또는 외부 대동물병원에서 한정실습을 통하여 기본적인 임상기술을 습득한다. 특히, 양과 소를 대상으로 임상실습을 실시하며 질병의 사례와 협동토의연구 그리고 병원의 경영관리 등을 포함한다.

In this course, students will learn the basic and practical knowledge and techniques on large animal clinics at the Veterinary Medical Teaching Hospital or private Large Animal Clinics and through field practice. This course provides rotations of bovine and equine fields in large animal practice. In the rotations, students will learn how to treat and care for large animals through case studies and group discussion, as well as learn how to manage the Large Animal Clinics.

**552.435** 수의피부과학병원실습 1-0-47

**Clinical Practice of Veterinary Dermatology**

본 과목은 학생들의 임상기술 습득 및 향상을 위해 서울대학교 동물병원 피부과의 진료에 참여하여 실제 환자(환축)를 대상으로 피부과 질환의 진단법 및 치료법을 습득하고 환자관리 및 보호자 용에 관한 경험 훈육을 통해 임상능력을 배양하는 것을 목표로 한다. 학생들은 병원에서 교수를 포함한 진료진들의 감독 하에 실제 환자(환축) 진료에 참여하여 기존 피부검사법 및 기본 환자(환축) 처치법에 대해 훈련받게 된다.

This course is for enhancing the students to have basic practical ability through participating in the real practice of Dermatology part in Seoul National University Hospital for Animals and having a personal experience of caring patient animals. The students will be trained especially for basic diagnostic evaluation skills and basic patient care skills through practice procedures for real patients under the supervision of the professors and staff veterinarians.

**552.436** 수의안과학병원실습 1-0-47

**Clinical Practice of Veterinary Ophthalmology**

이 과목은 4학년을 위한 과목으로 동물병원 로테이션 실습의 일환으로 병원 영상의학과에서 직접 마무리한 실습을 통해 일반 방사선 촬영, 라운드 참석, 영상판독 및 특정 조영법 그리고 초음파 및 전산화단층촬영, 자기공명영상 등의 진단기법에 대해서도 실제 경험할 기회를 갖는다. 학생들은 이 과목을 통해 수의안과학의학에 있어 실제 업무에서 활용할 수 있는 필수적인 정도의 지식과 기술력을 습득하게 될 것이다.

This course provides 4th year students practical experience on the radiographic procedure, attending the rounds, image interpretation, and special constraint studies, ultrasonography, computed tomography, and magnetic resonance imaging as a part of clinical rotation at SNU VMTH. The students will have essential competencies on knowledge and techniques required for general veterinary practice with this course.

**552.437** 수의임상병리학병원실습 1-0-47

**Clinical Practice of Veterinary Pathobiology**

이 과정에서는 반려동물 수의 산과학에 대한 병원 실습을 제공한다. 해부학, 생리학의 이해를 바탕으로 실제 임상이 되는 과정, 임신 중 문제점, 분만, 신생아 관리 및 병역 등에 대한 종합적인 지식을 습득한다. 이 과정에서는 임상수의사가 되기 위한 임상학적 지식을 습득한다.

This class will provide the general clinical practice of Theriogenology in veterinary teaching hospital to Based on the knowledges of anatomy and physiology, students will learn about pregnancy, problems related to pregnancy, parturition, neonatal care and infertility. Furthermore, this class will provide knowledge about evaluation of male infertility, sperm cryopreservation and assisted reproductive technologies to become a veterinarian.

**552.438** 수의산과학병원실습 1-0-47

**Clinical Practice of Veterinary Ophthalmomology**

이 과정에서는 안과검사 실시요령, 동물의 정상 눈과 비정상 눈을 비교할 줄 아는 능력, 안과 검사를 통해 정확한 질병을 알아낼 수 있는 능력, 안과에서 주로 사용하는 용어 숙지, 전반적인 안과 질환의 진단 방법과 치료 방법을 숙지하게 하며, 이를 환자의 실제 진단에 적용할 수 있도록 한다. 또한 교육 기간 동안의 환자 처치 및 처치에 실제적으로 참여한다.

Objectives for students in ophthalmology are to become adept in performing an ophthalmic examination, to learn to recognize normal and abnormal eyes and accurately describe the findings from an ophthalmic examination, to learn and apply the terminology commonly used in veterinary ophthalmology, to learn to interpret the significance of signs and symptoms of ophthalmic abnormalities including ophthalmic signs of systemic diseases and to learn appropriate management of common ophthalmic diseases. Also, students attend practice, surgeries, rounds and care worksups.

**552.439** 수의산과학병원실습 1-0-47

**Clinical Practice of Theriogenology**

이 과정에서는 반려동물 수의 산과학에 대한 병원 실습을 제공한다. 해부학, 생리학의 이해를 바탕으로 실제 임상이 되는 과정, 임신 중 문제점, 분만, 신생아 관리 및 병역 등에 대한 종합적인 지식을 습득한다. 이 과정에서는 임상수의사가 되기 위한 임상학적 지식을 습득한다.

This class will provide the general clinical practice of Theriogenology in veterinary teaching hospital to Based on the knowledges of anatomy and physiology, students will learn about pregnancy, problems related to pregnancy, parturition, neonatal care and infertility. Furthermore, this class will provide knowledge about evaluation of male infertility, sperm cryopreservation and assisted reproductive technologies to become a veterinarian.

**552.440** 수의산과학병원실습 1-0-47

**Clinical Practice in the Veterinary Clinical Laboratory**

In this lesson, students practice the application of laboratory tests to the diagnosis of different diseases in food producing animals and companion animals as well as exotic animals. Disciplines include collection, handling and shipping of different specimens, quality control in laboratory tests, hematology, bone marrow examination, clinical chemistry, urinalysis, endocrinology, diagnostic cytology, coagulation, exudates and transudates. Students will also practice the metabolic profile test in dairy herds.

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Clinical Practice of Zoo and Wild Animal Medicine
본 야생동물의학 입상수업에서 배우게 될 내용은 실제로 병원에 내원하는 야생동물, exogenic animal과 동물원 동물(zoof animal)의 의료적인 문제와 생태계에서 발생하는 수학적적인 문제를 연구하게 될 것이다. 그러한 입상수업의 내용으로Wild animal의 보장법과 체험법, 치료법과 관리 등 실제 야생에서 활용할 수 있는 기술을 개발하며, 이를 환자와 환경에 실제 활용할 수 있는 기초적인 능력을 습득하게 된다. 다른이 실제 동물원의 치료를 전략해 통해 직접 참가할 기회를 갖게 될 것이다.

The clinical curriculum of Zoo and wildlife medicine consists of clinical study about exotic animal and zoo animal referred from local animal clinic and veterinary research about problems occurring from environment. The contents including practical methods useful for veterinary clinic such as restraints, blood collection, prevention and management of diseases and basic skill for application for the exotic, zoo animal and wildlife. Also, all participants will have chances to inspect veterinary hospital in the zoo in semester.

Hospital Practices of Veterinary Anesthesiology
본 수의미취약성병실습에서는 수의과학대학 동물병원에서 실시하고 있는 진료에 필요한 소동물(개, 고양이), 대동물(돼지, 말, 소), 야생동물(석리류, 파충류), 조류 등의 마취의 임상경험을 통하여 본과 학생은 수의외과의 임상적 적용과 인과, 일반외과, 경의학과, 내과 및 방사선에서 필요한 마취를 제공하기 위한 실질적인 문제해결능력을 배양하는 것을 목적으로 한다.

In this course, students will practice to manage patients of small animals (dogs and cats), large animals (pigs, horses and cattle), exotic animals (rodents and amphibians) and avian that are needed to be anesthetized at the Veterinary Medical Teaching Hospital. This course provides clinical chances to improve own ability through the clinical anesthesia of patients from ophthalmology, general surgery, orthopedic surgery, internal medicine and radiology section. In the rotations, students will also learn how to treat and care for animals through anesthesia case studies and group discussion.

Advanced Practice for Veterinary Medicine
수의학과 분야 현장에서 요구되는 지식과 기술을 습득할 수 있도록 구성된다. 즉, 수의해부학, 수의생리학, 수의산과학, 수의병리학, 수의공중보건학, 수의과학, 수의외과학, 수의신경과학 등의 영역에 관한 각자의 심화학습에 참여하게 함으로써 수의학을 전공한 자로서 각자의 영역에서 적극수행에 요구되는 지식과 기법을 습득하게 된다.

This course will cover advanced practice required for each of the veterinary medical fields. Advanced practice for veterinary anatomy, physiology, microbiology, pathology, public health, internal medicine, surgery and obstetrics will be provided. In this course, students participate in research works and special clinics, and gain experience in advanced clinical practice and research techniques.
목적이다. 학생은 교육과정에서 이루어지고 있는 연구계획, 연구수행, 연구결과관점 등의 실습을 통해 수의사로서 지나야 할 기본 저식, 기술 및 태도를 습득한다.

(Veterinary biomedical science externship)

이 과목은 학생들의 임상기술 습득 및 항상의 향상을 위해 서울대학교 동물보건과의 실습을 통해 실기능 (환자)을 대상으로 내과 질환의 진단 및 치료방법을 습득하고 환자관리 및 보호자 관리에 관한 경험을 통해 임상능력을 배양하는 것을 목표로 한다. 학생들은 병원의 실습과정은 강의와 실험동물실습 중에서 익힌 내용들을 더욱 보강하고 실제 진료 환자 경험을 통해 실제 환자 관리 및 치료에 직접 참가하게 된다. 이 과목은 수의외과증례에 대한 경험의 기회를 갖게 될 것이며 수주 전, 중, 후 환자의 관리 및 치료에 직접 참가한다. 이 과목을 수강하는 학생은 매주 증례 리뷰에 반드시 참가하고 학생의 평가는 과제물 제출, 진료참여도, 전문인으로서의 소양, 출석 등을 종합하여 식별한다.

Clinical practice of veterinary surgery consists of soft tissue surgery part and orthopedic/ neurosurgery part. In this practice, students could get surgical principles (suture, sterilization, instruments, perioperative patient management etc.), diagnostic procedures and surgical techniques. Especially, in orthopedic/ neurosurgery service, orthopedic examination and neurologic examinations could be performed by students themselves under the control of the professors and staff veterinarians to have ability of Clinical Veterinarian.
general surgery service, various surgical procedures could be performed by students themselves under the control. Some advanced surgical procedures would be served according to the case chances. Every student should take part in case reviews weekly, and discuss about cases.

Clinical Practice of Veterinary Emergency Medicine

The clinical practice of veterinary emergency medicine is to be trained on initial response, client conversation, or patient diagnosis to students under the guidance of emergency veterinarians of professor at veterinary emergency medical center, Seoul National University.

Through the practice, students will be able to learn the initial approach and treatment for veterinary emergency patients.

Advanced Farm Animal Clinical Practice

As this course includes practice of cattle, pigs horses and poultry, students take part in advanced practice after basic course to act as a veterinarian for production medicine.

Students study about management of farm animals including herd health, physical examination, blood sampling, diagnosis and surgery of farm animals. Also, students perform necropsy and sampling of fluid, blood and each tissues for diagnosis of pigs and poultry. Additionally, students master management of horses including analysis of behavior, blood sampling, diagnosis, vaccination and reproduction management through rectal palpation with ultrasound machine.

Through the real practice with detail information, students realize sense of farm after judgement of treatment plan for many clinical cases. In advanced course, detail procedures of endoscopy, ultrasounds, laparoscopy and embryotransfer are included.

Veterinary Clinical Oncology

The course aims to provide students with an understanding of basic cancer biology, treatment options, and prognosis for various tumors in veterinary medicine. Students will learn in depth the existing treatment methods, such as surgery, anti-cancer treatment and radiation treatment, and explore ways to treat tumors by converging the various treatment methods. It is the study of dealing with various cases to educate them on how to present treatments that extend the animal’s life span by lowering side effects while increasing the effectiveness and accuracy of treatment.
The aim of this course is to study the microstructure and functions of cells, which are the smallest structural units of animal organs and tissues. Also, the shape, structures, and characteristics of various cells as well as cell arrangements in epithelial, connective, muscular, nervous tissues and the vascular system will be covered for new veterinary medical students. The composition and properties of intercellular substances will also be examined.

This course will provide the basic information on the normal functions of the body including its various molecules, cells, and organ systems as well as the interrelation among them. It will focus on respiratory, cardiovascular and digestive systems.

M1744.003700 수의생리학 1 3-3-0

Veterinary Physiology 1

This course provides new students with an understanding of the shapes, structures, gametogenesis, ovulation, fertilization, blastocyst formation, gastrulation, and embryonic disc formation in the early developmental stage of higher animals. Also, students will study organogenesis including the division, proliferation, differentiation, and migration of cells in each germ layer and the regular arrangement and integration of cells. Topics will include embryological development.

M1744.003800 수의화학 1 3-3-0

Veterinary Biochemistry 1

Veterinary biochemistry emphasizes the understanding of basic biochemical principles and aspects related to animals and veterinary medicine. This course is essential for veterinary students who plan to take advanced courses on veterinary physiology, pharmacology, toxicology, microbiology, and clinical sciences.

M1744.003900 수의약리학 1 1-1-0

Veterinary Pharmacology 1

Veterinary Pharmacology will cover the major aspects of the pharmacology of the drugs acting on the endocrine, renal, cardiovascular and central nervous systems. In addition, anti-microbial drugs, antifungal drugs, anticancer drugs, and anti-parasitic agents will be introduced through lectures. Topics in veterinary pharmacology such as withdrawal time, extra-label use, and species differences in drug action will be presented.

M1744.004000 수의발생학 2-2-0

Veterinary Embryology

This course provides a basic understanding of the development of higher animals. Students will study the morphological properties of body structure in various animals, including dogs and goats, from the perspective of anatomy, histology, and embryology.

M1744.004100* 기초수의학통합실습 1 2-0-4

Integrated Practice for Basic Veterinary Science 1

This course provides new students with an understanding of the shapes, structures, gametogenesis, ovulation, fertilization, blastocyst formation, gastrulation, and embryonic disc formation in the early developmental stage of higher animals. Also, students will study organogenesis including the division, proliferation, differentiation, and migration of cells in each germ layer and the regular arrangement and integration of cells. Topics will include embryological development.

M1744.004200* 기초수의학통합실습 2 2-0-4

Integrated Practice for Basic Veterinary Science 2

This course is a laboratory course linked to Veterinary Biochemistry, Veterinary Physiology, and Veterinary Pharmacology. The primary objective of this course is for students to explore experimental methods applied in biological sciences and to understand molecular biological, biochemical and physiological principles of diverse life phenomena at molecular, cellular, tissue, organ, systems, and organism levels. This course also covers the basic concepts of
Veterinary Pharmacology and mechanisms of drug actions.

M1744.004300* 수의해부학 2 3-3-0

Veterinary Anatomy 2

This course will provide lectures on the comparative anatomy of domestic animals in systemic descriptions. Species covered will include domestic ruminants, horses, pigs, and domestic fowls. Students will learn and discuss differences and resemblances in digestive, respiratory, musculoskeletal, and endocrine systems among animals.

M1744.004400* 수의조직학 2 2-2-0

Veterinary Histology 2

This integrated practice gives participants hands-on practice on the dissection and microscopic findings of various organs, blood vessels, and nerves. After active participation in this practice, students will be able to understand the normal structure of body in various animals, including dogs and goats, from the perspective of anatomy and histology.

M1744.004500* 수의생화학 2 2-2-0

Veterinary Biochemistry 2

This course focuses on the basic functions and mechanisms of all the major body organs and organ systems. This lecture will provide the basic knowledge for energy metabolism, body temperature control, balance of body fluids, renal physiology, and the muscular, endocrine, and reproductive systems and differences among animals.

M1744.004600* 수의생리학 2 2-2-0

Veterinary Physiology 2

This course will provide the principles of drug actions such as drug-receptor interaction (pharmacodynamics) and drug disposition (pharmacokinetics) in the living body. In addition, the pharmacology of drugs acting on the autonomic nervous system will be studied.
This course is a laboratory course linked to Veterinary Physiology, Veterinary Biochemistry, Veterinary Pharmacology, and Veterinary Neuroscience. The primary objective of this course is for students to explore experimental methods applied in biological sciences and understand molecular biological, biochemical and physiological principles of diverse life phenomena at molecular, cellular, tissue, organ, systems, and organism levels. Based on the integrated knowledge, this course will help students develop general basic competencies which are prerequisite to clinical studies and which can be applied to diagnose and treat animal diseases.

**M1744.005000** Integrated Practice for Basic Veterinary Science 4

This course will provide an understanding of general pathology including circulatory disturbance, cellular degeneration, inflammation, and growth disturbance including neoplasia. Students study common clinical signs among animals through general pathology and different clinical signs among animals through special pathology.

**M1744.005100** Veterinary Public Health 1

This course will provide an understanding of general pathology including circulatory disturbance, cellular degeneration, inflammation, and growth disturbance including neoplasia. Students study common clinical signs among animals through general pathology and different clinical signs among animals through special pathology.

**M1744.005200** Veterinary Public Health 1

Environmental Health

Environmental Health refers to the theory and practice of assessing, controlling, and preventing factors in the environment that may adversely affect the health of present and future generations. This course will provide basic information and current research trend on the field of science.

**M1744.005300** Veterinary Immunology

This course will provide general understanding of ever-changing modern immunology through the experimental results of major papers. Fundamental approaches will be studied in the application of immunological components to clinical study.

**M1744.005400** Veterinary Parasitology 1

This course will provide basic understanding of major bacterial, viral and fungal pathogens causing infectious diseases in animal including isolation, identification, and culture of the major pathogens.
pathogenic bacteria and viruses, which are the main causes of zoonotic infectious diseases, and to learn common techniques for isolation, identification, and diagnosis of these bacterial and viral pathogens. In addition, this course will provide basic knowledge of various techniques for analyzing in vivo kinetics/modeling of environmental pollutants.

Through the integrated experimental course in the field of preventive veterinary medicine, students will be able to apply appropriate knowledge and techniques involved in the characterization, diagnosis, and clinical management of major infectious pathogens & pollutants that can cause significant problems in human and animal health.

**M1744.005800**  
**Integrated Practice for Preventive Veterinary Science 2**

In this integrated practice, students will learn practical methods associated with diagnosis of animal diseases in an animal clinic. Diagnosis of animal diseases requires comprehensive knowledge from various fields of medicine such as pathology, microbiology, parasitology, immunology, and toxicology. Through the course, students are expected to develop the ability to detect pathological changes associated with parasitic infections and diseases in animals.

**M1744.005900**  
**Veterinary Microbiology 2**

This course provides an understanding of basic and fungal diseases of meat-producing animals, companion animals by the analysis of mechanisms of diseases, diagnosis, prevention, treatment and control using molecular biological, immunological techniques etc.

**M1744.006000**  
**Veterinary Public Health 2**

This course will provide an understanding of how we can deal with meat, egg, fish, and milk sanitation for the production and management of these animal products. Students study food safety and prevention of disease from food during production, storage and transportation.

**M1744.006100**  
**Veterinary Infectious Disease**

This course will cover a general introduction to veterinary infectious diseases and their etiology, epidemiology, diagnosis, treatment, and prevention. It will also cover the etiology, epidemiology, clinical signs, pathological findings, diagnosis, and treatment of the bovine, swine and equine diseases. This course will also provide the information on zoonotic infectious diseases, and to learn experimental pathology, diagnosis, treatment, and prevention of important infectious diseases in dogs and cats.

**M1744.006200**  
**Veterinary Pathology 2**

This course will provide an understanding of diseases related to major parenchymal organs of companion animals (dogs and cats) and industrial animals (cattle, swine, and sheep).

**M1744.006300**  
**Veterinary Parasitology 2**

This course will provide an understanding of diseases connected with animal parasites, which are the causes for body weight reduction and lowering of feed conversion rates in domesticated animals. This semester, students will study the following: Trypanosoma, Leishmania, Amoeba, Coccidia, Malaria, Toxoplasma, Piroplasma, Lice, Flea, Mosquito, Fly, Tick, Mite and so on. The target of Veterinary Parasitology is to recognize the characteristics of these parasites, and diagnose, treat and control them.

**M1744.006400**  
**Laboratory Animal Medicine**

This course will cover a general introduction to laboratory animal medicine, anatomy, physiology, nutrition, behavior, and disease. Students will also learn how to handle and care for different laboratory animal species.
This lecture will give the information about the biology and models for the human diseases and diseases of various laboratory animals such as rodents, rabbits, companion birds, fish, beagles, and primates. To prevent and treat the diseases, microbiological and environmental monitoring methods will be served. To archive ethical animal experiments, anesthesia and euthanasia concepts shall be lectured with the management of laboratory animal facilities. IACUC management shall be also lectured.

M1744.006500* 예방수의학통합실습 3 2-0-4
Integrated Practice for Preventive Veterinary Science 3
본 실습에 참여한 수강생은 수의사로서 수의학과 사회의 접점에서 인류의 생명 및 건강을 위협하는 요인을 제거하여 인류의 생명을 연장하게 하고 건강을 증진시키기 위한 관련 지식과 기술을 습득한다. 이를 위해 동물의 전염병 및 식품위생관련 주요 병원균에 대한 기분 지식, 분리·독성 및 진단에 대한 실험법과 더불어 환경호르몬 등 내분비계 교란물질을 검색할 수 있는 실험법을 이해하고, 이에 대한 예방대책을 수립하기 위한 자료분석에 적절 참여할 수 있다. 본 통합실습교과목은 동물의 전염병, 식품위생 및 환경위험물질의 인식을 이해하고, 학생들의 통합적인 학습능력을 향상하는 것을 목적으로 한다.

In this laboratory class students are expected to acquire knowledge and practical methods to extend human life and improve human health by preventing various hazards, which exist at the interface between veterinary science and human community. Students will be able to develop counter measures by analyzing and understanding basic knowledge on infectious diseases in animals, major food-borne pathogens, isolation and identification of pathogens for diagnosis, and endocrine-disrupting chemicals. This combined course was designed to improve students' integrated learning ability by understanding the connection between the infectious diseases in animals, food hygiene, and environmental hazards.

M1744.006600* 예방수의학통합실습 4 2-0-4
Integrated Practice for Preventive Veterinary Science 4
본 통합실습은 수강생이 적절한 절차를 통하여 폐사된 동물을 위한 부검을 실시하여 동물의 질병을 진단하거나 감별진단 할 수 있는 능력을 갖추는 것을 목적으로 한다. 본 실습에 참여한 학생은 동물 주요 질병의 원인, 영양, 진단 기법을 이해하고 진단할 수 있다. 또한, 본 실습을 통해 수강생은 동물진료에 대한 개념 및 기본, 병변을 포함한 안전적 실험에 대해 이해하고 반복할 수 있다. 이를 통해, 동물실험계획과 사례분석에 대한 이해와, 실험 동물 대하여, 임상 증상, 진단, 병원체 및 치료를 포함하는 동물실험을 수행할 수 있다.

After active participating the practice students will develop ability to perform autopsy on diseased animals which provides valuable information for a diagnosis of animal diseases. Through this course students will be able to understand and make diagnostic decision associated with animal experiments and in vivo safety tests. In addition, students will be able to understand guidelines and practical methods involved in drug administration, observation of clinical symptoms and animal behavior.

M1744.006700* 소동물의과학 1 2-2-0
Small Animal Surgery 1
소동물 의과학에 기초가 되는 총론과 일반외과 질환의 진단 및 치료에 대한 내용을 습득한다. 본 과목은 동물의 웰빙, 수술 부위 및 팀의 준비, 외과 기술, 통합으로 구성된다. 일반외과 부분에는 허두, 위, 소화기계, 간, 간바위, 신장, 내분비계, 혈액순환, 뇌, 뇌혈관, 종격동, 심장질환 등에 대한 내용이 포함된다. 본 통합적 이론과 수술에 대해 학습한다.

This course covers the basics of small animal surgery with the diagnosis and treatment of general surgical diseases. The general section consists of the principles of aseptic surgery, preparation of the surgical site and team, surgical instruments, and sutures. The general surgery section deals with the diagnosis and surgery of diseases of the skin, ear, digestive system, abdominal cavity, liver, extrahepatic gall bladder, endocrine system, blood lymph system, urinary system, reproductive system, and cardiovascular system.

M1744.006800* 소동물내과학 1 2-2-0
Small Animal Internal Medicine 1
이 과목에서는 다양한 질병에 대한 진단과 처치에 필요한 지식을 습득할 수 있도록 구성되어 있다. 즉 신경계, 벌크혈관, 심장, 호흡기, 조기출산, 후기출산, 호르몬 불균형, 간, 간바위, 신장, 신관, 신장관계 질환 등이 강의된다. 또한, 진단과 치료에 필요한 기법을 습득할 수 있도록 구성되어 있다. 즉 환자의 평가, 보정, 심전도, 폐조영, 간조영, 간바위, 신장혈관, 심장검사 및 치료 기술학습 및 학습한다.

In this course, it is designed to acquire the knowledge necessary for diagnosis and treatment of many small animal diseases. This lecture will cover the matters to be cautious during physical examinations, history taking, diet and treatment, circulatory diseases, respiratory diseases, digestive diseases, and liver and pancreatic diseases. In addition, it is consists to acquire techniques necessary for diagnosis and treatment. Also, the patient's evaluation, restraint and handling, electrocardiography, blood sampling, intravenous catheter placement, injection technique, administration of oral drug, various diagnostic tests, and other veterinary techniques will be taught.

M1744.006900* 수의산과학 1 2-2-0
Veterinary Obstetrics 1
본 과목에서는 동물의 번식과정에 관한 학회적 사항을 학습한다. 동물의 생식기 구조 및 생식, 생식호르몬, 정자 및 난자가, 임신 및 임신중기, 정로 미래 및 임신사의 문제를 관리한다. 수용동물과 반려동물을 대상으로 한다.

This course covers normal reproduction, reproductive disorders/disease and overall reproductive circumstance of economic animals and companion animals. Lecture includes anatomy/physiology of reproductive organ, semen evaluation and pregnancy diagnosis.

M1744.007000* 수의임상병리학 2 2-2-0
Veterinary Clinical Pathology
본 과목은 동물 병리에 대한 도달표본검사, 전형병리학, 곽수검사, 간기능요인, 심장기능요인, 신장기능요인, 포장기능요인, 뇌기능요인 등에 대한 검사법을 학습한다.
Section 1: Veterinary Imaging 1

This course aims to cover the diagnostic criteria of hematologic diseases based on the findings from blood smear, complete blood cell count, and bone marrow examination. It also introduces basic principles and interpretation of laboratory tests for animal diseases, including clinical enzymology, function tests for kidney, liver, pancreas, endocrine organs, muscle and cardiovascular system, as well as analysis of electrolytes, body fluid and cytology.

Section 2: Veterinary Emergency and Intensive Care

The goal of this course is to deliver a 100% diagnostic imaging knowledge and for further rotation. By the end of this course, students will learn how to safely take radiographs, and master interpreting common diagnostic imaging cases. What the students learn: Diagnose common small animal diseases from radiographs, and master interpreting common diagnostic imaging knowledge and for further rotation. By the end of this course, students will learn how to safely take radiographs, and master interpreting common diagnostic imaging cases.

Section 3: Veterinary Anesthesiology and Pain Medicine

Veterinary Anesthesiology and Pain Medicine

Section 4: Poultry Disease 1

Poultry Disease 1

본 과목에서는 가금질병에 대한 이해 및 대응능력을 학습한다. 가금질병은 1) 가금의 바이러스성 질병, 원인체 및 역학, 임상증상 및 방범, 예방대책 이해, 2) 가금의 세균성 질병, 3) 기타 가금의 질병, 기약성, 참금, 양성질병에 대한 이해를 포함한다. 가금질병에 대한 심층 및 관련 전문가들 초청하여 아외환상경험과 향후 전망에 대한 특강과 야외환경에서의 실천적인 예방법과 백신접종 프로그램의 연계학적 원리에 대하여 학습한다.

This subject includes understanding poultry diseases and intervention strategies: 1) Etiology, epidemiology, pathological findings and prevention of viral diseases, 2) Etiology, epidemiology, pathological findings and prevention of bacterial diseases, 3) Understanding other diseases, fungal diseases, protozoan diseases, parasitic diseases and nutritional diseases. Also there will be special lectures by practitioners or specialists associating with the field condition.
수의과학(Dept. of Veterinary Medicine)

skills as clinical veterinarians and do their best to diagnose, treat, and manage patients by learning basic history taking, physical examinations, various diagnostic tests and surgical methods of animal patients.

This course will cover the matters to be cautious during diagnosis and treatment of various diseases.

This course includes practical contents of veterinary clinical pathology, veterinary dermatology, veterinary ophthalmology, veterinary anesthesia and pain medicine, veterinary emergency and critical care management, and poultry disease. Through this course, students who want to become clinical veterinarians will learn basic skills as clinical veterinarians and do their best to diagnose, treat, and manage patients by learning basic history taking, physical examinations, various diagnostic tests and anesthesia methods of animal patients, and clinical and laboratory diagnostic methods for poultry animals.

In this course, it is designed to acquire the knowledge necessary for diagnosis and treatment of various diseases. This lecture will cover the matters to be cautious during physical examinations, history taking, diet and treatment, urinary tract diseases, blood-borne infectious diseases, neoplasia, neurological diseases, endocrine and metabolic diseases, immune system diseases, and orthopedic and skeletal diseases. It also consists of lectures to acquire techniques necessary for diagnosis and treatment. You will be taught how to perform neurological exam, urethral catheter placement, hemo-dialysis, tissue biopsy, endocrine testing, and other veterinary techniques.

Environmental Health

This course covers basic clinical information needed for the diagnosis and therapy of infectious, blood and heart, respiratory, neurological, digestive, and metabolic diseases in large animal diseases. General physical examination, history taking, dietary consideration of systemic problems, therapeutic considerations in medicine, and large animal diseases will be studied. Large animal practice will cover clinical techniques for diagnosis and therapy in large animal internal medicine. Patient evaluation, restraint and handling, blood sampling, intravenous catheterization, injection methods, oral medication, skin catheterization and other clinical techniques in large animals will be practiced.

Veterinary Obstetrics 2

This course provides the basic concepts in abortion, reproductive disorders, normal parturition, disorders associated with parturition, infertility, and male reproductive disorders. Also, this course covers assisted reproductive technique included embryo transfer.

Veterinary Imaging 2

This diagnostic imaging course for third year DVM...
course students, we will teach learners to integrate radiographic findings with patient signalement, history and presentation. This course is mainly case-based and uses a number of selected imaging cases to ensure learners are prepared to interpret and diagnose the most common diseases presenting to an entry-level small animal veterinarian. The important fundamentals of radiography are reviewed, including the principles behind imaging modalities, high-quality image acquisition and radiation safety. We also present the critical aspects of radiology, including image interpretation, differential list generation and diagnosis using the curated library of clinical cases. All body systems are covered in this comprehensive course, including musculoskeletal, cardiovascular, respiratory, gastrointestinal, renal, and hepatic, in addition to others. The use of radiographs are most heavily utilized in the clinical cases, however, students are exposed to other modalities including ultrasound, CT and MRI.

**Veterinary Dentistry**

본 강좌에서는 개, 고양이 및 말을 중심으로 기본 치과학을 학습한다. 그 내용으로는 구강의 해부학적 구조, 치아영양형성, 치아를 통한 나이 추정법, 예방적 치과 치료, 주요 치과 질환의 진단 및 치료, 발치, 치수 치료의 개념, 구강 중양, 치아 보존 치료법에 대한 강의가 포함된다.

This course will cover the basic veterinary dentistry focusing on dogs, cats and horses. The contents include lectures on the anatomy of the oral cavity, tooth nomenclature, age estimation by teeth, prophylactic dental treatment, diagnosis and treatment of major dental diseases, tooth extraction, the concept of endodontic, oral tumors, and dental preservation.

**Wildlife Animal Medicine**

이 과목에서는 야생동물의 정의, 분류와 생물학, 특히한 생리 해부, 사전관리 방법, 사료와 영양, 보경과 마취, 진단방법, 주요 질병의 예방과 치료, 반식, 동물원동물의 관리, 멸종위기야생동물 의 보전, 야생동물의 인수공통감염병 등을 다룬다.

This course covers taxonomy and biology, unique anatomy and physiology, special housing requirements, feeding, restraint and handling, chemical restraint, anesthesia and surgery, diagnostics, prevention and treatment, reproduction, management for zoo animals, conservation for endangered wild animals and zoonosis in zoo and wild animals.

**Veterinary Clinical Pathology**

본 과목에서는 조류질병에 대한 이해 및 대응능력을 학습한다. 특히 야생조류 중 물새류의 전염병 이해와 감염 예방대책, 이름 고려한 예방접종 방법과 범정진염병의 관리에 기반한 가금산업에 대하여 학습한다.

In this subject, students will study understanding infectious diseases in wild birds and intervention strategies. Especially, students will study poultry industry based on infectious diseases and prevention of waterfowl diseases including vaccine schedule and intervention strategies of government.

**Aquatic Biomedicine**

수생생물의학에서는 수생생물이 수생생물을 치료하는데 필요한 지식을 전달하는데 강의의 목적이 있다. 우선 수생환경 및 각종수생 생명물의 사망률을 감소하며, 수과치료에 반드시 알아야 할 각종 치료법(화학적 치료, 약물학적 치료, 백신 등)에 대한 지식도 전달한다. 또한 각종 질병 및 수생포유류, 양서류 화합물 등에 대하여 학습한다.

The veterinarian must know how to maintain aquatic animals in an aquatic environment. The aims of this course is to learn the diagnosis, treatment and prevention of aquatic animal diseases including fish, aquatic mammals, amphibia and reptiles.

**Large Animal Surgery**

대동동물외과학에서는 반추류(소, 염소, 양)와 말의 신체검사에 필요한 해부생리학적, 생리학적 변화에 대한 외과적 치료법을 학습한다. 이 교과목을 통하여 학생들은 반추류의 외과적 치료원리, 소의 신체검사와 수술적 고려사항, 마취와 수술 치료, 해부학적 부위에 따른 수술(마리와 목, 제1, 제2, 제3, 소장 및 대장, 비노기와, 유도), 과병에 대한 치료 등을 학습한다. 또한 말의 신체검사, 수술적 고려사항, 마취, 각 부위별(호흡기, 소화기, 운동기)의 수술과 함께 진단을 가지고 있는 동물의 수술적 치료방법에 대하여 학습한다.

Students will learn how to serve surgical treatment for anatomical, physiological and pathological changes of ruminants (cattle, goats and sheep) and horses in large animal surgery. This subject includes surgical principles, physical examination and surgical considerations, anesthesia and post-operative treatment, surgical techniques according to anatomical regions (head and neck, rumen, abomasum, small and large intestines, urinary system and teats), and lameness of ruminants. In addition, students learn physical examination and surgical considerations, anesthesia, and surgical techniques according to anatomical regions (respiratory, digestive and musculoskeletal systems) of horses in normal and diseased condition.

**Integrated Practice for Veterinary Clinical Science 3**

임상수의학합합실습 3  2-0-4

Integrated Practice for Veterinary Clinical Science 3

임상 수의학 강의에서 공부한 내용들을 실제로 임상에서 잘 적용하기 위해서는 반복적이고 숙련된 경험이 필요하며, 이 경험이 보다 실질적으로 활용되기 위해서는 각 임상 수의학 과목의 학습 내용이 유기적으로 구성된 통합실습이 필수적이다. 본 통합실습은 수생동물내과학 2, 수생포유류외과학 2, 수의산과학 2, 수의진단영상학 2의 지식을 활용한 진단과 치료를 주제로 한다. 본 실습에 참여한 학생은 환자의 상황을 통해 진단을 구축하는 방법 및 주요 질병에 대한 신체 및 외과 수술 방법 등을 체득함으로써 임상 수의사로서의 기술 습득을 이해하고 환자와의 전산, 치료 및 관리에 필요한 능력을 갖출 수 있다.

In order to apply the contents studied in the veterinary clinical course well in clinical practice, repeated and skilled experience is required, and in order for this experience to be used more practically, it is essential that the integrated practice of each veterinary clinical subject is organically structured. This course includes practical contents of small animal in-
ternal medicine, small animal surgery, veterinary obstetrics, and veterinary diagnostic imaging. Through this course, students who want to become clinical veterinarians learn basic skills as clinical veterinarians and nurture the ability to fully focus on diagnosis, treatment and management by learning how to build a diagnosis through high-level examinations of animal patients and surgical methods for major diseases.

M1744.008000* 임상수의학통합실습 4 2-0-4

Integrated Practice for Veterinary Clinical Science 4

In order to apply the contents studied in the veterinary clinical course well in clinical practice, repeated and skilled experience is required, and in order for this experience to be used more practically, it is essential that the integrated practice of each veterinary clinical subject is organically structured. This course includes practical training in veterinary dentistry, internal medicine, small animal surgery, veterinary obstetrics, veterinary diagnostic imaging. Through this course, students will not only learn basic techniques for screening and treatment of major dental diseases in small and large animals, but also can develop competence as a veterinarian by learning basic management, physical examination, correction, diagnostic test methods and treatment methods of wild animals, special animals, aquatic life and farm animals.

M1744.009000 수의생물공학 1-1-0

Veterinary Biotechnology

Veterinary biotechnology is an integrated science that combines modern biotechnology, veterinary medicine, and related knowledge and technologies. It directly links and applies laboratory research activity to practice and industry. Research on veterinary biotechnology includes the production of genetically modified animals for bioreactors, xenotransplantation, and cloning of specific pathogen-free (or-resistant) animals. This course will provide students with advanced and practical knowledge of molecular biology, developmental biology, and pharmacology. Also, it will present the practical procedures used in veterinary biotechnology and seek to explore original and innovative research areas that may open a new era in veterinary biotechnology.

M1744.009200 동물보호소 관리학 1-1-0

Shelter Medicine

Shelter medicine includes several different aspects of whole-pet care. Techniques blend western medicine with holistic approaches to treatment, and can include spinal manipulation, acupuncture, physical therapy and rehabilitation, and nutrition. This class will cover Acupuncture, Nutrition, Nutraceuticals and Supplements, Pain Management, Physical Rehabilitation and Sports Medicine, and Microbiota.

M1744.009200 동물보호소 관리학 1-1-0

Shelter Medicine

Shelter medicine includes several different aspects of whole-pet care. Techniques blend western medicine with holistic approaches to treatment, and can include spinal manipulation, acupuncture, physical therapy and rehabilitation, and nutrition. This class will cover Acupuncture, Nutrition, Nutraceuticals and Supplements, Pain Management, Physical Rehabilitation and Sports Medicine, and Microbiota.
바이오빅데이터 시대를 맞이하여 유전자, 단백체 등 다양한 오미크 데이터가 쏟아져 나오고 있다. 특히 최근에는 실험동물 뿐 아니라 반려동물의 데이터를 인간의 데이터와 비교 분석하여 질병을 이해하는 비교의학적 관점에서 데이터를 분석하는 시대를 맞이하고 있다. 본 강의는 특이한 생리학적 특성과 생물학적 학문에 어떤 변화들이 접어들었는지 공부할 수 있는 기회를 제공한다. 본 강의는 더 나아가 이러한 기술들을 차후 사양관리의 법에 응용할 수 있도록 기초과학과 도구 사용법에 익숙할 수 있는 기회를 제공한다.

In the era of big data, various omics data such as genomics and proteomics are pouring out. In particular, in recent years, the data of not only experimental animals but also companion animals are compared with human data to analyze data from a comparative medical point of view to understand diseases. This lecture provides an opportunity to study how bioinformatics, which is essential in recent basic science research, is being used throughout veterinary life science research, and what changes this technology has made to omics research and comparative medical science. This lecture further provides an opportunity to learn how to use bioinformatics tools such as basic coding so that these technologies can be applied to future veterinary practice.

수의과대학(College of Veterinary Medicine)

M1744.010200 수의박테리학 1 1-1-0

Veterinary Pathophysiology

이 과목에서는 아생동물의 정의, 분류와 생물학, 특이한 생리 해부, 사양관리 방법, 사양의 영향, 보경과 마취, 진단방법, 주요 질병의 예방과 치료, 비산, 흉부용동률의 관리, 면종위기아생동물의 보전, 아생동물류 인수교육과정 등을 다룬다.

This course covers taxonomy and biology, unique anatomy and physiology, special housing requirements, feeding, restraint and handling, chemical restraint, anesthesia and surgery, diagnostics, prevention and treatment, reproduction, management for zoo animals, conservation for endangered wild animals and zoos in zoo and wild animals.

M1744.010100 수의박테리학 2 1-1-0

Wildlife Animal Medicine

이 과목에서는 아생동물의 정의, 분류와 생물학, 특이한 생리 해부, 사양관리 방법, 사양의 영향, 보경과 마취, 진단방법, 주요 질병의 예방과 치료, 비산, 흉부용동률의 관리, 면종위기아생동물의 보전, 아생동물류 인수교육과정 등을 다룬다.

This course covers taxonomy and biology, unique anatomy and physiology, special housing requirements, feeding, restraint and handling, chemical restraint, anesthesia and surgery, diagnostics, prevention and treatment, reproduction, management for zoo animals, conservation for endangered wild animals and zoos in zoo and wild animals.

M1744.009400 수의생물정보학 1-1-0

Veterinary Bioinformatics

수의학은 다양한 기초기술과 응용기술을 동물 질병 진단, 예방, 치료에 적용하여 임상기술을 확립하는 종합과학이다. 수의학과 관련된 연구와 실제 수의학 전문가들의 창업과 상공시대가 증가하는 추세에 있다. 본 과목은 수의학 전공 과학에서 학습하는 지식과 기술들이 어떻게 창업에 활용될 수 있는지, 창업을 위해 준비해야 하는 것이 어떤 것인지, 창업에 가장 중요하는 이들이 무엇인지, 학생들이 이들이 이를 통해 창업을 배울 수 있는 창업 프로그램을 운영한다. 학생들이 자신의 아이디어와 기업을 매칭하여 창업 창업을 위한 프로그램을 운영함으로써 학생 창업의 기회를 제공한다.

M1744.009600 수의학과 창업 1-1-0

Veterinary Medicine Entrepreneurship

This course covers the basic clinical skills through animal simulators including intravenous (IV), intramuscular (IM), subcutaneous (SC) injection, surgical instruments, suture technique, intubation, thoracocentesis, cardiopulmonary resuscitation (CPR), auscultation, bandage techniques, endoscopy, ultrasound and aseptic surgical preparation.

M1744.010200 노벨상연구특강 1-1-0

Topics in Nobel Prize Research

인류 역사상 최고의 연구에 대해 주어지는 노벨상에 대해 강의한다. 그 중에도 누가 어떠한 연구내용으로 노벨 생명의학상과 노벨 화학상을 수상하였는지 학습하게 된다. 특히 최근에 노벨상을 수상한 연구내용 12가지 주제에 대해 강의한다. 이를 통해 학생들은 수의학과 생명과학에서 학습한 연구내용의 전반에 대한 이해를 얻을 수 있다. 이를 통해 학생들은 학문에 대한 이해를 가질 수 있는 기회를 제공한다.
**Veterinary Informatics**

Learning clinically oriented anatomy can be beneficial to the practice of clinical procedures. The knowledge obtained during the 1st year veterinary anatomy class should be effectively applied to clinical work. In this class, the structure of animal will be reviewed in consideration of clinical medical subjects like internal medicine, dermatology, orthopedics, general surgery, ophthalmology, diagnostic imaging, farm animal clinic, and wildlife medicine. This class will be conducted in collaboration with clinical professors.

**Clinical Anatomy**

Veterinary forensics is the application of veterinary medicine to answer the question of interest to a court of law, which is essential to enhance animal welfare and protection. This course offers basic principles and practical skills required to apply the knowledge of veterinary medicine for providing evidence to prove the crimes against animals. It includes, but not limited to, investigation of crime scene and collection of necessary samples, identification of animal body, forensic necropsy and special tests, preparing reports and giving evidence in courts as an expert witness. Students would enhance the competencies that are essential in the veterinary practice as well as in the research on veterinary forensics.
약학대학
College of Pharmacy
370.1107* 약화학 2 2-2-0

Pharmaceutical Chemistry 2

This course will focus on the principles of separation and identification of drug molecules. Topics will include chemical characterization of drugs, analysis of pharmaceutical preparations using various spectroscopic methods such as NMR, IR, and mass spectroscopy, principles of chromatographic separation techniques such as HPLC, GC, CE etc, and analytical methods related to quality control.

370.1108* 생명학 1 3-3-0

Biochemistry 1

생체를 구성하는 분자와 이들의 생화학에 관련된 대사와 조절 메커니즘을 이해시킨다. 약물들이 생체에서 미치는 영향을 분자 수준에서 이해시키고 생체생물의 작용기전 및 독성현상을 이해할 수 있도록 한다. 신약 개발에 필요한 생체 형상, 생화학 전반의 지식 을 확보하고, 분자 생화학적 관점에서 이해시킨다. 또한 생화학에서 강의되는 지식들이 어떻게 얻어지는지 그 연구 방법에 대해 설명한다.

In terms of biochemistry, which deals with the chemical processes that go on in living matters, this course will focus on the chemistry of biological materials and the dynamics and energetics of biological systems.
370.1109* 생화학 2 2-2-0

Biochemistry 2

생체의 물질과 생체에서 일어나는 대사와 조절 메커니즘을 이해할 수 있는 생화학적 기초를 제공한다. 또한 실험실에서 생화학적 실험을 수행하고 실험결과를 해석하는 기술을 배운다.

This course concerns the metabolism of the organic constituents of living organisms, vitamins, coenzymes, bio-oxidation, metabolism of three essential nutrients (proteins, fats, and carbohydrates), and metabolic control by hormones as well as the basic principles of blood circulation, digestion, absorption by the gastrointestinal tract, functions of the liver and kidneys, metabolism of water and salts, chemistry of respiration, immunonchemistry, and tissue chemistry.
두, 형태, 대사, 증식에 대하여 강의하고 미생물 유전, 생리학에 대하여 강의한다.

Food contained several nutrients that were essential for growth, health, and survival. This course will provide general knowledge on consuming a wide variety of balanced diet, the physiological importance of each nutrient in health and disease, and the interaction of drug-nutrient for the pharmacist in the future.

Preventive Pharmacy 1

370,2105* 약제학 1 2-3-0
Pharmaceuticals 1

약제학은 약물의 유효하고 안전하며 재현성 있게 병소에 도달시키기 위한 이론을 연구하는 과목이다. 이를 위해 약제학은 제제학, 약물제조과학, 생명체과학으로 구성되어 있다. 제제학은 약물의 제조 과정에서의 농도, 패턴, 발효, 배양, 발효, 배양, 발효, 배양과 생리학적 효과를 이용하여 제제의 합성과 약물과의 상호작용을 강화한다.

A continuation of the course Pharmacognosy 1, this course will focus on the pharmacology of cardiovascular, renal, chemotherapeutic, and endocrine systems.
The course will deal with drug disposition and drug availability to the human or animal body from a given dosage form. The time course of drugs in the body and the quantitation of drug concentration patterns will be explained through pharmacokinetics.

A fundamental consideration of disease process is done in this course. Emphasis is placed on causative mechanism, the structural and functional changes associated with pathological disturbance.

This course will cover the basic experiments on Pharmacognosy and Pharmaceutical Natural Products. 7.5 weeks will be assigned to each of the two areas.

Pharmacology for Pharmacists

Pharmacists are involved in the development, manufacturing, and quality assurance of medicinal products. Understanding the principles required for a clinical pharmacist is essential. Students will master the basic concept and knowledge of pharmaceutical care and clinical pharmacy to establish the fundamentals and skills required as a clinical pharmacist. Students will master from the basics of pharmacist profession, clinical pharmacy and pharmaceutical care to medical terminology, prescription compounding system, drug utility review, and counseling skills.

Introduction to Clinical Pharmacy

This is an essential class in which students will master the basic concept and knowledge of pharmaceutical care and clinical pharmacy to establish the fundamentals and skills required as a clinical pharmacist. Students will master from the basics of pharmacist profession, clinical pharmacy and pharmaceutical care to medical terminology, prescription compounding system, drug utility review, and counseling skills.

Pharmaceutical Care & Practice

This course will deal with the basic experiments on Pharmacognosy and Pharmaceutical Natural Products. 7.5 weeks will be assigned to each of the two areas.

Medicinal Chemistry 1

This course covers the basic principles of drug mechanism at the molecular level and overall understanding of drug discovery and development. This course lectures structure analysis of drug targets, physicochemical properties of drug, drug-receptor interaction, quantitative structure activity relationship, drug design, molecular modeling, pharmacokinetics, drug metabolism, prodrug, and new drug development process.
약학대학 (College of Pharmacy)

M2175.000600* 약학 및 의약품 제조관리 및 규제과학 2-2-0

Pharmaceutical Process Validation and Regulatory Science

본 과목은 우수 의약품 제조관리 기준에 관한 제반 법규 사항에 관한 해설 및 의약품 제조 공정별로 공정관리, 품질관리, 제조 위생관리 및 기기사항 작성 등에 대하여 강의하며 제조 효율성, 제조 공정 기준서의 작성 및 제세기준에 대하여 공정별로 이론 및 기기에 대하여 강의한다.

This course deals with the principles and practices of pharmaceutical operations and the technical implication of good manufacturing practices in Korea. These concern such things as buildings and facilities, personnel, components, production and control of records, standard operation procedures, packaging and labeling operation, laboratory control, distribution records, stability, and expiration date.

M2175.000500* 약전 및 의약품 품질과학 2-2-0

Pharmacopeia and Pharmaceutical Quality Science

약전의 통칙, 제제총칙, 일반시험법 및 의약품 각조에 대해 강의함으로써 실무적, 법적인 측면에서 의약품의 특성과 품질에 관한 이해를 돕도록 한다.

This course will cover pharmacopeia, which is a collection of formularies that each nation standardizes to maintain the strength, purity, and quality of drugs.

M2175.000400* 약물치료학 1 4-4-0

Pharmacotherapy 1

순환기, 신경계, 노인 및 영양 module 약물치료학은 순환기, 신경계, 노인 및 영양질환 환자의 질병치료에 있어서 최적의 약물요법이 이루어져 글로벌 공통의 접근법과 의학의 효율, 독성을 모니터링하고 약물질환을 발견하고 관리하는 임상약학적 지식과 기술을 습득하도록 한다. 또한 임상약학 지식의 융합점부 항혈과 학술발표 능력 연구를 위하여 단계적인 의약수술과 해당 설명서와 화상사례의 분석 및 발표시간을 병행하여 진행한다.

In this Cardiovascular, Nervous System, Nutrition Disorders, and Geriatrics Module Pharmacotherapy, students will master clinical pharmaceutical knowledge and skills of the scientific approach to monitoring drug effects/side-effects and finding and managing drug induced diseases, to assure optimal pharmacotherapy in treating the diseases covered in this module. Case analysis and presentation class will proceed concurrently with each disease state to let students develop presentation skills and application skills of clinical pharmaceutical knowledge.

M2175.000700* 약사윤리 1-2-0

Pharmacy Ethics

본 교과목은 수강생들이 약사 및 약업 관련 분야에 종사하며 마주하게 될 개인적, 사회적 상황들에 있어, 보다 윤리적인 판단을 내리도록 도와준다. 본 교과목은 보건의료 및 약사윤리와 관련한 현안들을 논의하며, 이러한 윤리적 논제를 해결하는 적정한 의사결정과정들을 다룬다.

This course aims to provide students with an awareness of current ethics issues in health care, and an appreciation of the gravity of these issues in pharmaceutical research and practice. Students will learn appropriate decision making processes for use in resolving ethical dilemmas. Ethical issues faced in the general context of health care and specifically in pharmacy will be discussed.

M2175.000100* 약학실험 5 1-0-4

Pharmaceutical Laboratory 5

본 과목은 다양한 약품 및 의약정리 이론에 기반한 간단한 실험실습을 통하여 학생들에게 하여금 약학의 제세기준 바탕을 이루는데 중요한 두 분야의 이론을 심도 있게 이해하도록 한다.

The course covers the basic experiments on Pharmacology and Pathophysiology.

M2175.000300* 약학실험 6 1-0-4

Pharmaceutical Laboratory 6

본 과목은 다양한 약학 및 약품정리 이론에 기반한 간단한 실험실습을 통하여 학생들에게 하여금 약학의 제세기준 바탕을 이루는데 중요한 두 분야의 이론을 심도 있게 이해하도록 한다.

The course covers the basic experiments on Pharmacognosy and Preventive Pharmacy.

약학과 (2+4년제) 및 제약학과 (2+4년제) 공통과목 (Extradepartmental Courses)

370.3101* 약물치료학 1 4-4-0

Pharmacotherapy 1

370.3102* 약물치료학 2 4-4-0

Pharmacotherapy 2

산소, 당뇨, 장기이식 및 종양 질환 module 약물치료학에서는 산소, 당뇨질환, 장기이식 및 종양질환 환자의 질병치료에 있어서 최적의 약물요법이 이루어져 글로벌 공통의 접근법과 의학의 효율, 독성을 모니터링하고 약물질환을 발견하고 관리하는 임상약학적 지식과 기술을 습득하도록 한다. 또한 임상약학 지식의 융합점부 항혈과 학술발표 능력 연구를 위하여 단계적인 의약수술과 해당 설명서와 화상사례의 분석 및 발표시간을 병행하여 진행한다.

In this Renal, Diabetic Disease, Organ Transplantation, and Oncologic Disorders Module Pharmacotherapy, students will master clinical pharmaceutical knowledge and skills of the scientific approach to monitoring drug effects/side-effects and finding and managing drug induced diseases, to assure optimal pharmacotherapy in treating the diseases covered in this module. Case analysis and presentation class will proceed concurrently with each disease state to let students develop presentation skills and application skills of clinical pharmaceutical knowledge.

370.3103* 약물치료학 3 4-4-0

Pharmacotherapy 3

370.3104* 약물치료학 4 4-4-0

Pharmacotherapy 4

370.3105* 약물치료학 5 4-4-0

Pharmacotherapy 5

370.3106* 약물치료학 6 4-4-0

Pharmacotherapy 6

본 과목은 다양한 약물학 및 역병학 이론에 기반한 간단한 실험실습을 통하여 학생들에게 하여금 약학의 제세기준 바탕을 이루는데 중요한 두 분야의 이론을 심도 있게 이해하도록 한다.

The course covers the basic experiments on Pharmacognosy and Preventive Pharmacy.
Pharmacotherapy 3

370.3103* 약물치료학 3 4-4-0

Pharmacotherapy 3

This course focuses on the mechanisms of drug action, drug interactions, and the assessment of drug therapy. Students will learn how to develop and present drug treatment plans and apply clinical pharmaceutical knowledges.

370.3104* 약물치료학 4 4-4-0

Pharmacotherapy 4

370.3105* 친환경의약학 2-3-0

Herbal Therapeutics

These courses provide an introduction to herbal medicine, including the history, ethical considerations, and practical aspects of herbal treatment. Students will learn to apply the scientific approach to monitoring drug effects/side-effects and the management of drug-induced conditions.

370.3106* 실무실습 1 3-0-150

Hospital Pharmacy Practice Experience

This is a 4 weeks (200 hours) community pharmacy practice experience class in which students will master pharmaceutical knowledge and effective decision making skills to resolve pharmaceutical problems. Students will develop their knowledge, skills and attitudes necessary of a post graduate community pharmacist through practicing prescription review, compounding, patient education and OTC drug information provision services to patients.

370.3108* 실무실습 3 4-4-200

Hospital Pharmacy Practice Experience

This is a 4 weeks (200 hours) hospital pharmacy practice experience class in which students will master clinical pharmaceutical knowledge and skills of the scientific approach to monitoring drug effects, finding and managing drug-induced diseases, to assure optimal pharmacotherapy in treating the diseases covered in this module. Case analysis and presentation class will proceed concurrently with each disease state to let students develop presentation skills and application skills of clinical pharmaceutical knowledges.

370.3107* 실무실습 2 4-0-200

Community Pharmacy Practice Experience

This is a 4 weeks (200 hours) hospital pharmacy practice experience class in which students will master clinical pharmaceutical knowledge and skills of the scientific approach to monitoring drug effects, finding and managing drug-induced diseases, to assure optimal pharmacotherapy in treating the diseases covered in this module. Case analysis and presentation class will proceed concurrently with each disease state to let students develop presentation skills and application skills of clinical pharmaceutical knowledges.

370.3106* 약물치료학 3 4-4-0

Pharmacotherapy 3

This course focuses on the mechanisms of drug action, drug interactions, and the assessment of drug therapy. Students will learn how to develop and present drug treatment plans and apply clinical pharmaceutical knowledges.

370.3104* 약물치료학 4 4-4-0

Pharmacotherapy 4

370.3105* 친환경의약학 2-3-0

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Pharmacotherapy 3

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370.3104* 약물치료학 4 4-4-0

Pharmacotherapy 4

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Herbal Therapeutics

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이 과목은 임상약학 및 약물치료학의 이론적인 지식을 기반으로 하여 소화기질환, 내분비질환, 신경계질환, 뇌혈관질환, 신장질환 등 환자의 치료향상에 기여하는 의약경청에 요구되는 임상적인 지식, 기술 및 태도를 적용하는 실무과정에 대하여 문제중심 학습법으로 실제 환경에서 실습한다.

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tions of planning, organizing and influencing human behavior are also explored. The health care system is introduced in the context of these organizational behavior principles, with special emphasis on pharmacy’s unique roles.

372.312  
**Stories on Pharmaceuticals**

This course involves a history of drug discovery and development from ancient Egypt to the present time and the stories of each drug developed during last almost 100 years, and introduces students to the backgrounds of drugs related to human stories of scientists who developed and discovered remarkable medicines. Especially, it will provide students with opportunities to study medicines which were influential with special emphasis on pharmacy’s unique roles. Students will learn to ensure safe and efficacious dosage regimens through the application of clinical pharmacokinetic/pharmacodynamic principles and the determination of drug serum concentrations. The basic knowledge and concepts of the distribution volume to calculate a loading dose to achieve a target concentration, the clearance to calculate the dose required to maintain a target concentration and the elimination half-life to calculate the optimal dosage interval to produce the target peak to trough difference will be applied and practiced in different clinical settings. Ultimately, students will learn to apply the knowledge of clinical pharmacokinetics for the therapeutic drug monitoring (TDM) of the drugs including aminoglycosides, warfarin, carbamazepine, phenobarbital, phenytoin (free and total), valproic acid, vancomycin and digoxin with actual patient cases utilizing problem based learning skills.

376.317  
**Biomedical and Pharmaceutical Analysis**

The objective of this course for the students is to understand the principles and applications of the various analytical methods used in the pharmaceutical research, the disease diagnosis, forensic pharmacy and the regulation of environmental contaminants. The main contents are summarized as follows. 1.The analysis used in the research and development of the pharmaceuticals 2.The analysis used in the disease diagnosis 3.The analysis used in the scientific investigation 4.The analysis of the contaminants in drug or food 5.The analysis of the environmental contaminants The types and the analytical methods of the environmental contaminants in the air, water, soil or any daily necessity will be investigated in the course.

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In this class students will learn to ensure safe and efficacious dosage regimens through the application of clinical pharmacokinetic/pharmacodynamic principles and the determination of drug serum concentrations. The basic knowledge and concepts of the distribution volume to calculate a loading dose to achieve a target concentration, the clearance to calculate the dose required to maintain a target concentration and the elimination half-life to calculate the optimal dosage interval to produce the target peak to trough difference will be applied and practiced in different clinical settings. Ultimately, students will learn to apply the knowledge of clinical pharmacokinetics for the therapeutic drug monitoring (TDM) of the drugs including aminoglycosides, warfarin, carbamazepine, phenobarbital, phenytoin (free and total), valproic acid, vancomycin and digoxin with actual patient cases utilizing problem based learning skills.
have been known to closely correlated with cellular toxicity and diseases including inflammation and cancer. This course aims at providing students with a better understanding of the fundamental physiological mechanisms by new endogenous molecules and the relevant evaluation for its biological safety.

372.414 약물송달학 3-3-0

Drug Delivery Systems

The course covers the organic chemistry of drug design and drug action. This course lectures drug discovery, design and development, receptor and ligands, enzyme mechanism, and drug action. This course aims at providing students with a better understanding of the fundamental physiological mechanisms by new endogenous molecules and the relevant evaluation for its biological safety.
enzyme inhibitors, DNA interactive agents, drug metabolism, and prodrug.

**371.421** 유무전물소재학 3-3-0

*Introduction to bioactive natural products*

 최근 전물인 유무 활성물질에 대한 관심이 높아지고 있으며 이를 통하여 의약품으로 개발이 활발히 진행되고 있다. 이 점을 고려하여 잠재력을 높은 특정 기능성 전물들의 약리활성에 대한 내용을 다루고자 한다.

Recently, attention for bioactive natural products originated from plants is gradually increasing. Approaches have been tried to develop new drugs or nutraceuticals from these bioactive compounds. This lecture will be covered on the discussion of pharmacological activities of bioactive natural products with high potentials as drug-likeness.

**376.426** 약물유전체학 3-3-0

**Pharmacogenomics**

동일한 약물에 대해서도 개인별로 약물치료반응에 현저한 차이가 나타날 수 있는데 그 주요한 원인이 유전적 요인을 할 수 있다. 유전적으로 약물반응의 개인차를 예측할 수 있는 중요한 요인들은 약물수용체, phase I 및 II 약물대사효소, 그리고 약물작용부위에서의 수용체 등의 특성 유전자변이이다. 본 과목에서는 계명 및 약물유전체학에 대한 기본 개념과 임상에서 약물의 효과나 이상반응에 영향을 미칠 수 있는 특정 유전자 변이를 이해하며, 이러한 유전자 변이에 대한 분석법, 생물정보학적 접근을 통한 신약개발 및 개인별 맞춤약물요법에의 임상적 적용 방 법을 학습한다.

Pharmacogenomics is aimed at advancing our knowledge of the genetic basis for variable drug response. One of the great challenges in drug development and therapy is maximizing therapeutic response while avoiding adverse effects. Advances in genetic knowledge gained through sequencing have been applied to both of these areas and identifying heritable genetic variants that predict response and toxicity is an area of great interest to researchers. The ultimate goal of this course is to identify clinically significant variations to discovery and develop new drugs and predict the optimal dose of medications for personalizing medicine.

**M2175.012200** 신약개발의 원리 3-3-0

*Principles of Drug Development*

본 교과목은 약학지식을 응용하여, 신약후보물질의 탐색(Discovery)과 규제기관의 기준에 부합하는 신약의 개발(Development)에 관한 원리를 포괄적으로 학습하는 과목이다. 또한 안전성 및 유효성에 극대화할 수 있는 의약품의 새로운 투여방법이나 투여형태의 개발에 관한 학습한다.

This is a didactic course to comprehensively learn about the discovery of new drug candidates and the development of new drug products that meet regulatory standards. In addition, students will learn about the development of new dosage regimens to improve the safety and effectiveness of drug products.

**376.431** 분자중양생물학 3-3-0

*Molecular Oncology*

양은 21세기 현대 인류의 건강을 위협하는 가장 큰 요인 중 하나로, 고령화 사회로 인하여 그 발생율은 더욱 증가하고 있다. 본 과목에서는 정상세포와 암세포의 차이점, 발암기전의 원인 및 생화학적 분자생물학적 특성, 종양유전자와 발암에의 유전자들의 기능, 항암치료 및 예방법, 각종 항암제 약물의 작용기전 및 임상적인 적용 등을 통해 학습하여간다.

Cancer is one of the most threatening diseases for the health of human beings in 21st century, and the incidence rate of cancer is growing more and more in this aging society. Characteristics of normal and cancer cells, causing factors of cancer, biochemical and molecular biological basis of carcinogenesis, functions of oncogenes and tumor suppressor genes, chemotherapy and prevention of cancer, mechanism of anti-cancer drug and its clinical applications will be discussed in depth in this class.

**372.420** 바이오의약품학 3-3-0

*Biological Drugs*

바이오 의약품은 살아있는 생명이나 그 생산물을 이용하여 다양한 질환의 예방, 진단 및 치료에 이용되는 의약품을 말한다. 대표적인 바이오 의약품에는 제조생합 단백질, 항체, 백신, 유전자 치료제 등이 있다. 본 과목에서는 현재 사용되고 있는 바이오 의약품의 작용기전과 임상적 적용에 대하여 강의하며, 바이오 의약품의 미래에 대하여 논의하고자 한다.

Biological drug is a substance that is made from a living organism or its products and is used in the prevention, diagnosis, or treatment of various diseases. Biological drugs include recombinant proteins, antibodies, vaccines and gene therapy. We will discuss the current understanding of biological drugs and their prospect.

**370.4104B** 심화약학실습 1 6-0-300

*Advanced Pharmaceutical Research & Practice 1*

본 과목은 기본 필수실무실습을 이수한 학생들의 전문성 강화를 위한 심화실습 과정으로, 학생들은 약과학 또는 임상약과학 트랙 중 하나의 트랙을 선택하여 보다 전문적인 실무실습을 수행한다. 약과학 트랙에서는 기초약학 분야에 대한 심도 있는 심화연 구실습을 수행하게 되고, 임상약과학 트랙에서는 약물현장에서 환자의 약물요법과 관련한 전문적인 임상지식 및 기술과 관련된 심화실습을 수행하게 된다.

The goal of this advanced practical course is to provide an opportunity for students to acquire an advanced experience in a specific track of pharmaceutical research or clinical practice. Students are allowed to pursue an area of emphasis within the track consistent with their professional interests. Students may declare a preference of a track either from the Pharmaceutical Science Track or Clinical Science Track, based on their interests in the field of pharmacy. Each track consists of a set of required learning activities and emphasizes on research foundation.

Students in the Clinical Science Track focus on patient care, with emphasis on the advanced clinical pharmacy practice skills in a variety of practice settings, including hospitals, ambulatory clinics, drug information, and community phar-
macies under the supervision of clinical pharmacy faculty advisors. Students in the Pharmaceutical Science Track focus on conducting the basic pharmaceutical research through discussions with faculty advisors from a variety of pharmaceutical disciplines such as medicinal chemistry, pharmaceutics, pharmacology, pharmacognosy, toxicology and so forth.

370.4105B 심화약학실습 1  6-0-300

Advanced Pharmaceutical Research & Practice 2

심화약학실습 1에 이어서 본 교과목에서도 학생들은 약과학 또는 입상약과학 트랙 중 하나를 선택하여 학생의 전문성 강화를 위해 진행된 심화연구실습 또는 심화실무실습을 수행하게 된다. 심화약학실습 2의 주요 목표는 약과학 교수의 지도하에 병원의 실험실, 지역약국 및 제약공장 등 다양한 사이트에서 지도교수의 지도하에 약학과 관련된 연구 주제 중 학문적 흥미가 있고 목표에 일치하는 주제를 갖고 독립적인 개인 프로젝트를 계획, 수립하고 수행함으로써 약학의 세부영역별 학문적 지식을 탐구할 수 있다.

This course is a continuation of Advanced Pharmaceutical Research & Practice I, and is divided in two tracks of Pharmaceutical Science Track or Clinical Science Track. Students in each track are provided with an advanced and innovative curriculum emphasizing the key principles of conducting research projects with a hands-on approach alongside the supervision of an assigned pharmacy faculty advisor. The key components of Advanced Pharmaceutical Research & Practice 2 in each Tracks are identifying, structuring, synthesizing, and presenting an independent research project that match the student’s research and professional interests. Research projects may take place in laboratories of basic pharmaceutical research or clinical practice sites of hospitals, retail pharmacies or industries in line with their academic and career goals.
약학계열 (6년제)
(Pharmaceutical Science Course)

M2175.003200 약대 신입생을 위한 세미나 1-1-0
Seminars for First-year Pharmacy Students
본 강좌는 약학대학 1학년 학생들이 예비약학인이 약사로서 다 양한 역량을 개발하는 것을 목적으로 한다. 본 강좌를 수강한 학 생들은 교양사소에서의 기분 역량에 대한 성찰, 나에 대한 이해, 대학생으로서의 자기계발과 진로 등을 생각할 수 있는 경험을 하 게 하고, 대학생으로서의 자기주도 생활과 학습력을 수립하여 생활과 학습에 대해 검토할 수 있게 한다. 또한, 교수와의 토론, 약학전문, 약학학문으로 진출한 선배와의 대화, 본사 등 이 다양한 활동을 통해 미래 약학전문가, 약사로서 책무성, 리더십 등을 확립할 수 있다.

이 class aims to provide first-year pharmacy students with the skills and confidence to succeed academically and plan their future as pharmacists, researchers, and experts in relevant fields. This class is designed to provide an opportunity for students to learn about and practice effective learning strategies and communication skills, personal and professional ethics, self-awareness of students’ role in learning. Students will interact with faculty and experts in various pharmacy career fields during this class and learn about professional responsibility and leadership as pharmacists and experts in the field.

M2175.003300 약학개론 1-1-0
Introduction to Pharmacy
여러 영역의 약사 전문 분야에서 요구되는 업무성과 발전가능성을 설명할 수 있다.
Students are able to explain what career opportunities pharmacy school graduates can pursue, and to explain the qualifications and prospects therein.

M2175.003400 물리약학 3-3-0
Physical Pharmacy
본 강좌에서는 신약 개발, 세포 생물학 등 약학에서 필요한 물리 화학적 핵심 개념들의 이해 및 활용 분야에 대하여 학습함.
Aims to provide the knowledge on the basic concepts of physicochemical properties for drug candidates, drug substances, and drug products.

M2175.003500 생화학 1 3-3-0
Biochemistry 1
생체를 구성하는 물질과 이들간의 생합성에 관련된 대사와 조절 과정과 이해시킨다. 학습자들이 생체에서 미치는 영향을 분자 수준에서 이해시키고 생체과정의 작용기전 및 독성 현상을 이해할 수 있게 한다. 신약 개발에 필요한 생체 현상, 생화학 전반의 지식을 화학적, 분자생물학적 관점에서 이해시킨다. 또한 생화학에서 강의되는 지식들이 어떻게 읽어지는지 그 연구 방법에 대해 설명한다.
Biochemistry deals with the chemical processes that go on in living matters. As such, this course will focus on the chemistry of biological materials, the dynamics and energetics of biological systems.

학점구조는 "학점수-주당 강의시간-주당 실습시간"을 표시함. 한 학기는 15주로 구성됨. (The first number means "credits"; the second number means "lecture hours" per week; and the final number means "laboratory hours" per week. 15 week make one semester.)

M2175.003600 약품유기화학 1 3-3-0
Pharmaceutical Organic Chemistry 1
약품유기화학은 유기화합물의 구조, 유기화합물의 물리화학적 특성, 화합물의 반응성 등을 이해시킴으로써 신약 약물개발에 필요한 화학적 기반 지식을 높이는 것을 목표로 한다.
Pharmaceutical organic chemistry aims to acquire basic chemical knowledge necessary for future drug development by understanding the structure, physicochemical properties and reactivity of organic compounds.

M2175.003700 약학윤리 1-2-0
Ethics in Pharmaceutical Affairs
약사로서의 윤리 원칙을 설명하고 직무에서 일어날 수 있는 윤리적 생활을 설명한다.
Students are able to explain the ethical principles involved in pharmaceutical affairs. Students are also able to explain the ethical judgments that can arise from various situations related to pharmacy practice.

M2175.003800 해부학 2-2-0
Human Anatomy
체를 구성하고 있는 각 부위의 조직 및 구조를 파악한다. 기관을 구성하는 조직의 기본 구조를 기능적 측면에서 이해한다. 염증을 구현하는 각 부위별 세부 구조를 파악하고 이와 관련된 기능을 소개하여 인체의 구조의 개활적 이해를 갖도록 한다. 본 과목에는 각 기관의 맨눈으로 볼 수 없는 미세구조도 소개한다. 발 생학의 기초를 소개하여 각 기관의 기능을 이해한다.
This course introduces morphology of our body parts. Thus, gross anatomy is a major course, which tells shapes, locations and functions of bones, muscles, nerves, arteries as well as internal organs. In addition, microanatomy that disc- sects out microstructures in tissues or organs will also be introduced. Introductory embryology is also introduced.

M2175.003900 명저와 약학 2-2-0
Humanity and Literature in Pharmacy
약학 교육에서 인문대생의 학습은 과학적 상상력의 원천이며 정서적, 윤리적 가치 중 중요한 역할을 하며 특히 약학자로서 과학기술 발전의 과학소셜 변화 등의 새로운 도달을 접하고, 이에 대한 깊은 사유와 고찰의 원천이 되는 관련 분야의 고전을 강독하고 심도 있는 토론을 하고자 함.
Literature in pharmacy education can be an important medium that can promote critical and creative thinking, personal and social capability, and ethical and intercultural understanding. This class will allow students to read literary masterpieces and other relevant books on scientific advances and global issues and participate in active discussions.

M2175.004000 세포와 유전 2-2-0
Cell Biology and Genetics
고등생물의 특성적 생명 현상을 담당하고 있는 세포들의 구조적 특성과 생물학적 기능, 외부 자극으로 유도된 세포 내 신호전달 경로, 유전자 발현, 세포주기와 분화의 분자생물학적 조절 기작에 대해 학습함. 특히 세포의 비정상적 조절에 의해 유발되는 인체 질환의 분자 의학적 차이 탐색과 이에 기반한 선진개발의 약물 탐색에 도움을 줄 수 있는 학습을 목표로 한다.

In this course, the structural features and physiological functions of cells that are responsible for the characteristic life phenomena of higher organisms will be lectured. Also, intracellular signaling pathways induced by external stimuli, and molecular mechanisms of cell cycle regulation and cell differentiation will be learned. In particular, the latest advances in molecular therapeutic targets for human diseases and new drug development, will be discussed.

**Medicinal Plant**

세계 각국에서 약용식물은 소재로 한 전인들로부터 신약개발 연구가 활발히 진행되고 있으며 우리나라도 약용식물을 비롯한 민간약, 생약 등 전통 생약에서의 신약개발에 관심이 집중되고 있는 실정이다. 약용식물학 강좌에서는 전통적으로 사용한 약용식물의 특성, 감별, 재배 등과 관련된 이론과 약용식물을 사용하여 개발된 제품 등을 소개하고자 한다. 또한, 우리나라 및 전 세계로부터 최근 새로운 약리활성을 보이는 약용식물의 소재를 통하여 전통약물에 대한 이해와 관심을 높이고자 한다.

This course will cover the characteristics of individual crude drugs that are or should not be used internationally, including origin, quality control marker, chemical structure, and pharmacological activities.

**Artistic Inspiration for Pharmacy**

과거와 현재의 다양한 예술작품 및 활동에 대한 실로 있는 고찰은 과학적 창의성에 기여할 수 있을 뿐만 아니라 다양성 이해, 소통 및 예술소양 함양의 바탕이 될 본 강좌를 통해 창의성과 다양성에 대한 이해를 깊이있게 함과 동시에 예술적 취향을 가지게 함과 동시에 예술적 취향을 가지게 한다.

Appreciation of the art in various forms can serve as an important foundation for creativity, understanding of diversity, and communication. Students will participate in various individual and group activities on the appreciation and creation of the art. Students will learn how to appreciate the art in life and pharmacy, creativity and diversities.

**Pharmaceutical Microbiology 1**

본 강좌에서는 미생물학의 역사, 미생물의 구조, 미생물 제어, 재배소유, 미생물 유전체 대한 지식을 학습하고, 이를 기반으로 약사 작가의 특성과 직접적으로 관련된 감염성 질환과 관련된 병원성 미생물의 분류, 형태, 대사, 증식에 대하여 이해함.

This course deals the history of microbiology, microbial cell structures, the control of microbes, phylogenetic analysis, microbial genetics. Based on the basic knowledge of microbiology, this course further delivers the knowledge about infectious diseases and related pathogens regarding classification, morphology, metabolism, and reproduction.

**Human Physiology**

인체의 생리적 기능을 생물학적, 화학적 측면에서 종합적으로 이해한다. 생리학은 자연의 성질이나 기능을 연구하는 학문으로 생체 내에서 일어나고 있는 생명현상을 세포 수준에서부터 생물주체의 기능 및 그 기전에 관하여 연구하는 학문이다. 본래 생리학은 형태와 구조들을 임기해야 하는 해부학과는 달리 기능을 이해하는데 도움을 받는다.

This lecture introduces how organs work in our body. Specifically, cardiovascular system, respiratory system, renal physiology, endocrinology, and neurophysiology will be instructed. Integrated responses to various situations among organs are instructed. In addition, membrane potentials, transport mechanism through membrane, and muscle contraction will also be instructed in this course.

**Biochemistry 2**

생물을 구성하는 물질과 이들에 의존하는 대사 조절 relevance having 에는 형태의 차이를 본 추정하고, 약물의 생체내의 작용기전 및 독성 현상을 이해할 수 있도록 학습함. 특히, 대사 및 향산 유전체 생화학에서 강의되는 지식과 그 지식들이 어떻게 만드는지 강의 방법에 따라서 설명하고, 신약개발과 과학에서의 의미를 학습함.

This course concerns the metabolism of the organic constituents of living organisms, vitamins, coenzymes, bio-oxidation, metabolism of three essential nutrients (proteins, fats, and carbohydrates), and metabolic control by hormones as well as the basic principles of blood circulation, digestion, absorption by the gastrointestinal tract, functions of the liver and kidneys, metabolism of water and salts, chemistry of respiration, immunochemistry, and tissue chemistry.

**Pharmaceutical Organic Chemistry 2**

약물유기화학은 유기화합물의 구조, 유기화합물의 물리화학적 특성, 화합물의 반응성 등을 이해시킴으로써 장기 의약품 개발에 필요한 화학적 기초 지식을 얻는 것을 목표로 한다.

Pharmaceutical organic chemistry aims to acquire basic chemical knowledge necessary for future drug development by understanding the structure, physicochemical properties and reactivity of organic compounds.

**Communication in Pharmacy Research and Practice**

본 강좌를 통해 약학을 전공하는 학생, 예비보건의료인으로서 의사소통 관련 개념을 학습하고, 다양한 환경에서의 의사소통 방법을 익힘. 약학연구자, 환자, 타보건의료인을 포함한 다양한 인간관계에서 대상을 공감하여 이해, 배려, 수용하는 테두리 지반 약학전문인의 리더십 역량을 배양함.

This class will cover essential communication skills required for successful pharmacists, researchers, health professionals in various settings. Students will learn how to communicate and interact with patients, other health professionals, and researchers with empathy, ethics, professionalism, and cultural understanding.

**Advanced Physical Pharmacy**

본 강좌에서는 물리화학적 특성이 분산 재형 설계, 약물 전달을 위한 약사와 연구를 위한 의사소통 2-1-2
시스템, 바이오 의약품의 개발 등에서 활용되는 심화 응용 분야에 대하여 학습함.

Aims to provide the knowledge on the advanced application of physicochemical properties of drug development, and delivery systems.

M2175.004900 비판적 심화탐구 2-2-0

Critical and In-depth Analysis in Pharmacy

학생들이 비판적 사고를 통해 문제해결능력과 약학자, 약사로서 추론능력을 배양을 목적으로 함. 이를 위해서 학생들은 소그룹을 구성하고 스스로 자유주제를 정하여 토론 및 활동을 하고, 결과물을 포스터 혹은 구연발표 형식으로 전달함으로써 사회생태와 약학, 시스템적 사고 능력을 배양함.

This class will promote critical thinking and problem-solving skills in pharmacy research and practice. Students will participate in small group activities that involve debates and (oral or poster) presentations on topics of their choice in pharmacy research and practice.

M2175.005000 약학리더십 2-2-0

Leadership in Pharmacy

리더와 리더십이란 무엇인가, 현재와 미래 리더에게 요청되는 리더십은 무엇인가를 고민하고, 인문사회 강연 및 약학 관련분야 리더 초청 강연을 통해 자신이 생각하는 리더십을 제시함.

This class will cover leadership in pharmacy by incorporating invited seminars of leaders in society and pharmacy-related fields. Students will participate in discussions and debates on what leadership is and the qualities required for effective leadership.

M2175.005100 의약품개발사 3-3-0

History of Drug Discovery and Development

고대부터 현재까지의 의약품의 개발사 및 최근 100여년 동안 개발되었던 의약품의 배경 (특히, 개발한 과학자들의 인간에 관한 내용을 다룬다. 특히, 사회적으로 매우 큰 영향을 끼친 주요 의약품에 관한 이야기를 학생들이 스스로 공부할 수 있는 기회를 갖고자 한다. 이러한 과정을 통하여 의약품을 개발한 사람들의 노력, 우연과 필연에 의한 의약품개발, 약의 사회에 따른 영향, 국내 및 다국적기업의 의약품개발, 천천히 보인 바이오 의약품에 대한 이해를 목표로 하고자 한다.

We are going to study the background of drugs developed from ancient times to the present over the last 100 years (especially the humanity of the scientists). In particular, we would like to have an opportunity for students to study about the major medicines that had a great impact on society. Through this course, we aim to understand the efforts of those who developed medicines, sometimes by chance, the effects of them on humans and society. We hope to make understanding how drugs including biologics and vaccines have been developed by domestic and multinational companies.

M2175.005200* 면역학 2-2-0

Immunology

면역시스템은 생명체가 유해한 외부 인자로부터 스스로를 보호하고 유지하는데 필수적인 역할을 담당하며, 선천면역 시스템과 후천면역 시스템이 유기적 관계를 가지고 작용한다. 본 면역학 강좌에서는 면역 세포가 자기와 비자기를 구분하는 원리와 선천면역 시스템에서 후천면역 시스템으로 연결되는 유기적 관계를 이해하고 이를 설명할 수 있도록 하는 목적이 있다.

The immune system plays an essential role in protecting and maintaining the living organism from harmful external factors. It is composed of the innate and adaptive immune system working in an organic relationship. The purpose of this immunology course is to understand and explain the principles by which immune cells differentiate between self and non-self antigens and the organic relationship that connects the innate and adaptive immune systems.

M2175.005300* 병리학(핵심) 3-3-0

Fundamentals of Pharmacognosy

약사법에 규정된 약사가 다루는 생약 및 생약제제를 포함한 생약의 핵심적인 특성 및 응용을 배운다. 생약의 특성을 반영한 품질관리 기술 및 의약품 개발 기술을 학습한다. 생약성분의 화학구조, 생합성 경로 및 기초 응용을 학습한다.

This course will cover the introduction of crude drug and its characteristics, quality control, chemical structure, biosynthesis and pharmacological activities.

M2175.005400* 약품분석학(핵심) 3-3-0

Pharmaceutical Analysis(Basic)

약학에서는 의약품의 순도의 검정, 의약품의 안정도 시험, 의약품의 대사 및 혈중농도의 측정 등 의약품의 제조와 투여에 있어서 분석에 관한 지식과 기술이 절대적으로 필요함. 그러므로 본 약품 분석학은 약학을 전공하는 학생을 위한 강의로 의약품의 정량 및 정성분석 기초를 다지게 하고자 한다.

Analytical chemistry is required for the purity, stability, metabolism, and pharmacokinetics tests of pharmaceuticals. Therefore, the pharmaceutical analysis(Basic) lecture is required for the students of the College of Pharmacy by teaching the basic theory of quantitative and qualitative analysis of pharmacuetics.

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Basic knowledge and to learn various organic reactions necessary for drug synthesis.

This class provides students opportunities to acquire basic “hands-on” experimental techniques and problem-solving skills applicable to full-cycle drug discovery and development. This class will cover essential skills relevant to target discovery and validation, identification of lead drug candidates, pharmacological and toxicological evaluation, formulation design, pharmaco kinetics, and quality control in pharmaceutical manufacturing.

Fundamentals of Pharmaceutics & Pharmacokinetics

This class covers the fundamentals of pharmaceutics (various dosage forms and formulations) and pharmacokinetics (the time-dependent movement and changes of a drug after dosing; the processes of absorption, distribution, metabolism, and excretion). The students will learn the fundamental concepts and principles in pharmaceutics and pharmacokinetics and key factors in designing dosing routes and dosage forms that can ensure optimal efficacy and safety in drug therapy.

Preventive Pharmacy 1

In modern society, where quality of life has become more important along with the extension of life span, the concept of health care is being converted to prevention and strengthening of health promotion rather than diagnosis and treatment of diseases. This course provides an overview of the in

M2175.006100* 약학실습 1 2-0-8

Practical Laboratory in Pharmaceutical Research 1

This class provides students opportunities to acquire basic “hands-on” experimental techniques and problem-solving skills applicable to full-cycle drug discovery and development. This class will cover essential skills relevant to target discovery and validation, identification of lead drug candidates, pharmacological and toxicological evaluation, formulation design, pharmaco kinetics, and quality control in pharmaceutical manufacturing.

M2175.006300* 약학실습 2 2-0-8

Practical Laboratory in Pharmaceutical Research 2

This class provides students opportunities to acquire basic “hands-on” experimental techniques and problem-solving skills applicable to full-cycle drug discovery and development. This class will cover essential skills relevant to target discovery and validation, identification of lead drug candidates, pharmacological and toxicological evaluation, formulation design, pharmaco kinetics, and quality control in pharmaceutical manufacturing.

M2175.006500* 약학실습 3 3-4-0

Pharmacology 1

This class provides students opportunities to acquire basic “hands-on” experimental techniques and problem-solving skills applicable to full-cycle drug discovery and development. This class will cover essential skills relevant to target discovery and validation, identification of lead drug candidates, pharmacological and toxicological evaluation, formulation design, pharmaco kinetics, and quality control in pharmaceutical manufacturing.
vivo dynamics, toxic effects, and human safety evaluation of chemicals in food and the environment, including drugs.

M2175.006400 

Pharmaceutical Analysis (advanced) 2-2-0

Advanced Human Pathology

Molecular pathophysiology is a field of study that identifies the pathogenesis of disease at the molecular level, and explains the progress of events to reactions to the pathogen of cells or tissues based on the interaction of molecules. In this subject, recent research results are selected and introduced by subject to understand various diseases from a molecular pathological point of view.

M2175.006500 

Applied Pharmacognosy

Molecular pathophysiology is a field of study that identifies the pathogenesis of disease at the molecular level, and explains the progress of events to reactions to the pathogen of cells or tissues based on the interaction of molecules. In this subject, recent research results are selected and introduced by subject to understand various diseases from a molecular pathological point of view.

M2175.006600 

Pharmaceutical Analysis (advanced)

Pharmacognosy

Analytical instruments are required to analyze various pharmaceuticals which contain different Physico-chemical properties. Therefore, the pharmaceutical analysis (advanced) lecture teaches the theory and structure of multiple analytical instruments to the students of the College of Pharmacy to make them professionals in pharmaceutical analysis.

M2175.006700 

Pharmaceutical Molecular Biology

Pharmaceutical Molecular Biology

This course includes the characterization of human diseases and newly developed therapies. The course also focuses on a variety of technologies to develop new drugs on the basis of molecular biology and functional genomics. Especially, the functions and interactions among the genes and/or proteins elucidated by the completion of the human genome project will be discussed. New concepts of technology for drug development such as molecular prevention from complex human diseases and gene therapy will be included.

M2175.006800 

Synthetic Approach for Drug Pharmacophore

This lecture aims to understand the representative core-scaffold of drug acting as a pharmacophore, and to learn a synthetic approaches to the core-scaffold of a drug according to the molecular structure.
This class provides students opportunities to acquire basic "hands-on" experimental techniques and problem-solving skills applicable to full-cycle drug discovery and development. This class will cover essential skills relevant to target discovery and validation, identification of lead drug candidates, pharmacological and toxicological evaluation, formulation design, pharmacokinetics, and quality control in pharmaceutical manufacturing.

M2175.007200* 의약화학 1 (핵심) 2-2-0

Medicinal Chemistry 1

This course learns clinical drugs from the medicinal chemistry aspect through pharmacophores, bioactive conformation and structure-active relationship, and understands the mechanism of action of their pharmacological activities, side effects, pharmacokinetics at the molecular level.

M2175.007300* 천연물의약학 2-3-0

Natural Medicines

This course mainly emphasizes clinically available natural medicines using genetically-encoded small molecules. Students will learn origin, development, history, synthesis process, biosynthetic pathway, efficacy, and mechanism of action of the natural medicines, which are divided into two groups; single compound-based medicines and extract-based medicines. Furthermore, biosynthetic pathway of bioactive small molecules using bioinformatics will be understood, and metabolic engineering production and industrialization processes will be also dealt with.

M2175.007400* 기능성식품 및 화장품 3-3-0

Nutraceuticals & Cosmeceuticals

This course is aimed to enable students to have professional working knowledge on regulatory science for functional food and cosmetics. Through didactic lecture and case-based discussion, students will have a concept of the translational research on nutraceuticals (dietary natural products and probiotics) and cosmeceuticals (anti-wrinkles, de-pigmenting agents, and ultraviolet blockers).

M2175.007500 약학과 2 2-2-0

Pharmacology 2

Key concepts on the course include mechanistic basis of diseases as well as pharmacological principles of therapeutic action, accompanying side effects, and pharmacokinetics of drugs in human body. In each lecture, drugs acting on the autonomic nervous system, somatic nervous system, cardiovascular system, endocrine system, and others will be discussed.

M2175.007600 응용약물동태학과 생물약제학 2-2-0

Applied Pharmacokinetics & Biopharmaceutics

This class covers the application of the fundamental understanding of pharmacokinetics and pharmacometrics to real-life situations in drug therapy and drug development. The students will practice the pharmacokinetic analysis of more complex cases including dose nonlinearity and learn about the mechanistic bases of drug-drug interactions, the pharmacokinetics of biologics, and pharmacogenomics.

M2175.007700 약학데이터사이언스개론 3-3-0

Data Sciences in Pharmacy

This class covers the application of the fundamental understanding of pharmacokinetics and pharmacometrics to real-life situations in drug therapy and drug development. The students will practice the pharmacokinetic analysis of more complex cases including dose nonlinearity and learn about the mechanistic bases of drug-drug interactions, the pharmacokinetics of biologics, and pharmacogenomics.

M2175.007800 예방약학 2 2-2-0

Preventive Pharmacy 2

Data science plays an important role in drug discovery and development. This class aims to apply fundamental statistics, math, and programming skills to drug development and pharmacy practice. Students will learn about integrated big data analyses using various publicly available databases and algorithms and systems.
In modern society, where quality of life has become more important along with the extension of lifespan, the concept of health care is being converted to prevention and strengthening of health promotion rather than diagnosis and treatment of diseases. Based on the contents of Preventive Pharmacy 1, which is an overview of the in vivo dynamics, toxic effects, and human safety evaluation of chemicals in food and the environment, including drugs, this course examines the correlation between chemicals and diseases and their effects on health. This course is to understand and learn various methods for disease prevention and health promotion.

M2175.007900 임상약동학력학 3-3-0
Clinical Pharmacokinetics and Pharmacodynamics

This course analyzes and interprets various problems and related issues to improve the effectiveness and safety of pharmaceuticals. By exploring the laws and factors governing the distribution and use of drugs in terms of the health and patient care settings.

M2175.008000 임상약학개론 2-2-0
Introductory to Clinical Pharmacy

This class provides students opportunities to acquire basic “hands-on” experimental techniques and problem-solving skills applicable to full-cycle drug discovery and development. This class will cover essential skills relevant to target discovery and validation, identification of lead drug candidates, pharmacological and toxicological evaluation, formulation design, pharmacokinetics, and quality control in pharmaceutical manufacturing.

M2175.008200 약학과실습 2-1-2
Pharmaceutical Care and Practice

This course analyzes and interprets various problems and related issues to improve the effectiveness and safety of pharmaceuticals. By exploring the laws and factors governing the distribution and use of drugs in terms of the health and patient care settings.

M2175.008400* 약학실습 4 2-0-8
Practical Laboratory in Pharmaceutical Research 4

This course analyzes and interprets various problems and related issues to improve the effectiveness and safety of pharmaceuticals. By exploring the laws and factors governing the distribution and use of drugs in terms of the health and patient care settings.
본 강좌는 약사 및 약학자 양성에서 환경성 물질(의약품 포함)의 독성을 이해하고, 그 원인을 규명하여 이를 기반으로 신약의 안전성을 확보할 수 있는 기술을 습득하는 것을 목표로 함. 또한 본 강좌는 환경성 물질이 유방성 암증, 대사성질환, 암 등과 같은 질병의 발생에 기여하는 생리학적 요인을 분석하고 이를 기반으로 하여 신약개발의 기초를 함양하는 것을 목표로 함.

This course aims to cultivate knowledge to understand the toxicity of environmental substances (including drugs) in training pharmacists and pharmaceutical scientists, identify the cause, and secure the safety of new drugs based on this. In addition, this course aims to analyze physiological factors that contribute to the occurrence of diseases such as inflammation, metabolic disease, and cancer induced by environmental substances, and to cultivate the basis for new drug development based on this analysis.

M2175.008500 독성학 3-3-0

Toxicology

본 강좌는 약사 및 약학자 양성에서 환경성 물질(의약품 포함)의 독성을 이해하고, 그 원인을 규명하여 이를 기반으로 신약의 안전성을 확보할 수 있는 기술을 습득하는 것을 목표로 함. 또한 본 강좌는 환경성 물질이 유방성 암증, 대사성질환, 암 등과 같은 질병의 발생에 기여하는 생리학적 요인을 분석하고 이를 기반으로 하여 신약개발의 기초를 함양하는 것을 목표로 함.

This course aims to cultivate knowledge to understand the toxicity of environmental substances (including drugs) in training pharmacists and pharmaceutical scientists, identify the cause, and secure the safety of new drugs based on this. In addition, this course aims to analyze physiological factors that contribute to the occurrence of diseases such as inflammation, metabolic disease, and cancer induced by environmental substances, and to cultivate the basis for new drug development based on this analysis.

M2175.008600 생물의약분석 3-3-0

Biopharmaceutical Analysis

본 강좌는 기초 약학지식을 응용하여, 병역학 분야에서 근간이 되고 있는 DNA Typing의 기본 원리를 이해하기 위해서 현장시료에 직접 적용 가능한 STR DNA 마커에 기반한 Multiplexing PCR 및 다중 커리 DNA 검출 분석법을 습득하고, 약독품, 마약류 등에 관련된 범죄학 정의의 기본 원리 및 기기를 이용한 과학수사법을 학습함. 또한 본 강의의 후반부는 대사체학, 단백질체학 및 약물의 도입포식체학 기법을 기반으로 하는 최신 분석법들이 다양한 질환을 이해하는 데 있어 어떻게 사용되고 있는지 습득하는 것을 목표로 함.

The first part of this lecture explains the fundamental analytical techniques used in forensic science, including the STR DNA marker-based multiplexing PCR, multi-color DNA detection methods, and narcotics/poison analysis. The last part handles the metabolomics, the proteomics, and the stable isotope-labeled metabolite tracing methods, which are efficient for understanding multiple diseases.

M2175.008700 약물송달학 3-3-0

Drug Delivery

본 강좌는 기초 약학지식을 응용하여, 약물의 부작용을 줄이고 약상표를 증가시킬 수 있는 약물송달 기술의 기초 개념 및 응용에 대하여 학습함. 약물 전달체 설계가 필요한 약물, 표적 전달이 필요한 약물 등에 대한 기초 지식을 습득하고, 치료용도의 약물뿐 아니라 진단에 쓰이는 약물의 영향을 보여주는 약물의 전달 기술을 학습함.

Aims to provide the principles, and examples of delivery systems to modulate the pharmacokinetics, biodistribution, and efficacy of drugs. Aims to cultivate the capability of students to apply the basic physicochemical and analytical knowledges in the design of drug delivery systems.

M2175.008800 약학연구 1 1-0-4

Research Rotations in Pharmacy 1

본 강좌는 학생들의 관심이 있는 약학연구 분야를 선정하고, 해당 연구 분야 전공 교수님의 연구실에서 직접 실무 연구가 이루어지는 과정을 관찰하고, 허용되는 범위에서 연구에 직접 참여해 본으로써 약학 연구의 실제를 체험하는 것으로 향후 연구 분야 진로 탐색 프로그램임.

This class provides students an opportunity to acquire “hands-on” experience in various aspects of research by choosing a research laboratory in the college and observing and engaging in the research activity. This class will provide career exploration opportunities for students interested in either an academic or basic science research career.

M2175.009000 유용천연물소재학 3-3-0

Introduction to Bioactive Natural Products

본 강좌는 자연성물질의 다양한 용도성에 대한 이해도를 높이고, 임상에 높은 가능성을 자연성물질의 다양한 약리활동에 대하여 학습함.

This course aims to understand diverse bioactive natural products with functional health benefits.

M2175.009100 임상약물학 3-3-0

Clinical Pharmacology

본 강좌는 실제 임상에서 환자에게 처방되는 약물들의 특성, 특히 화학요법제의 약리작용, 부작용 및 약물상호작용에 대한 핵심 내용을 학습함. 또한 각 질환에 사용되는 약물의 특성 및 상호작용 이해를 통하여 환자에게 처방되는 약물상호작용의 이해를 극대화시킴.

Key concepts on the course include pharmacological mechanisms, side effects, and drug interactions of drugs used in chemotherapy and other diseases.

M2175.009200 바이오의약품학 2-2-0

Biopharmaceuticals

생명과학 기술의 발달로 의약품의 개발이 기존의 저분자화합물 중심으로부터 항체, 제조단백질, 세포 등의 생명과학 기술 기반한 바이오의약품의 종양, 면역, 대사 질환과 같은 다양한 질환에 널리 응용되고 있다. 현재 임상에 널리 사용되는 바이오의약품의 발전 치환 원리와 개발 과정에 대해서 설명한다.

Due to advance in biotechnology, the concept of drug
extended from small molecule basis to biologics such as antibodies, recombinant proteins, and cells. These biologics are extensively used in diverse diseases such as cancer, immune, metabolism. This class covers the developmental process and clinical application of diverse biologics.

M2175.009300 약학치료학 및 실습: 소화기와 근골격계 질환 3-2-2
Pharmacotherapy and Lab: Gastrointestinal and Bones & Joints Disorders

본 강좌를 통해 학생들은 소화기/근골격계 질환을 가진 환자들에게 효과적이고 안전한 최적의 약물을 이용할 수 있도록 약사의 환자관리과정(pharmacists’ patient care process, PPCP)을 제공하는 데 필요한 지식과 임상적 추론 역량을 함양함.

This course is designed for students to develop knowledge and clinical reasoning skills required for provision of effective, safe, patient-centered, pharmacists’ patient care process (PPCP) for patients with gastrointestinal and bone/muscular diseases.

M2175.009400 약전 및 의약품 품질제조관리 3-3-0
Pharmacopeia & Pharmaceutical Manufacturing Quality Control

본 강좌는 약전의 동적, 제제분석, 일반시험법 및 의약품 각조에 대한 이해를 높이고, 품질관리 및 품질 보증에 관한 내용에 대하여 학습함. 실무적, 법적인 측면에서의 의약품의 특성과 품질에 관한 이해를 돕고 의약품 제조관리의 정책 및 규제 과학에 대한 이해를 높이는 것을 목적으로 함.

This course covers the background and the major content of Korean Pharmacopoeia. Students will also learn about various regulatory aspects related to manufacturing processes of pharmaceutical products.

M2175.009500 기기분석 3-3-0
Instrumental Analysis

신약개발 Drug Discovery 과정에 필요한 분자, 나노, 세포 및 동물 수준에서 약물의 효능, 독성, PK 및 PD 평가를 위해 적용되는 다양한 분석법에 사용되는 기기들의 작동 원리 및 응용에 대해서 학습함. 이를 통해 Drug Discovery 연구 과정에 대한 이해를 실천적으로 함.

Study on the operating principle and application of instruments used in various analytical methods to evaluate the efficacy, toxicity, PK and PD of drugs at molecular, nano, cellular and animal levels in the drug discovery process.

M2175.009600 약물치료학 및 실습: 면역과 피부 질환 3-2-2
Pharmacotherapy and Lab: Immunologic and Dermatologic Disorders

본 강좌를 통해 학생들은 면역 및 피부질환 환자들에게 효과적이고 안전한 최적의 약물을 이용할 수 있도록 약사의 환자관리과정(pharmacists’ patient care process, PPCP)을 제공하는 데 필요한 지식과 임상적 추론 역량을 함양함.

This course is designed for students to develop knowledge and clinical reasoning skills required for provision of effective, safe, patient-centered, pharmacists’ patient care process (PPCP) for patients with immunologic and dermatologic disorders.

M2175.009700 약학연구 2 1-0-4
Research Rotations in Pharmacy 2

본 강좌는 학생들이 신약연구 분야를 선정하고, 해당 분야 전공 교수님의 연구실에서 직접 실제 연구가 이루어지는 과정을 관찰하고, 허용되는 범위에서 연구에 직접 참여함으로써 약학 연구의 실제를 체험하는 것으로 향후 연구 분야를 선정하는 데 도움을 제공한다.

This class provides students an opportunity to acquire “hands-on” experience in various aspects of research by choosing a research laboratory in the college and observing and engaging in the research activity. This class will provide career exploration opportunities for students interested in either an academic or basic science research career.

M2175.009800 실전의약품학합성 3-3-0
Practical Drug Synthesis

본 강좌는 현재 임상에서 사용되고 있는 의약품을 약효군별로 분류하여 화학명과 기전별 특성적인 분자 구조를 익히고, 합성 화 학적 이론을 기반으로 각 의약품들의 합성법을 익히는 것을 목표로 한다.

This lecture introduces currently used drugs by therapeutic efficacy. Students will learn chemical names and specific molecular structures for mode of action, and learns how to synthesize each drug based on the knowledge of pharmaceutical synthetic chemistry.

M2175.009900 융합글로벌콜로키움 1-1-0
Global Colloquium of Multidisciplinary Pharmacy

본 강좌는 글로벌융합관련 최신의 현안 및 기술 등에 대한 초청강연, 자유토론 및 의전 교환의 open discussion을 유도하는 세미나 형식의 수업임. 글로벌융합 분야의 초청 전문가들에 의한 개별적인 내용의 강연을 하고, 수강생들은 초청 강연을 청취 후 주제에 대한 자신의 의견을 자유롭게 토론하고, 양이 리포트에 대표 이를 작성함. 수업 관리/coordinator는 초청강연자들에 의한 발표 내용과 수강생 참여자의 의견을 종합적으로 정리하여 수강생들이 강연주제에 대한 이해도를 높인다고 하도록 함.

This class includes the invited seminars and open discussions on the contemporary topics of global, integrated pharmacy research and practice. After attending the invited seminars, the students will participate in open discussions and submit written essays/reports in English. The student coordinators will moderate the conversation and learn how to lead the debate and build consensus.

M2175.010000 융합형 미래 신약 3-3-0
Integrated Approaches for New Drug Development

본 강좌는 각 질병 단위로 담당교수가 기술별로 강사를 구성하여 팀 티칭으로 운영하며, 물리, 화학, 생물, 공학, 재료, 약학, 의학 등 다양한 신약개발 과정을 다루며, 신약개발의 성공 핵심, 작용기전, 임상적 결과, 시장 현황, 임상적 원칙에 따른 신약의 단란점을 비판적으로 논의하며, 학습자 스스로 신약개발 아이디어 제시해 보는 수업임.

This class will cover multidisciplinary, integrated research involved in the development of future drugs. The collabo-
rative teaching team will cover how integrated research efforts (physics, chemistry, biology, engineering, material science, pharmacy, medicine) come together for new drug development. Students will learn about successful drug development strategies, mechanisms of action, clinical outcomes, market analysis, and special considerations in clinical settings. Students will participate in discussion and debate and have opportunities to present their own ideas of future drugs.

M2175.010100  
**Natural Products Chemistry**

This course interprets natural products, bioactive secondary metabolites from organisms which are the basis of drug discovery, in a chemical viewpoint and studies advanced organic spectroscopy to determine the structures of natural products based on NMR, UV, IR, MS, and related methods.

M2175.010200*  
**Pharmacy Practice Experience 2**

This is 5 week (200 hour) community pharmacy practice experience class in which students will master pharmaceutical knowledge and effective decision making skills to resolve pharmaceutical problems encountered in patient treatment. Students will develop knowledge, skills and attitudes necessary for pharmacy practice through pharmacy practice experiences in various settings. Students will participate in discussion and debate and have opportunities to present their own ideas of future drugs.

M2175.010300*  
**Pharmacotherapy and Lab: Infectious Diseases and Kidney Disorders**

This course is designed for students to develop knowledge and clinical reasoning skills required for provision of effective, safe, patient-centered, pharmacists’ patient care process (PPCP) for patients with infectious and kidney diseases.

M2175.010400*  
**Regulations in Pharmaceutical Affairs**

This class is directed for the undergraduate students to understand mechanisms of action, clinical outcomes, pharmacy, medicine) come together for new drug development, manufacturing, distribution, and drug safety management. Students are also able to explain the regulatory environment that stipulates public health, healthcare and health insurance.

M2175.010500  
**Personalized Pharmaceutics**

This class covers the mechanisms by which genetic factors impact drug transporters and metabolizing enzymes, thereby drug responses (efficacy and toxicity). The students will learn how personalized drug therapy can be achieved by incorporating the inter-individual variability in drug disposition.

M2175.010600  
**Molecular Cancer Biology**

The purpose of this course is to provide the pharmacy student with an opportunity to learn the basic concepts, assumptions, terminology, and methods associated with pharmacoeconomics and health-related outcomes research. Students completing this course should be able to identify different types of pharmacoeconomic evaluations, critically analyze pharmacoeconomic and outcomes research articles or reports, and apply the knowledge to commonly occurring health care problems and policy from the perspective of a medical decision maker.

M2175.010700  
**Pharmacoeconomics**
Advanced Biopharmaceuticals

Substantial advance in biotechnology reveals the possibility for a novel therapeutic approaches toward diverse degenerative or genetic diseases that have not been effectively treated with gene, cell and gene-cell combination therapy. The implications of pharmacogenomics and specific genetic variations that may affect drug efficacy or adverse reactions in clinical practice, and learn how to apply bioinformatic knowledge in developing new drugs and individualized precision medicine.

M2175.010900 약물치료학 및 실습: 정신신경과비뇨기 질환 3-2-2
Pharmaco therapy and Lab: Psychiatric, Neurological and Genitourinary Disorders

Research Rotations in Pharmacy 3

Research rotations provide students an opportunity to acquire "hands-on" experience in various aspects of research by choosing a research laboratory in the college and observing and engaging in the research activity. This class will provide career exploration opportunities for students interested in either an academic or basic science research career.

M2175.011000 약학연구 3 1-0-4
Research Rotations in Pharmacy 3

M2175.011100 첨단바이오약물학 2-2-0
Advanced Biopharmaceuticals

Veterinary Pharmacy

Key concepts on the course include mechanistic basis of pharmacological actions of antibiotics, vaccines, and their interactions with animal and human physiology. This course aims to provide students with a comprehensive understanding of animal health and disease management, including diagnostic techniques, disease prevention, and therapeutic strategies. Students will develop skills in veterinary pharmacology, pharmacokinetics, and the safe and effective use of veterinary medicines for the treatment of animal diseases.

M2175.011600 동물의약품학 2-2-0
Veterinary Pharmacy

This course covers various roles and responsibilities of veterinarians in health promotion and disease prevention for livestock and pets. Students will explore the ethical, legal, and technical aspects of veterinary medicine, and learn how to apply this knowledge to improve animal health and welfare.
diseases as well as pharmacological principles of therapeutic action, accompanying side effects, and pharmacokinetics of veterinary drugs. In each lecture, drugs acting on animal organ systems including vaccination, and others will be discussed.

**Principles of Drug Development**

본 교과목은 약학지식을 응용하여, 산약투보물질의 탐색(Discovery)과 규제기관의 기준에 부합하는 신약의 개발(Development)에 관한 원리를 포괄적으로 학습하는 과목이이다. 또한 안전성 및 유효성 극대화 할 수 있는 의약품의 세로운 투여방법이나 투여형태의 개발에 관련하여 학습한다.

This is a didactic course to comprehensively learn about the discovery of new drug candidates and the development of new drug products that meet regulatory standards. In addition, students will learn about the development of new dosage regimens to improve the safety and effectiveness of drug products.

**Pharmacy Management**

본 강좌로 통해 학생들은 약국 경영 원리를 이해할 수 있다. 세부주제로, 약국 실무, 환경, 사회문제 해결을 위한 약사의 역할, 사회적 기업가 정신, 마케팅 및 브랜드 개발, 질 평가와 인구진단 관리, 의약품관리, 제약관리, 환자약비용 서비스 개발, 인력 개발 및 정책 관리 등이 포함된다.

Students will gain an understanding of principles of community pharmacy management. Topics addressed include community practice landscape, pharmacy’s role in social issues, social entrepreneurship, marketing and brand development, quality measurement and population management, medication safety, financial management, developing patient care services, and personnel development and performance management.

**Modern Herbal medicine**

한의약학의 기초이론, 한약의 고전적인 약리해석과 현대의학적 해석과의 관계, 한약제제도의 임상요용에 관한 내용을 강의한다. 본 강의는 한의약학 기초이론, 본초학, 방제학으로 구성된다. 한의약학 기초이론에서는 음양오행, 사회, 경제, 문화, 추상, 경제, 경제 등을 강의하고, 본초학에서는 포제, 약성또는 본초와 관련된 기초 이론과 개별 본초의 기원, 성안, 귀강, 포제법, 효능 및 임상요용을 강의한다. 방제학에서는 방제의 조성, 효능, 작용중, 처방해설, 임상요용 등을 강의한다.

This course will cover the introduction of herbal medicine and its characteristics, and application to modern disease.

**Advanced Pharmaceutical Research & Practice 1**

본 교과목은 기본 필수실무실습을 이수한 학생들의 전문성 강화를 위한 심화실습 과정으로, 학생들은 약학과 또는 임상약과학 트랙 중 하나의 트랙을 선택하여 보다 전문적인 실무실습을 수행한다. 약학과 트래키어에서는 기초약학 분야에 대한 선도적인 심화학습을 수행하게 되고, 임상약과학 트래키어에서는 약학현장에서 환자의 약품요법과 관련한 전문적인 임상지식 및 기술과 관련된 심화실습실습을 수행하게 된다.

The goal of this advanced practical course is to provide an opportunity for students to acquire an advanced experience in a specific track of pharmaceutical research or clinical practice. Students are allowed to pursue an area of emphasis within the track consistent with their professional interests. Students may declare a preference of a track either from the Pharmaceutical Science Track or Clinical Science Track, based on their interests in the field of pharmacy. Each track consists of a set of required learning activities and emphasizes on research foundation. Students in the Clinical Science Track focus on patient care, with emphasis on the advanced clinical pharmacy practice skills in a variety of practice settings, including hospitals, ambulatory clinics, drug information, and community pharmacies under the supervision of clinical pharmacy faculty advisors. Students in the Pharmaceutical Science Track focus on conducting the basic pharmaceutical research through discussions with faculty advisors from a variety of pharmaceutical disciplines such as medicinal chemistry, pharmaceutics, pharmacology, pharmacognosy, toxicology and so forth.

**Advanced Pharmaceutical Research & Practice 2**

심화약학실습1에 이어서 본 교과목에서도 학생들은 약학과 또는 임상약과학 트랙 중 하나를 선택하여 학생의 전문성 강화를 위해 전문화된 심화연구실습 또는 심화실무실습을 수행하게 된다. 심화약학실습2의 주요 목적은 약학과 교수의 심화실습에 비해빛 병원의 임상 현장, 지역약국 및 제약공장 등 다양한 사이트에서 지도 교수의 지도하에 약학과 관련된 연구주제 중 학문적 흥미가 있고 목적이 임상적 주제를 가지고 독립적인 개인 프로젝트를 계획, 수행하고 수행함으로써 약학의 세부분야별 학문적 지식을 탐구할 수 있다. This course is a continuation of Advanced Pharmaceutical Research & Practice I, and is divided in two tracks of Pharmaceutical Science Track or Clinical Science Track. Students in each track are provided with an advanced and innovative curriculum emphasizing the key principles of conducting research projects with a hands-on approach alongside the supervision of an assigned pharmacy faculty advisor. The key components of Advanced Pharmaceutical Research & Practice 2 in each Tracks are identifying, structuring, synthesizing, and presenting an independent research project that match the student’s research and professional interests. Research projects may take place in laboratories of basic pharmaceutical research or clinical practice sites of hospitals, retail pharmacies or industries in line with their academic and career goals.
Introduction to Korean Music 1

한국음악학의 연구 결과를 바탕으로 한국음악의 개념, 강례, 악곡,악기, 나타가 한국음악 문화를 소개하는 과목이다. 음악의 강례를 공동음악, 풍토음악, 민속음악, 창작악곡으로 나누고 개별 강례의 음악 청취와 분석을 통해 이해를 갖게 한다. 정보음악을 주로 소개하며, 창작음악의 전통음악을 의식적으로 수용한 작품을 소개한다. 1-2학기 연강이다.

The purpose of this course is to introduce Korean music-its concepts, genres, and instruments-and musical culture through recent Korean musicological research. Korean music is separated into four categories: court-based music, music for intellectuals, music for the common people, and newly composed music based on Korean musical tradition. The main focus of this course will be on the traditional genres of Korean music by listening to and analyzing actual music. They must register for 2 continuous semesters.

Introduction to Korean Music 2

한국음악학의 연구 결과를 바탕으로 한국음악의 개념, 강례, 악곡,악기, 나타가 한국음악 문화를 소개하는 과목이다. 음악의 강례를 공동음악, 풍토음악, 민속음악, 창작악곡으로 나누고 개별 강례의 음악 청취와 분석을 통해 이해를 갖게 한다. 정보음악을 주로 소개하며, 창작음악의 전통음악을 의식적으로 수용한 작품을 소개한다. 1-2학기 연강이다.

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Training for Music Software 1

Computers are musical instruments that can be used to create and manipulate music. Students will learn the fundamental principles of computer music and practice applied softwares.

Training for Music Software 2

Diverse software programs will be studied, and students will investigate various sequencing programs, practice selected softwares, and consequently understand computer music in depth in this course.
This course will explore the developments and changes of vocal and instrumental music and the rise and development of national styles in the late Middle Ages.

This course is the fourth in the six-semester theory sequence which aims to provide effective music-theory education for students in music performance. This course will deal with tonal harmony including chromatic chords and sequence, monodic rhythm, tonal relationships, and thematic unity.

As the third part of a process of four semester courses, this course aims to improve high-level sight seeing and notation skills and cognitive abilities in music.

History of Western Music 3

This course consists of gradual learning steps over a series of 4 (or 2) semesters. This course cultivates analytical ability by critically examining musical works. The repertoires to be dealt in the class will be selected according to the students’ department/major. This course will focus on music from 1750 to the 1830’s, thus reviewing the “core” of Western classical Music including symphonies and concertos.

History of Western Music 4

This course will deal with not only the trends developed after the 1830’s (Romanticism, post-Romanticism, and nationalism) but also many of the musical innovations from the 20th century to the present. Apart from the historical perspectives, the course will explore actual compositions that reflect the changes in ideas on music and musical materials.

Music Analysis 1

This course cultivates analytical ability by critically examining musical works. The repertoires to be dealt in the class will be selected according to the students’ department/major. This course consists of gradual learning steps over a series of 4 (or 2) semesters.

Music Analysis 2

This course cultivates analytical ability by critically examining musical works. The repertoires to be dealt in the class will be selected according to the students’ department/major. This course consists of gradual learning steps over a series of 4 (or 2) semesters.
This course consists of gradual learning steps over a series of 2 semesters. *However, string major students are required to take for 4 consecutive semesters. This course consists of training various baton techniques and conducting ensemble, choir, or large-scale musical works. The repertoires to be dealt in the class are selected according to the students' department/major.

In this course, students will perform what they have learned during the semester. The format will be the same as that of an actual concert. Approximately 6~7 students will be assigned to each session. This is a required course for composition/conducting major students to better understand and play orchestral music on the keyboard. This course consists of gradual learning steps over a series of 2 semesters.

This course examines the choir and ensemble instructions of musical instruments including the sound generation mechanism and the features in their sound color (stringed instruments, winds, brass, voice, keyboard instruments, and percussion instruments). This course will cover the fundamentals of acoustics related to musical phenomena. Topics will cover: generation and propagation of sounds, perception of sounds, characteristics of the human ear, temperament, and room acoustics.

This course considers the acoustical characteristics of various musical instruments. Topics will cover the acoustics of musical instruments including the sound generation mechanism and the features in their sound color (stringed instruments, winds, brass, voice, keyboard instruments, and percussion instruments).

This course examines the choir and ensemble instructions as a performing medium which can contribute to an aesthetic music education. It focuses not only on the training choir and
ensemble techniques but also the development of comprehensive musicianship through choir and ensemble education. Students also research concrete methods for maximizing the musical development through choir and ensemble instructions.

**6541.3320**

Methods of Korean Traditional Songs

This class deals with teaching methods of Korean traditional singing, such as Pansori, Sijo, and Minyo. How to teach performances suitable to the actual scene. Through this the semester, students will experience planning and producing the theories and knowledge learned in the lectures. During this participatory in the actual production of performances based on the theories and knowledge learned in the lectures. During the semester, students will experience planning and producing performances suitable to the actual scene. Through this course, students can develop their overall understanding of performance production and enhance their ability to apply it to their major.

M1796.000400 음악비평 3-3-0

Music Criticism

21세기 이후의 현대음악은 인간 사회와 문화, 철학 및 계도 등 여러 복합적 측면의 콘텍스트를 거지하고 있는 문화적 산물을이다. 이 류 배경에서 작곡가는 창작의 영역에서 현대적 작곡가법 및 음악론을 토대로 창작활동을 했고 음악학자는 비평 영역에서 미적학적 측면의 창작학적 기준에 따라 작품의 가치를 논했고. 하지만 두 영역은 분리되어 교육되어 왔다. 이에 본 과목은 작곡(창작)과 비평(비평) 분야의 협업을 통해 학생들이 이 분야를 아우르는 음악관을 확립하고, 예술의 학문적 이념을 강화할 수 있는 기회를 주고자한다. 작곡가는 음악학과 비평 분야에 대한 시각을 넓히고, 음악학자는 평의 이론과 실제를 안내함으로써, 한국의 창작과 비평계에서 활동할 수 있는 전문가를 양산하는 것이 본 수업의 목적이 다. 이로써 본 수업은 국제 음악교육분야의 교류를 통해 다양한 경험의 기회를 제공하며, 학생들의 국제적 경쟁력을 향상시킬 것이다.

After 21st-century, its contemporary music has been a cultural product which reflects multiple levels of contexts, including human society, culture, philosophy, and institutions. In this background, the composers have worked on compositions based on modern compositional techniques and music aesthetics in the area of creation, and the musicologists have discussed the value of his/her works in the field of criticism according to aesthetic, style, and sociological criteria. However, these two realms have been educated separately. Thus, this course aims to allow students to establish their musical aesthetics encompassing this field and strengthen their artistic and academic capabilities through collaboration in the area of composition (creation) and theory (criticism). The purpose of this class is to discipline composers to broaden their perspectives in the field of musicology and criticism, and musicians to hone the theory and practice of criticism, thus enabling them to work in the sectors of composition and music criticism in Korea. In order to that, this course will provide participants with a variety of experiences via exchanges with international music education institutions, there by enhancing students’ global competitiveness.

M.2183.005300 유직 프로덕션과 엔지니어링 개론 1 3-3-0

Introduction to Music Production & Engineering 1

이 과정은 학생들에게 유직 프로덕션의 기본 단계를 안내한다. 학생들은 서로 음악 프로듀서와 엔지니어 그리고 인주자 역할을 하면서 시어스트 또는 음악계작의 의도에 따라 녹음 프로젝트의 목표를 정의하고 목표에 부합하는 적절한 기술과 경험을 적용하여 자신의 인주자 또는 작곡가의 임무에 응답한다. 이 과정에서 학생들은 각 단계의 프로세스를 녹음에 대해 다양한 단계를 통해 학습한다. 이 과정은 학생들의 국제적인 경쟁력을 향상시키는 데 도움이 되는 것이다.
or music production intent, and apply the appropriate skills and experiences to complete their own performance or work. From rehearsal to recording and final mix, all participants will coordinate and motivate each other to complete their recordings. Create a digital single by recording one or more projects per student. This course is examined through continuous project progress reports and completed digital single. The finished work is used as a portfolio.

**M2183.005400**

**Live Sound Design Basics 2**

Students will learn how to use sound equipment necessary for actual performance and process various signals in electronic, vocal, and instrumental music.

**M1796.000500**

**Theory(Harmony • Counterpoint • Analysis)5**

This course is the fifth in the six-semester theory sequence which aims to provide effective music-theory education for students in music performance. This course will mainly deal with musical characteristics in Late-Romantic Music, such as extended third progressions, programmatic relationships in remote tonal regions, and dissolution of functional harmony.

**M2183.003800**

**Screen Scoring Practice**

This class is for the screen scoring expert course. 1:1 tutoring is provided and classes are conducted in connection with field training. Screen scoring is a core industry in the era of the 4th industrial revolution in the 21st century, where video and music are fused as a total art. It aims to nurture creative and professional composer in the field of screen scoring.

**M2183.003300**

**Theory(Harmony • Counterpoint • Analysis)6**

This course introduces the basic steps of music production and engineering. Students acting as music producers, engineers, and performers with each other, define the goals of the recording project according to the intent of the artist or music production and apply appropriate skills and experiences to meet those goals to complete an album of their performance or work. Evaluation is done through written submissions of ongoing project progress and achieved digital singles.
제(창작, 연주, 이론) 양성을 목표로 한다.

주요 내용:
(1) 빅데이터, 딥러닝, AI(인공지능)에 대한 이해를 높이고 이를 활용한 음악 분야의 콘텐츠에 대한 기초 지식과 전망을 제시한다.
(2) 새로운 디지털 도구에 대한 이해를 통해 적용 가능한 음악 콘텐츠 개발을 모색하고 창의적 창작, 연주의 실제적 음악 활용을 목표로 한다.
(3) AI 음악 창작과 연주에 나타나는 미학적 문제를 ‘포스트휴머니즘 미학’을 중심으로 다룬다. 기계가 인간을 모방하는 차원을 넘어 창작과 연주의 주체로 등장하면서 촉발되는 창작과 AI 음악 창작에 나타나는 감정과 창의성, 그리고 창작 주체의 문제를 검토할 것이다.

In the era of AI, the College of Music wants to open a class that three professors (performance, aesthetics, and technology) collaborate to create a learning place where students can develop their musical competencies. This class aims to cultivate talents who will lead global trends through creative thinking in the age of big data and AI-based digital innovations. Main Content: (1) To improve understanding of big data, deep learning, and AI, and to present basic knowledge and prospect of contents in music field.
(2) Through the understanding of new digital tools, we will explore the development of music contents and aim to utilize the practical music of creative composition and performance.
(3) This course deals with the aesthetic problems in AI music composition and performance with a focus on “post-humanism aesthetics.”
 음악대학(College of Music)  
시양과(Dept. of Vocal Music)

651.1211* 이태리어디션 2-2-0  
Italian Diction

이태리어의 자음의 기본원리와 모음의 개폐음에 대한 이해 및 발음과 노래에서의 차이점을 강의 및 이태리 가곡을 통해 실습한다.

This course will study the Italian phonetic/phonemic system and the differences between speaking and singing in the language. It will cover coaching in Italian Lieder repertoires.

651.1230* 합창 1-0-2  
Chorus

기본적인 양상음 감각을 얻고, 시대적인 합창극을 경험함으로써 음악에 대한 호응과 시대별 연주관습을 살펴보고 전문적인 합창극을 통하여 음악 경험을 폭을 넓힌다.

This course is designed to give students the basic ensemble techniques and an understanding of the historical development of choral performance practice.

651.1315* 이태리가곡 2-2-0  
Italian Art Songs

이태리의 19C 낭만주의 시대에서 현대에 이르기까지 대표적인 이탈리아 작곡가들의 작품들을 중심으로 그들의 가곡 작품들을 감상하게 된다. 또한, 잘 알려지지 않은 가곡들에게 대한 학습을 통하여 많은 레퍼토리를 넓힌다.

They deal with the details of art songs based on the Italian composers from the 19th century romanticism to the contemporary. They also broaden their repertoire by the learnings of unknown art songs.

651.2220* 성악실기 2-1-2  
Vocal Major

담당교수와의 개별적인 레슨을 통하여 실기를 학습하며, 학기별로 적합한 시대의 예술가곡 및 오페라 아리아, 졸업연주를 위한 Song Cycle 등의 학습한다.

In this course, students receive private instruction in art songs and arias of different periods and song cycles for their graduation recital.

651.3301 성악인을 위한 이탈리아어 1 2-2-0  
Italian for Singer 1

바로크 시대로부터 현대에 이르는 광범위한 이탈리아 성악곡을 중심으로 시와 가사의 해석 능력을 향상시키는 동시에 이탈리아어 구사 및 독해력을 키워주므로써 전문 성악인에게 필요한 소양을 갖출 수 있는 기회를 제공한다.

Knowledge of Italian is crucial for singers in studying and performing Italian vocal repertoire, one of the most important genre in history of vocal literature. This class deals with the standard Italian vocal music that span from the Baroque era to modern days with its focus in interpretation and comprehension of the Italian texts. This course also aims at an improvement in singer’s ability to read, write and speak in Italian.

651.3306 성악앙상블 2-2-0  
Vocal Ensemble

다양한 장르와 시대의 많은 작곡가들의 성악 양상용 레퍼토리를 공부함으로써 연주곡목의 폭을 넓히고, 시대와 장르에 맞는 음색을 빠르게 반영할 때의 성악능력을 다양한 형태(duet, trio, quartet)의 연주를
통하여 음악성을 향상시킨다.

This course will cover the interpretation and preparation of vocal ensemble repertoires from all periods and in all genres. Students will enhance their musical ability through various forms of ensembles (duets, trios, and quartets).

651.3313 종교가곡 및 바르코성악곡 2-2-0

Religious and Baroque Art Songs 2

음악대학(Dept. of Vocal Music)

성악과의 앙상블 음악과 사물에서 출발하여 고대 그리스부터 오페라가 발전한 1600년대, 1800년대 고전주의의 오케스트라를 수록으로 다양한 이해와 습득을 통한 접근방식으로 음악에 대한 전반적 사고의 폭을 넓힘.

This course focuses its study in Baroque and religious vocal literature which occupy an important place in history of vocal music. A historical survey of the literature and performance style is accompanied by actual performance practice of the repertoire in the class.

651.3314 오페라사 1 2-2-0

History of Opera 1

시작으로부터 중요한 단계를 차지하는 오페라에서 혼자서 빠르고 빠르게 발달하였으나, 18세기 고전주의의 아름다움과 19세기 바그너의 혁신성으로 이어진 레퍼토리의 가시화를 수록으로 분격화된 형태의 음악과 사물, 앙상블을 수록으로 음악에 대한 전반적 사고의 폭을 넓힘.

This course is a study of operas from ancient Greece through the 1600’s, the time when opera emerged, to the classical opera of the 1800’s.

651.3315 오페라사 2 2-2-0

History of Opera 2

고전주의 대상에 이르기까지 음악에 대한 시대적, 음악적 고요를 살펴보면서, 사회적으로 가장 독특한 배경을 가진 이탈리아, 독일, 프랑스, 영국 등의 오페라가 보여주는 역사적 특성과 음악의 스타일을 이해하며 특히 음악 감상을 통하여 역사적 변화를 직접적으로 경험하고, 연구자로서 음악에 대한 체계화와 연구하는 능력을 기르든.

This course will explore the trends in opera from the Classical period to the present. Goals will include an understanding of the unique features of Italian, German, French, and English operas in various social contexts.

651.2316* 독일가곡 2-2-0

German Art Songs

독일 예술가의 시대적 변화를 파악하고, 파이어, 바이런에 의한 독일의 예술가의 정체성과 정체성의 고전주의에서 낭만주의의 가극에 이르기까지, 그 대표적인 작품들을 선별하여 이론적 분석과 실거를 병행함으로써 깊이 있는 독일 예술가의 건축을 위한 비판을 마련한다.

This course will study and perform representative works of German art songs from the Classical period, when German lied with piano accompaniment was established, to the Romantic period, with a focus on the genre’s historical development.

651.3322* 영어디셔 2-2-0

English Direction

영국 가곡과 미국 가곡을 노래하는데 필요한 자음과 모음에 관한 이론을 공부하며 그 이론을 적용하여 실제로 족을 다루며 개개인의 발음을 교정해 나간다.

Students will study and perform English and American songs as well as the sounds of English and their application to singing in this course.

651.3409 오페라코칭 1 2-1-2

Opera Coaching 1

성악과 오페라의 양식을 이해하고, 학생들의 의도에 알맞은 수준의 작품을 수록으로 배우며 페르디나도 바르비에트와 베토벤의 조각으로 미술을 이해하며 음악의 의미를 읽는다.

This course will study voice/orchestra ensemble, conducting techniques, and performance practice from bel canto to Verdi’s and Verismo opera.

651.3410 오페라워크숍 1 2-2-0

Opera Workshop 1

오페라 전공 및 중요한 장르의 연습을 통해 음악의 음악과 작품의 이해를 돕든.

This course will cover the preparation and performance of complete opera or ensemble scenes from the operatic repertoire.

651.4309* 오페라워크숍 2 2-2-0

Opera Workshop 2

가창과 이론만의 기초교육에서 한 단계 올라선 무대상의 실제 연기를 혼합한 오페라가수의 기본교육을 강의한다.

This is a practical acting course for students to attain staging techniques.

651.4311 한국가곡 2-2-0

Korean Art Songs

한국 가곡의 특성을 이해하기 위한 기초 교육과 한국 가곡의 특성을 이해하기 위한 기초 교육을 강의한다.

The trends and styles of Korean art songs will be surveyed in this course. Students will learn lesser known works to broaden their repertoire. The course will include recitals at the end of the semester.

651.4403 현대가곡 2-2-0

Contemporary Art Songs

천문학의 이론을 통한 현대 가곡의 연구를 통하여 학생들은 현대 가곡에 대한 지식을 넓힐 수 있게 함으로써,
The importance of contemporary music calls for a class where students are given opportunities to learn contemporary vocal repertoire. Modern vocal music of various contemporary musical styles in different languages are taught and coached through class performances as well as theoretical learning.

651.3411* 프랑스가곡 2-2-0
French Art Songs

프랑스예술가곡은 시대별로 중요한 작곡가와 그들의 중심작품을 연구하고 연주하여 19세기에서 20세기에 걸친 프랑스가곡을 이해하고 연주할 수 있는 능력을 기른다.

This course will study important French song composers and their selected works from the 19th and 20th centuries.

651.4412* 영미가곡 2-2-0
English and American Art Songs

영국과 미국 가곡의 시대별 연주양식의 변천과 대표적 작곡가들의 특징적 작품의 양식을 비교·분석하고 실기로 학습한다.

In this course, the development of performance practice and styles of representative English and American art songs will be investigated. Analysis and performance will be included.

M1795.000700 성악가를 위한 음악 코칭 1-1-1
Musical coaching for opera and concert singers

성악과 개설 기존의 전공 교과목에서 익힌 딕션법과 오페라와 가곡의 전반적인 이해를 토대로, 각 개인의 소리에 따른 오페라 및 예술가곡 캐릭터와의 보다 심층적, 종합적인 분석을 통하여 연주에서의 완성도를 높이기 위한 수업이다. 본 수업을 통하여 음악 코치가 학생마다 갖고 있는 고유의 음악적 특성과 목차성을 찾아, 학생과의 교류를 위해, 연주자에게 필요한 지시를 한다. 

This course is designed for students who wish to build on the overall understanding of diction, opera, and song acquired in previous courses to improve their on-stage performance through a deeper, more comprehensive analysis of the opera and art-song repertoires suitable for their voice. In this course, the music coach will work to draw out each student’s inherent musicality and musical individuality. The music coach looks forward to contributing to each student’s artistic development through improved diction and musicianship.

M2183.002100 무대동작기법 1 2-1-2
Movement 1

Classic Ballet의 기본을 학습함으로써 성악인이 연주 시 갖춰야 할 기본자세와 동작, 그리고 몸의 움직임을 통해 표현하는 기법을 배우고 실습함으로써 연주 무대에서 전문가로서의 면모를 갖도록 지도한다. 무대 위에서의 걸음걸이, 손동작성, 연주자체, 표정연기 지도 및 오페라 출연 시 필요한 기본 속 동작 등을 교수내용으로 한다.

The Class focuses in training singers to be equipped with the basic movement techniques that are needed on stage by learning the basics of Classic Ballet. Proper walking, stage posture, facial expression technique as well as some basic dance movements are taught in the class.

M2183.002000 연기의 이해와 실습 2-1-2
Understanding Acting and Training

극의 연기에 대한 기본적 요소들의 이해와 훈련이 중요하다. 상상력, 정서, 감각, 반응 등을 훈련한다. 

This Class focuses on understanding and training basic elements of acting of drama. This class trains imagination, emotion, sensitivity, reaction, etc.
6521.1101* 대위법(작곡) 1 2-2-0
Counterpoint for Composers 1

작곡에 있어서 본질적인 측면, 즉 주어진 음들과 그 음들 사이의 관계의 취급에 관한 문제에 중점을 두고, 중세에서 16세기에 이르는 다음음악 분석 및 2음부의 실습에 의한 체계적 훈련과정을 통해 작곡의 기본적인 기술을 습득하게 된다.

The essential aspect of musical composition will be considered in this class: how to treat given sounds and relationship between the sounds. And the participants will learn elementary skill of writing music through systematical training of counterpoint in 16th-century style and analytical approach to the polyphonic repertoire from the Middle Age to the 16th century. The practice is limited to two-voice texture.

6521.1102* 대위법(작곡) 2 2-2-0
Counterpoint for Composers 2

작곡에 있어서 본질적인 측면, 즉 주어진 음들과 그 음들 사이의 관계의 취급에 관한 문제에 중점을 두고, 중세에서 16세기에 이르는 다음음악 분석 및 3음 이상의 모테트를 비롯한 16세기 다음음악 양식의 다양한 장르에 대한 모방을 통하여, 대위법적 기술을 습득하게 된다.

The essential aspect of musical composition will be considered in this class: how to treat given sounds and relationship between the sounds. And the participants will learn the elementary skill of writing music through systematical training of counterpoint in 16th-century style and analytical approach to the polyphonic repertoire from the Middle Age to the 16th century. The practice focuses on the stylistic imitation of the polyphonic repertoire of the 16th century.

6521.1103* 화성법(작곡) 1 2-2-0
Harmony for Composers 1

기능화성 세계 상립 이전의 화성(선화성)과 기능화성의 비교 연구, 화성의 표현적 기능과 구조적 기능에 대한 이해 및 실습을 통해 17세기에서 18세기에 이르는 사양음악의 화성적 측면에 대한 전문적 소양을 함양한다.

This class aims to improve professional ability of treating harmony in 17th/18th-century western music. This course will deal with comparative study of modal/functional harmony, expressive/structural functions of harmony, and practical usage of it.

6521.1104* 화성법(작곡) 2 2-2-0
Harmony for Composers 2

낭만주의 음악의 화성적 측면에 대한 분석적, 이론적 연구 및 실습을 통해 19세기 사양음악의 화성적 측면에 대한 전문적 소양을 함양한다.

This class aims to improve professional ability of treating harmony in 19th-century western music. The course will include theoretical/analytical studies and practical exercices.

6521.1297* 악기론 1 1-1-1
Instrumentation 1

관현악법의 기초가 되는 교과목으로, 악기의 구조, 특성 및 주법 등 기본 원리에 대한 이해와 대물이 목주에서 양상唬에 이르기까지 다양한 실습을 통해 효과적인 악기의 활용방법을 익힐 수 있도록 한다. 2개 학기 동안 단계적 학습이 이루어진다.

As a preparatory course for the orchestration, this course helps students to learn the mechanism, characteristics and playing techniques of various orchestra instruments, in order to familiarize with effective appliable methods of instruments necessary to compose music from solo to ensemble. This course consists of gradual learning steps over a series of 2 semesters.

6521.1298* 악기론 2 1-1-1
Instrumentation 2

관현악법의 기초가 되는 교과목으로, 악기의 구조, 특성 및 주법 등 기본 원리에 대한 이해와 대물이 목주에서 양상唬에 이르기까지 다양한 실습을 통해 효과적인 악기의 활용방법을 익힐 수 있도록 한다. 2개 학기 동안 단계적 학습이 이루어진다.

As a preparatory course for the orchestration, this course helps students to learn the mechanism, characteristics and playing techniques of various orchestra instruments, in order to familiarize with effective appliable methods of instruments necessary to compose music from solo to ensemble. This course consists of gradual learning steps over a series of 2 semesters.

6521.2201* 대위법(작곡) 3 2-2-0
Counterpoint for Composers 3

17세기에서 20세기에 이르는 다양한 양식의 다음음악을 분석하고 그 결과를 바탕으로 연습이 진행된다. 주어진 다음음악을 바탕으로 한 대위법적 기술을 응용하여 학생들이 곡을 짜며 이것은 평가하는 형식으로 수업이 진행된다. 이를 통해 보다 분석적이고 실제적인 작곡기술을 습득할 수 있다.

This course consists of two types of processes: analysis and application of that results in students' exercise. Students are required to analyze various polyphonic works dating from 17th century to 20th century and submit their musical assignments for the purpose of grasping and applying analytical and practical counterpoint skills in composition.

6521.2202* 대위법(작곡) 4 2-2-0
Counterpoint for Composers 4

바흐 양식의 인벤션을 배우 분석하고 이 양식의 연습곡을 작곡한다. 바 bach 양식의 인벤션에서부터 곡의 특성과 연습하기에 따른 주법에 준하여 그 결과를 바탕으로 논의하여 연습곡을 쓴다.

This course focuses on the analysis of J. S. Bach’s Invention and leads students to compose invention-style musical works in order to attain basic compositional skills.

6521.2220* 작곡실기 2 1-2-1
Composition Major

작곡실습을 통해 작곡가로서의 자질과 기술, 그리고 예술성을 습득하기 위한 교과목으로, 학생 개인의 음악적 지향점을 고려한 1:1 교육이 이루어진다. 창작의 특성상 일반적인 고전음악의 범주가 아닌 현대음악영역에 의한 표현, 또는 학생 자신의 고유한 표현의지와 아름다움을 통한 작품을 스何度하도록 한다. 6개 학기 동안 단계적 학습이 이루어진다.

This course helps students to grasp practical techniques...
음악대학(College of Music)

저작권과 저작전공(Composition Major, Dept. of Composition)

and artistry as professional composer. The course consists of analysis of musical works in various styles and instrumentations under supervisor’s personal guidance and students’ submission of their own composition for assessment every semester. Students are required to take the course over a series of 6 semesters.

6521.2227* 화성법(작곡) 3 2-2-0
Harmony for Composers 3

20세기의 다양한 화성체계에 대한 분석, 이론적 배경에 대한 이해 및 실습을 통해 새로운 음조직을 활용할 수 있는 전문적 소양을 함양한다.

This class aims to improve professional ability of treating newly-designed tone-materials in 20th/21st century music. This course will include analysis of various harmonic systems, theoretical background, and the practical usage of methods used in related musical works.

6521.2228* 화성법(작곡) 4 2-2-0
Harmony for Composers 4

화성학 1,2,3에서 습득한 화성적 지식 및 화성의 근본적 원리에 대한 이해를 바탕으로 자신의 음악적 표현의지를 화성적으로 구현할 수 있는 능력을 개발한다.

This class helps to make students' musical ideas embody in musical context of their compositions by applying fundamental principles of harmony and its vocabularies, acquired in <Harmony for Composers 1, 2, and 3> classes.

M1797.002400* 관현악법(학) 1 2-2-0
Orchestration 1

본 교과목은 관현악법의 변화사, 악기(군)별 역할 등에 대한 포괄적 이해, 관현악법적 측면에서의 악기 분석 및 전곡 실습 등을 통해 자신의 음악적 의도를 관현악으로 구현할 수 있는 능력을 함양한다.

This course consists of various elements: the history of orchestration, comprehensive understanding of instrument, the analysis of orchestral works in the aspects of orchestration, and orchestral arrangement.

M1797.002500* 관현악법(학) 2 2-2-0
Orchestration 2

본 교과목은 관현악법의 변화사, 악기(군)별 역할 등에 대한 포괄적 이해, 관현악법적 측면에서의 악기 분석 및 전곡 실습 등
other non-musical arts and other areas. This course consists of gradual learning steps over a series of 2 semesters.

6521.4455      현대음악사 2  2-2-0

History of Contemporary Music 2

조성계계의 해체 이후의 현대음악흐름을 역사적 맥락에서 살펴보기 위한 과목이다. 20세기에 발생했거나 현재까지 영향을 미치고 있는 여러 사조를 살펴보고, 그 기법의 특징을 정리하는 동시에, 다 음악시조화의 성도 양극 및 사회적 현상과 음악과의 연관 관계를 역사의 차원에서 강조한다. 2개 학기 동안 단계적 학습이 이루어진다.

This course deals with the historical context of modern music since the end of the 19th century, following the deconstruction of tonality based on functional harmony system. The course also focuses on the characteristics of various musical trends, their composition techniques availed in that trends, and their mutual influences upon/relationship with other non-musical arts and other areas. This course consists of gradual learning steps over a series of 2 semesters.

6521.1201* 멀티미디어음악 입문 1-0-3

Introduction to Multimedia Music

20세기 후반에 등장한 멀티미디어 음악은 기존의 음악회 뿐만 아니라 여러 공연예술분야, 설치 및 전시 예술분야에 이르기까지 그 영역이 크게 확대되고 있다. 이러한 사태변화에 부응하여 현대예술가가 요구하는 다양한 컨텐츠 제작의 기본 원리를 익힌다.

Multimedia Music, which begins to prevail in the late 20th-century, has extended its own related areas containing installation/exhibition arts and conventional music performance(concerts and recitals) as well. Concerning this circumstances, this course will be focused on the methods and principles pertaining to the manufacturing of various music-related multimedia contents that are required for its activities in contemporary arts.

6521.1203 작곡 포럼 1-1-2

Composition Forum

담당 교수의 주도 하에 학생들의 다양한 작품을 대상으로 작곡 기법, 구성, 영리한 작품의 의미 등 전반적인 측면에서 토론을 한다. 이를 통해 음악의 양적 다양성, 작곡성, 실용성 등 작곡에 있어서의 근본적 논란거리에 대한 가치관 정립 및 작곡가로서의 전문 탐색에 도움을 준다.

With the guidance of professors in charge, students participate in discussions about composition techniques, structures, instrumentation, and composer’s musical idea on works composed by other students. With this course students will be provided with opportunities such as obtaining his/her own view on stylistic diversity, work-value, practical perspectives in music and career exploration as professional composer.

6521.2240 전자음악실기 2-1-2

Electronic Composition Major

전자음악 전공자로서의 자질을 함양하기 위한 교과목으로서, 이론적, 기술적, 예술적 측면을 중점을 두고, 담당교수의 개인지도 하에 전자음악을 작곡한다. 6개 학기 동안 단계적 학습이 이루어진다.

This course aims to help students qualify for necessary skills in electronic music composition. Students are required to take the course over a series of 6 semesters.

M1797.001800 믹스드 음악 1 3-2-2

Mixed Music 1

이 과정은 고정된 미디어 작가 장치와 함께 악기의 롤프토리를 탐구하고자 하는 독주자들을 대상으로 한다. 믹스드 음악이 숙련되면 학생들은 현대음악의 콘서트 공연에 자가감을 갖게 된다. 주제에는 마크 및 라우드 스피커 테크닉, 컨트롤러, 효과음 장치, 전자음향, 멀티멀미디어 및 사운드 엔지니어링의 협업, 레퍼토리 개발 및 미학 등이 포함된다. 실용적이고 창조적인 작업에 초점을 맞춘 이 코스의 평가는 수업 중 지속적인 평가와 실내 리허설 공연으로 이루어진다.

This course is aimed at soloists (instrumental and vocal) wanting to explore a repertory for their instrument together with fixed-media electronics. Through building skills for mixed music, students will gain confidence in concert performance of contemporary music. Topics covered include microphone and loudspeaker techniques, controllers, effect boxes, electroacoustics, technical riders, collaborating with sound engineers, repertory development, and aesthetics. Focused on practical and creative work, the course is examined through continuous evaluation and in-house live performance.

M1797.002100 믹스드 음악 2 3-2-2

Mixed Music 2

믹스드 음악 1의 연장선에서 독주자들은 인터랙티브 엽렉트로닉스를 자유로울 롤프토리를 탐구한다. 학생들은 믹스드 음악 수업에서 향한 실험을 통해 현대음악의 콘서트 공연에 능숙해질 것이다. 다수의 주제에는 고급 및 실험용 컨트롤러, 동적 공간화, 컴퓨터 인터랙티버 이(예: Max), 작곡과 사운드 엔지니어링의 협업, 론프토리 개발 및 미학 등이 포함된다. 실용성, 창조성 및 이론에 관한 내용이 균형있게 배치된 이 과정은 분석 자료와 공연 실연을 통해 평가된다.

In this continued course, soloists explore new repertory for their instrument together with interactive electronics. Through augmenting their skills in mixed music, students will gain fluency in concert performance of contemporary music. Topics covered include advanced and experimental controllers, dynamic spatialisation, computer interactivity (e.g. with Max), collaborating with composers and sound engineers, repertory development, and aesthetics. Equally prac-
tical, creative, and theory-driven, the course is examined through a written analysis and a public concert performance.

M2183.003600

**Introductory Studio Music Making (Logic, Sound Design)**

This class is a subject for all undergraduates of the College of Music, which uses Digital Audio Workstation (DAW) and various plug-ins to acquire the introductory course of professional music production technology. The purpose of this class is to train high-quality professionals who can work in the studio music making field through this course.

M2183.003700

**Advanced Studio Music Making (Logic, Sound Design)**

This class is a subject for all undergraduates of the College of Music, which uses Digital Audio Workstation (DAW) and various plug-ins to acquire the advanced course of professional music production technology. The purpose of this class is to train high-quality professionals who can work in the studio music making field through this course.
6522.1235* 대외법(이론) 1 1-1-1

Counterpoint 1

The crucial aspect of music will be studied: how to treat a tone in the relationship between tones. The participants of the class will learn elementary skills of writing music through the systematic training of 16th century counterpoint and the analytical approach to the polyphonic repertoire from the Middle Age to the 16th century. During the class, the participants will learn the counterpoint skills described in the text book, solve related counterpoint problems, and be assigned homeworks.

6522.1236* 대외법(이론) 2 1-1-1

Counterpoint 2

During the class, the participants will learn elementary skills of writing music on the basis of counterpoint techniques described in the text book, solve related counterpoint problems, and be assigned homeworks.

6522.1281* 화성법(이론) 1 1-1-1

Harmony 1

This course, continued from <Harmony 1>, is designed to study chords used in tonal harmony and their progression. Students are to solve soprano/bass problems concerning materials covered in the class and analyze musical excerpts from tonal repertoire. The course will cover the subjects including nonharmonic notes, dominant seventh chords and secondary chords. During the class, the participants will learn the harmony skills described in the text book, solve related problems, and be assigned homeworks.

6522.1282* 화성법(이론) 2 1-1-1

Harmony 2

This course will study chords used in tonal harmony and their progression. Students are to solve soprano/bass problems concerning materials covered in the class and analyze musical excerpts from tonal repertoire. The course will cover the subjects including nonharmonic notes, dominant seventh chords and secondary chords. During the class, the participants will learn the harmony skills described in the text book, solve related problems, and be assigned homeworks.

6522.1237* 대외법(이론) 3 1-1-1

Counterpoint 3

The crucial aspect of music will be studied: how to treat a tone in the relationship between tones. This course, continued from Counterpoint 1, is designed to give students advanced 16th century counterpoint techniques and opportunities to analyze some compositions written with them. Students will write a piece with 16th century style at the end of the course. During the class, the participants will learn the counterpoint skills described in the text book, solve related counterpoint problems, and be assigned homeworks.

6522.1238* 화성법(이론) 2 1-1-1

Harmony 3

This course will study chords used in tonal harmony and their progression. Students are to solve soprano/bass problems concerning materials covered in the class and analyze musical excerpts from tonal repertoire. The course will cover the subjects including nonharmonic notes, dominant seventh chords and secondary chords. During the class, the participants will learn the harmony skills described in the text book, solve related problems, and be assigned homeworks.
In this course, students will study the counterpoint techniques and musical structures used in J.S. Bach’s fugues and analyze some of them. Students will be instructed in writing a fugue at the end of the course.

The crucial aspect of music will be studied: how to treat a tone in the relationship between tones. Students will study the harmony skills described in the text book, solve related counterpoint problems, and be assigned homeworks.

Student will solve larger-scale problems with the techniques acquired in <Harmony 1~3> and analyze more complex harmonic structures of musical excerpts. Students will solve problems using all of their knowledge about harmony.

In this course, students will discuss the thoughts of representative musical theorists and literature, investigating changes in the main ideas.
Sociology of Music

The course will deal with the social origins, social processes, and structure of musical phenomena. It will focus on artists, artworks, artistic systems, organization of the audience, and interaction between artists and the audience.

History of Western Music through Listening 3

This course will deal with the social origins, social processes, and structure of musical phenomena. It will focus on artists, artworks, artistic systems, organization of the audience, and interaction between artists and the audience.

History of Western Music through Listening 4

This course will deal with the social origins, social processes, and structure of musical phenomena. It will focus on artists, artworks, artistic systems, organization of the audience, and interaction between artists and the audience.

6522.3425

Music of Indian Subcontinent

This course will deal with the social origins, social processes, and structure of musical phenomena. It will focus on artists, artworks, artistic systems, organization of the audience, and interaction between artists and the audience.

6522.3461

Theory and Practice of Cinema-Music

This course will deal with the social origins, social processes, and structure of musical phenomena. It will focus on artists, artworks, artistic systems, organization of the audience, and interaction between artists and the audience.

652.275*

Seminars in Music Theory 1

This course will deal with the social origins, social processes, and structure of musical phenomena. It will focus on artists, artworks, artistic systems, organization of the audience, and interaction between artists and the audience.

Studies in Methodology of Research on Music

This course will deal with the social origins, social processes, and structure of musical phenomena. It will focus on artists, artworks, artistic systems, organization of the audience, and interaction between artists and the audience.
다른 학문들과 음악학의 상호 학문적 관계에 대한 구체적인 통찰을 얻을 수 있을 것이다.

This course will study various areas of musicology including musical historiography, aesthetics, psychology, sociology, and ethnology. Students will also learn about the interdisciplinary relationship between music and other disciplines.

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<th>652.277*</th>
<th>음악이론세미나 3 2-2-0</th>
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<td>Seminar in Music Theory 3</td>
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음악학의 제문제에 대해 토론하고 각 분야의 대표적 논문들을 검토하면서 주요 개념들을 정의한다.

Students will discuss the major musicological problems and define some of the crucial concepts in this course.

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현대음악학의 당면과제를 통찰하고 각자의 관심분야를 탐색한다.

This course concentrates on the major problems of modern musicology, thus establishing a strong academic foundation for students. Through the course, students will learn about not only the trends in the various modern musical schools but also the affinity among them.
6531.2101 Collaborative Performance Technique (Instrumental)

This course aims to provide a deep understanding of Instrumental Ensemble Repertoire and its performance technique through two primary methods.

First, a series of lectures and discussions will build a foundation of knowledge for students regarding instrumental ensemble repertoire centered around the piano.

Then, students will be given opportunities to perform in groups where they will be guided to experiment with performance specific technical ideas such as tempo, meter, rhythm, phrasing, articulation, breathing, balance, voicing and pedaling in a collaborative context.

This course will help students to maintain their pianos over a long period.

6531.3303* Chamber Music (Ensemble)

Chamber Music (Ensemble)

Chamber Music (Ensemble)

Piano Major

This course will introduce keyboard music from before 1750 with a focus on Baroque performance practice and repertory search (requirement: actual performance and academic study). Topics will cover: (1) early keyboard music in England from Byrd to Handel; early keyboard music in France from Chambonnieres to Rameau; early keyboard music in Italy, Spain, and Portugal; music of Domenico Scarlatti; and (2) music of J. S. Bach; characteristics of his music and general problems of interpretation; well-tempered clavier; English suites and French suites; Kлавиенбург, partitas; improvisation; studies in ornamentation; Goldberg variations; Musical Offering; and the Art of Fugue.

Piano Literature 2

The course will provide an opportunity to study various elements of ensemble playing techniques and to explore different aspects of musical interpretation, thus helping students to become more expressive and articulate chamber music performers.

6531.3318 Piano Construction and Maintenance

Piano Construction and Maintenance

Piano Construction and Maintenance

Piano Construction and Maintenance

This course will help students to maintain their pianos over a long period.
토토를 개발하는데 목적을 둔다. 또한 곡의 문체와 감상을 통하여 다양한 악곡의 해석과 연주법을 공부함으로써 이를 연주에 활용하도록 한다.

<Piano Literature 2> is the course that concentrates on music for the piano written in the 19th and 20th centuries. The purpose of this course is to extend the boundaries of piano repertoire by researching historical background of the composers during the time and stylistic differences of their music. It is also to learn performance practice in the 19th and 20th centuries by analyzing scores and listening to music, as well as studying piano literature.

M1800.000300 바로크 연주법 실습 1-0-2

Baroque Music Performance

학생들이 연주하는 바로크 건반음악 레퍼토리에서 프레이징, 아티큘레이션, 장식음에 관한 바로크 연주 관습을 적용하여 바로크 양식에 맞는 연주법을 익히고 작품 해석 능력을 배양한다.

This course aims to foster greater understanding of Baroque style. Through performance of Baroque masterpieces, students will learn the nuances of the Baroque era performance practice and develop refined interpretative skills.

6531.3334 피아노교수법 3-3-0

Piano Pedagogy

이 과목은 학부학생들을 위한 것으로서, 클래식 피아노 음악을 다양한 레벨의 학생들에게도 적용하기 위해 필요한 지식과 실습을 포함한다. 과목에서 다루는 범위는 피아노스트로 SOCK 요구사항 및 다양한 장르의 학습에 대한 교재, 주요 핵심 테크닉 및 표현, 실습을 통한 효과적인 전달계획법, 이론의 이해 및 실행 관계, 예술적 교육을 만들어내는 교육법 등이다. 과목은 크게 두 부분에 역점을 두어 진행하게 되는데 첫째는 활용한 스킬이 되기 위한 다양한 지도테크닉, 음악적 표현법, 핵심 테크닉의 이해 등을 습득하도록 하는 것이며, 두 번째는 음악가로서 갖추어야 할 소양과 존경받을 수 있는 스킬이 되기 위한 부분에 역점을 두게 된다.

This undergraduate course on piano pedagogy will enable students to prepare as refined piano teachers and players. As pedagogy is defined in terms of functions, work, and the art of teaching, the course will cover a broad spectrum of ideas, factual skills, and experimentation of serious piano teaching on a variety of levels. It will focus on two main streams: actual pianistic techniques to handle the piano and its repertoires; and the qualifications of a fine piano teacher.
6532.1337*Orchestra 1 2-0-6

This course aims to help the students who are majoring in music, could catch the distinctive features and characters of the orchestral ensemble through the learning of various orchestra pieces which composed in Baroque and early Romantic area. Also make the students to acquired the fundamental sense of orchestral ensemble and to developed their abilities in sight reading.

6533.2260*Instrumental Major 2-1-2

Our String Department is composed of the most distinguished professors and teachers in Korea, all of who are high-classified professors and teachers in Korea, all of whom are expert professors and teachers in Korea, all of them are expert professors and teachers in Korea. Therefore, the students of our department will have an opportunity to master the skills on their respective instruments and to expand their solo repertoire. They will also prepare for a performance examination at the end of the semester, in which they must present their newly learned repertoire in front of a jury.

6533.3301*Orchestra Study 1 1-0-2

This lecture aim to help the student who is majoring in string instruments, especially who want to be a professional orchestra player, could equipped with the essential and the professional playing-technics and theories of the orchestral work.

6533.3302*Orchestra Study 2 1-0-2

This course for string majors will deal with small ensembles as opposed to full chamber music ensembles by arrangement with the String Department. Each team will receive weekly one-hour coaching and be expected to rehearse on their own. The course will provide an opportunity to study various elements of ensemble playing techniques and to explore different aspects of musical interpretation, thus helping students to become more expressive and articulate chamber music performers.

6533.3303*Chamber Music(Ensemble) 1-0-2

The course aim to help the student who is majoring in string instruments, especially who want to be a professional orchestra player, could equipped with the essential and the professional playing-technics and theories of the orchestral work.

6533.4339*Strings Literature 1 3-3-0

This course concentrates on the general aspects of string literature from the past to the present. The course will include a survey of various string instruments, the core repertoires, and performance practice. It will explore the major important composers and their works for string instruments and the significance of these works will be discussed in the class. In <String Literature 1>, the course will focus on music for string instruments from the Middle Ages to the Classical era. In String Literature II, the course will focus on the Romantic era to the present. The objective is to experience and understand the diverse language of music with a focus on string instruments.

6533.4340*Strings Literature 2 3-3-0

This course will provide students to become more expressive and articulate chamber music performers.
발견된다. <현악문헌 1>에서는 중세에서 고전시대까지의 현악 음악을 중점적으로 다루게 되는데 각 시대별로 그 당시의 음악적 상황과 연주관행을 주요 작곡가들의 작품을 통해 검토해 볼 것이다. <현악문헌 2>에서는 바로크시대부터 현대에 이르는 현악 레퍼토리를 다루게 된다. 특별히, 18세기와 19세기에 나타나게 되는 악기의 변화와 주법의 발달이 미친 영향에 대해서 작품을 통해 구체적으로 논의할 것이며 20세기에는 작곡가들의 음악적 사상과 다양한 음악적 표현 등에 대해서 공부할 것이다. 현악문헌에서는 강의 외에 manuscript를 통한 곡의 이해, 연주 감상, 학생들의 주제 발표 및 토론을 도입한 수업방식을 채택하여 학생들의 자발적인 참여를 유도할 것이다. 따라서 현악문헌은 현악 레퍼토리를 음악사적인 시각에서 관찰하여 학생들이 다양한 음악 세계를 경험하고 이해하는 데 도움을 줄 것이다.

This course concentrates on the general aspects of string literature from the past to the present. The course will include a survey of various string instruments, the core repertoires, and performance practice. It will explore the major important composers and their works for string instruments and the significance of these works will be discussed in the class. In <String Literature 1>, the course will focus on music for string instruments from the Middle Ages to the Classical era. In <String Literature 2>, the course will focus on the Romantic era to the present. The objective is to experience and understand the diverse language of music with a focus on string instruments.
6532.1111* 관악합주 1 1-0-4
Wind Ensemble 1

관악 합주곡 및 관현악 관현악곡들을 통하여 관악 합주의 영역, 특성 및 종류들을 배우며 기본적인 양상을 훈련 통해 기본적인 합주의 감각을 기른다.

By studying original music composed for wind ensemble as well as transcribed orchestral music, students will learn the categories, characteristics, and types of band music and acquire basic ensemble skills in this course.

6532.3111* 관악합주2 1-0-4
Wind Ensemble 2

관악 합주곡 및 관현악 관현악곡들을 통하여 관악 합주의 영역, 특성 및 종류들을 배우며 심도 있는 양상을 훈련 관악합주의 감각을 기른다.

By studying original music composed for wind ensemble as well as transcribed orchestral music, students will learn the categories, characteristics, and types of band music and acquire intensive skills in this course.

6532.1337* 관현악 1 2-0-6
Philharmony Orchestra 1

고전시대와 낭만시대의 관현악 곡들을 통하여 관현악 합주의 특성과 종류들을 배운다. 또한 관현악 합주의 리듬과 화성을 분석하며 다양한 양상을 현상을 습득한다. 기초적인 관현악곡들을 통하여 기초적인 양상 습득을 배우고 기본적인 합주의 감각을 기른다.

This lecture aims to help the students who are majoring in music, could catch the distinctive features and characters of the orchestral ensemble through the learning of various orchestra pieces which composed in Baroque and early Romantic area. Also make the students to acquired the fundamental sense of orchestral ensemble and to developed their abilities in sight reading.

6532.2240* 관악실기(기악기) 2-1-2
Instrumental Major

기악기 주요에 필요한 호흡, 소리공명의 테크닉과 음악의 이해 등 기본적인 주법의 향상 및 완성을 목표로 삼고, 이를 토대로 각 시대별 작품들의 길이 있는 이해와 해석을 지향한다. 스크립트와 연습곡의 구분한 연습이 요구된다.

In this course, students will be trained to perfect their high standards of basic skills as wind instrument players such as breathing, resonance, techniques, and musical understanding. Various styles of music will be studied in depth and diligent practice in scales will be required.

6532.3303* 실내악양성기(음주) 1-0-2
Chamber Music(Ensemble)

실내악 중심의 조교 실내악학습이며 두 학기 연속 수강가능하다. 양성기 연주에 필요한 여러 가지 간각에 대하여 집중습수하며 고전시대부터 현대에 이르는 실내악 문헌 중 자유롭게 선택하여 다룬다.

This course for string majors will deal with small ensembles as opposed to full chamber music ensembles by arrangement with the String Department. Each team will receive weekly one-hour coaching and be expected to rehearse on their own. The course will provide an opportunity to study various elements of ensemble playing techniques and to explore different aspects of musical interpretation, thus helping students to become more expressive and articulate chamber music performers.

6532.3337* 관현악 2 2-0-6
Orchestra 2

시대별 관현악곡들을 훈련하여 각 시대별 음악의 특성과 성향을 파악한다. 다양한 작곡가들의 관현악 합주를 분석하고 실제 관현악 합주의 리듬과 화성을 현상에 대해 접근한다. 또한 대표적인 관현악곡들을 합성으로써 실제 연주에 응용할 수 있는 능력을 배양한다.

To practicing many orchestra pieces which related on each part of areas in other to the student can realize that the musical differences between them and also to understand the unique character that each area have. The most important purpose of this ‘Orchestra 2’ lecture is that by experiencing many great pieces of the famous composers, the students can matured their music world more easily.

6532.4339 관악문헌 3-3-0
Winds Literature

관악문헌의 이론을 바탕하여 관악기의 이론을 파악하고 특수한 주법 등을 체계적으로 분석한다. 또한 금관악기와 목관악기 등에 대한 문헌을 분석하고 차이점을 파악한다. 대표적인 문헌과 대표적인 작곡가의 문헌에는 몰라도, 실제 관악문헌의 이론 능력을 배양한다.

The topics of this course include: History of wind instrument literature, theory of wind instruments, and systematical analysis of blowing technique. Participants will analyze and understand the difference between literatures of brass and woodwind instruments. Investigation of major literature and musicians will help students to obtain appropriate research ability and approach to wind instrument literature.

6532.4342 재즈입문 1 2-1-2
Introduction to Jazz 1

제주의 역사와 비람하여 음색, 화성구조 및 특수한 주법 등을 체계적으로 파악한다. 또한 재주의 대표적인 작품과 연주가에 대한 정보를 정리함으로써 음악의 감상 기반을 깊게 이해한다. 재주의 주법들을 실제 창작과 응용할 수 있는 능력을 배양한다.

This course will cover the history, harmonics, scale, and special techniques of jazz music. By reviewing the major works and composers, students will learn the main idioms and techniques.

6532.4343 재즈입문 2 2-1-2
Introduction to Jazz 2

제주의 역사와 비람하여 음색, 화성구조 및 특수한 주법 등을 체계적으로 파악한다. 또한 재주의 대표적인 작품과 연주가에 대한 정보를 정리함으로써 음악의 감상 기반을 깊게 이해한다. 재주의 주법들을 실제 창작과 응용할 수 있는 능력을 배양한다.

This course will cover the history, harmonics, scale, and
special techniques of jazz music. By reviewing the major works and composers, students will learn the main idioms and techniques.

6532.1225 호흡법 2-2-0

Breathing

This class aims at the general apprehension of the relationship between breathing and music and help students to learn the right breathing through understanding the human anatomy. Additionally, students will be expected to apply their learning to the actual performance practice.
Music. It is the first part of a year-long course. and to enforce their understanding of traditional Korean instrumental music and musical theory. This course will enable students to understand how to use rhythms and how to apply it to Korean traditional music. Students must register for two continuous terms.

**Practice of Korean Traditional Songs**

Much of Korean traditional music is concert music and even instrumental music is closely related to vocal music. Vocal music therefore is very important to students majoring in instrumental music and musical theory. This course will enable students to sing the gasa and sijo easily and correctly and to enforce their understanding of traditional Korean music. It is the first part of a year-long course.

**Korean Dance 2**

Dance, through rhythms and breathing, can help improve a musician’s performance skills. To harness the musician’s emotions in performance and increase the circulation of the body’s energies, students will learn dances based on Korean traditional rhythms. The process of learning the dances will employ the principles of Korean traditional performance, which require composition in the midst of performance. Students will learn the fundamentals of dance through salp’uri, an essential dance of the Korean repertoire.

**History of Korean Music 1**

This course will focus on the process of development and accompaniment techniques of general rhythm (court music, Korean folk music, san-jo, and new musical composition) of Korean traditional music. This course shows the elegance of court music rhythm, the beauty of Korean folk music rhythm, ever-changing speed of san-jo rhythm, various rhythms of new musical composition, and various new accompaniment techniques. This course will enable students to understand how to use rhythms and how to apply it to Korean traditional music. Students must register for two continuous terms.

**Accompanying of Korean Music 2**

Dance, through rhythms and breathing, can help improve a musician’s performance skills. To harness the musician’s emotions in performance and increase the circulation of the body’s energies, students will learn dances based on Korean traditional rhythms. The process of learning the dances will employ the principles of Korean traditional performance, which require composition in the midst of performance. Students will learn the fundamentals of dance through salp’uri, an essential dance of the Korean repertoire.

**History of Korean Music 1**

This course will focus on the process of development and accompaniment techniques of general rhythm (court music, Korean folk music, san-jo, and new musical composition) of Korean traditional music. This course shows the elegance of court music rhythm, the beauty of Korean folk music rhythm, ever-changing speed of san-jo rhythm, various rhythms of new musical composition, and various new accompaniment techniques. This course will enable students to understand how to use rhythms and how to apply it to Korean traditional music. Students must register for two continuous terms.
This course will cover the history of Korean music from the Samhan period to the Unified Silla, Koryo, Choson, and Enlightenment periods. It is the first half of a two-part course running through two semesters. Students must register for two consecutive semesters.

**History of Korean Music 2**

한국 음악은 한국전통음악을 종합한 관점과 횡단의 관점에서 보라는 두 입장으로 나누어지며, 이 두는 사실은 상호보완적 관계 에 있다는 한국학자들은 보고까지 약가들과의 관계는 약가들의 음악의 곡주와 일치하는 편으로 만들어진다. 음악학자들이 이 영역에 그들의 일을 하기 위한 지에 대해 생각하고 만들고, 그 주는 방법들을 통해 알아낸다. 전 세계 다양한 음악문화를 접할 수 있는 기회를 제공하는 가운데, 강의와 토크방식으로 진행된다. 이 를 통해 현장 연구 과제를 자립적으로 수행한다.

There are two approaches, vertical and horizontal, which complement each other, in the study of traditional Korean music. Korean musical history adopts the vertical approach. This course will cover the history of Korean music from the Samhan period to the Unified Silla, Koryo, Choson, and Enlightenment periods. It is the first half of a two-part course running through two semesters. Students must register for two consecutive semesters.

**Introduction to Asian Music**

이 과목에서는 아시아 여러 나라의 다양한 음악문화를 직접 비디오를 감상할 수 있는 기회를 제공하는 가운데, 아시아 지역의 민족음악학계에서는 이르게 되고 있는 다양한 논쟁가들을 소개한다. 이들 통해 서양음악문화와도 유사한 수준에서 탐구하여 아시아문화가 나름대로의 미와 가치를 갖는 것을 이해시킨다.

The main purpose of this course is to introduce students to the multiple music cultures of Asia. Important issues in current Ethnomusicology such as Eurocentrism in Music, will be discussed. This course is comprised of lecture, discussion and video presentations. By this, students are expected to understand that all the cultures in Asia has its own aesthetic value in Music.

**Korean Music Concert Planning**

This course is to nurture students' creative and planning abilities by covering the basic administrative components of creating staged performances. Starting from small program planning to major performances, students will learn the organizational skills necessary in planning performances. By enhancing an understanding of concert planning and allowing students to apply these skills in the development of their own programs, this class serves to broaden each student's knowledge of Korean performance culture, thus helping to increase their competitiveness in the Korean music job market.

**Introduction to Ethnomusicology**

학생들에게 인류음악학분야를 소개하는 데 목적을 두며, 인류음악학의 핵심적인 내용을 결정짓는 주요 이슈인 정체성(민족성, 민족), 정체, 천화, 보존, 세계화와 그리고 이 학문에 사용되는 다양한 방법론들을 탐구한다. 아울러 전 세계 사람들이 그 동안 음악을 이룬 생각과 이유로 만들어낸다. 음악학자들이 이 영역에 그들의 일에 합쳐 웰는지에 대해 생각하고 만들고, 그 주는 방법들을 통해 알아낸다. 전 세계 다양한 음악문화를 접할 수 있는 기회를 제공하는 가운데, 강의와 토크방식으로 진행된다. 이 를 통해 현장연구 과제를 자립적으로 수행한다.

The aim of this course is to introduce students to the field of ethnomusicology. In order to do this, we will explore major concepts that have shaped the core of ethnomusicological studies. Issues such as music and identity (ethnic, gender, racial), music and politics, music and ritual, musical roots, change and preservation, globalization, field research, transcription and musical instrument classification. We will think, talk, and write about how and why people make music, as well as how and how ethnomusicologists go about their work. Students will undertake a group fieldwork projects that will contribute to a class-wide fieldwork project.

**Literature of Korean Music**

이 과목은 음악관련 문헌을 통해 한국음악의 역사적 사상적 배경을 살펴보고, 고독보(古樂譜)를 통해 음악학 연구를 할 수 있는 것에 대해 논의한다. 조선시대의 대표적인 음악가인 '약마Basket리Keyboard', 조선왕조 실록(朝鮮王朝實錄)'과 문집의 음악관련 발췌 기사, 동양음악 사상의 정수를 담간 '악기(樂器)' 등을 읽는다.

This course provides a survey of the historical and philosophical backgrounds as well as the development of Korean traditional music by way of an analysis of the relevant literature and of classical musical notations. Students will read representative Chosun Dynasty classics in music such as (Akhak Kwebom(A Record of the Study of Music)), 'Choson Wangjo Sillok(Annals of the Choson Dynasty)' and related articles extracted from other books; and 'Akgi(Record of Musical thoughts)', which contains the essence of Asian musical philosophy.

**Korean Folk Music Fieldwork Seminar**

한 학기에 4~5회 실질적인 담사를 통해 현장에서 전개되는 생생한 음악을 민속음악관련 연구 자료로 만들고, 관련하여 연구하는 수업이다.

In this subject the student will research Korean folk music, and survey the related un-depth in the field by actually going on several study tours.

**Topics in a Korean Traditional Music Critique**

한국음악을 둘러싼 다양한 이슈와 비평적 생각을 고찰하고 비평적 관찰과 의식을 기르며 실제 자신의 전공 상황에 적용하여 비평과 실기를 결합시하는 능력을 기른다. 학부 4학년을 대상으로
Music Critique is one of all critic work. In this course, Korean Music will be treated. This course is for senior students, and open every second terms.

654.4426 창작국악론 2-2-0

Studies of Newly Composed Korean Music

이 강의는 4년과 학부생들을 위한 강좌이다. 각기 교수의 1940년 창작곡 이후 작곡된 한국의 현대 국악 창작곡을 다룰 것이다. 한국음악의 창작 경향과 체제 및 작업 논리에 대하여 공부하게 될 것이다.

This course is for senior students. It will deal with newly composed Korean music. The trend and identity of newly composed Korean music will be studied.

M1803.000600 국악축홍연주실습 1-0-2

Korean Music Improvisation Performance Practice

본 강의는 한국전통음악에 내재된 즉흥성과 연주자 중심의 창작성을 체계적으로 훈련하고 실습하는 수업으로서 전통 장단과 선율, 토리에 대한 이해와 분석을 기반으로 창조연주 방법론에 대한 실습을 진행한다.

This course builds on foundations in the understanding and analysis of traditional rhythm cycles, melodies and regionally-based performance nuances to teach improvisation performance methods. The class will focus on systematic training and practice of improvisation and performer-centered creativity inherent to Korean traditional music.

M0000.016900 연주사회공헌 1-0-2

Performance-Based Community Service

본 강좌는 연주에 대해 전문성을 함양하는 것 이외에 지역 사회에 대한 관심을 갖도록 하는 것이 그 목적이다. 아울러 사회 구성원으로서의 사명감과 인간에 대한 관심을 갖도록 하는 데 그 목적이 있다. 이 강좌는 연주봉사활동 및 평가회로 구성되어 연주봉사활동을 교내 여러 연주, 캠퍼스 근린 지역 및 문화소아 예술제에 포함하여 다양한 지역사회 구성원들에게 대상으로 진행한다.

This course aims to provide students with an overall understanding of Korean music instruments. Students will study and learn the basic structure, playing techniques, range and characteristics of Korean traditional music instruments. Learning about Korean traditional instruments can help students deeply understand Korean traditional music. As part of Korea's cultural heritage, learning about Korean traditional music instruments will also provide a better understanding of Korean history and culture.

M1803.001100 공연제작워크숍 2-0-4

Performing Arts Workshop

본 과목은 음악대학을 비롯하여 공연예술과 관련된 여러 다양한 전공을 가진 학생들이 함께 작업을 만들어보는 수업으로서 실제적인 현장 경험을 통해 학생들의 경험을 토대로 하는 것에 목표를 두고 있다. 학생은 창작성의 평가를 위한 예술튴 외에도 경험하는 기회를 제공한다. 학기말 중간과 전후로 공연이 가능한 학내의 공간에서 공개적으로 발표를 하여 관객들과 만나는 시간을 갖는다.

This course introduces students to the collaborative process and interdisciplinary field of performing arts. Students will investigate and create a performance, influenced by-and influencing- colleagues in music, theatre, dance, and visual studies. Also, students will participate in the school performances and have the opportunity to share their short performance work, in a collaborative spirit.

M21830.002200 국제국악실습 2-2-0

International Korean Traditional Music Practice

이 수업은 국악과 학생들이 한국음악을 국제적으로 알릴 수 있는 방법을 개발하는 것이 목적이며, 한국음악을 교육하거나 발표하는 다양한 방법을 시도해보다고 창의적이고 글로벌 standards에 맞는 방법들을 습득할 수 있게 한다. 이 수업은 주로 영어로 진행될 예정이지만 한국어도 병용하여 경쟁력을 높이는 방법론의 주제를 학습하여 국가적 차별화가 될 수 있도록 할 것이다.

This course is designed to help students develop strategies for introducing gugak on the international scene. Through analysing and experimenting with a variety of existing strategies, students will develop their own personal toolkit that they can use to promote their art in a variety of different contexts on the international scene. While this course will be predominantly in English, it is also open to students who are not yet confident in English as well.
M2183.004200* 국악관악합주 1 1-0-2

Korean Wind Music Ensemble

이 과목은 한국 음악 중에서 적악곡들을 합주함으로써 전공실기능력을 향상시키는데 목적이 있다. 이 강좌에서는 재학생들의 전공성향성, 수립원, 취타 등의 곡을 다루게 될 것이다. 이를 통하여 국악 관악 전공자의 합주능력을 강화한다.

The aim of this course is to improve ability of playing Korean Traditional Court music ensemble. In this course, the wind music-Gwanak, Youngsanwhoisang, Sujechen, Chwita-will be taught.

M2183.004200* 국악관악합주 2 1-0-2

Korean Wind Music Ensemble

이 과목은 한국 음악 중에서 적악곡들을 합주함으로써 전공실기능력을 향상시키는데 목적이 있다. 이 강좌에서는 국악관악 전공의 전공성향성, 수립원, 취타 등의 곡을 다루게 될 것이다. 이를 통하여 국악 관악 전공자의 합주능력을 강화한다.

The aim of this course is to improve ability of playing Korean Traditional Court music ensemble. In this course, the wind music-Gwanak, Youngsanwhoisang, Sujechen, Chwita-will be taught.

M2183.004500* 민속악합주 1 1-0-2

Korean Folk Music Ensemble

국악합주가 헤테로포니적으로 연주되는 데에 비하여 전공실기능력은 개인 교육형태로 이루어지기 때문에 합주능력의 개발을 위해서 국악실기 과정에서 개인적으로 연주할 수 있는 합주능력을 전통적 방식의 합주기법으로 연결시키는 실습기간을 필요로 한다. 본 실습과목에서는 국악합주 중 민속악합주를 다루게 된다.

While Korean traditional music ensemble is performed heterophonically, practical lessons are conducted individually. So students who study Korean folk music must devote time to perform their individual techniques in group performance. This course is given for the above purpose.

M2183.004600* 민속악합주 2 1-0-2

Korean Folk Music Ensemble 2

국악합주가 헤테로포니적으로 연주되는 데에 비하여 전공실기능력은 개인 교육형태로 이루어지기 때문에 합주능력의 개발을 위해서 국악실기 과정에서 개인적으로 연주할 수 있는 합주능력을 전통적 방식의 합주기법으로 연결시키는 실습기간을 필요로 한다. 본 실습과목에서는 국악합주 중 민속악합주를 다루게 된다.

While Korean traditional music ensemble is performed heterophonically, practical lessons are conducted individually. So students who study Korean folk music must devote time to perform their individual techniques in group performance. This course is given for the above purpose.

M2183.004700* 국악실내악 1 1-0-2

Korean Chamber Music

정악은 헤테로포니적인 합주성으로 연주되는데에 비하여 전공실기능력은 개인 교육형태로 이루어지기 때문에 합주능력의 개발을 위해서 국악실기 과정에서 개인적으로 연주할 수 있는 합주능력을 전통적 방식의 합주기법으로 연결시키는 실습기간을 필요로 한다. 따라서 본 실습과목의 목적은 국악 실내악 합주에 익숙하게 함
음악대학

음악대학은 한기계의 교육기관으로 구성되어 있으며, 각 학과별로 다양한 전공과목을 제공합니다. 

**범위: 国악과 Dept. of Korean Music**

**저작권**

- **음악대학**
- **Korean Chamber Music**
- **창작국악실습**
- **국악현악합주**
- **국악가창세미나**
- **국악성악실기**
- **국악성악전공**
- **국악성악 전공**
- **practice of folk song accompaniment**

국악과는 음악대학의 한기계로, 전공 심화과정을 통해 전문성을 가진 음악인을 양성하고 있습니다. 학과는 음악과 관련된 전문가로서 교육과 연구를 통해 전문성을 가지는 음악인을 배출합니다. 

**M2183.004800 음악대학실내악 2 1-0-2**

**Korean Chamber Music**

동양음악이 혼합된 앙상블로서, 각 커뮤니티는 개인의 음악성을 발휘함으로써 합작적인 음악성을 발휘합니다. 

**6541.4425 창작국악실습 1-0-2**

**Practice of Korean New Music**

국악과 학생들이 창작한 국악곡을 연주함으로써 창작곡에 대한 이해를 넓히고, 작곡가와의 대화를 통해 연주기술을 향상시킵니다. 

**M2183.004300 국악현악합주 1**

**Korean String Music Ensemble**

기문고와 가야금을 중심으로 하는 합주곡을 다루는 과목입니다. 전통 음악 중 대표적인 현악합주곡로 현대적인 현악합주곡에 이르기까지 다양한 성격의 곡들을 접해볼 수 있습니다.

**M2183.004400 국악현악합주 2 1-0-2**

**Korean String Music Ensemble**

기문고와 가야금의 합주를 중심으로 하는 합주곡을 다루는 과목입니다. 전통음악 중 대표적인 현악합주곡으로 현대적인 현악합주곡에 이르기까지 다양한 성격의 곡들을 접해볼 수 있습니다.

**M1803.001000 민요반주실습 1-0-2**

**practice of folk song accompaniment**

어느날 민요는 경기, 충북, 천마동, 제주 등 지역적 특성이 잘 드러나는 음악으로 전문성을 가진 음악인에 의해 전공증고되고 있습니다. 학과는 민요의 지역적 특성을 통합시키며 토리를 강조하는 도메인과 조화를 통해 연주파를 구현하는 응용으로 표현하는 방향으로 향유되고 있습니다. 그러나 오랜 시간 풍자되어 온 토속음악의 독특한 대화적 특성과 민요의 도합성을 배합하여 여러 지역의 음악들이 상호 수용하기도 하여 영어화하거나는 여러 지역의 토리의 특징이 섞여 나타나기도 합니다. 또한 이러한 민요의 다양성과 음악적 복합성을 민요가작 과반주 실습을 통해 이해하게 됩니다. 

**6542.1257* 국악성악실기 2-1-2**

**Vocal Major of Korean Music**

국악과의 성악전공 학생들의 필수 전공과목으로, 이들이 갖추어야 할 연주기 술, 악곡해석 능력, 연주품격 등 전반적으로 전공받기 위해 간각이지도 수업형태로 이루어지는 실기 과목입니다.

**M2183.004300* 국악가창세미나 2-2-0**

**Seminar on the Korean Traditional Vocal Music**

성악 전공자들은 자신의 전공수업 능력 외에도 사설의 분석, 작창법, 연기력 등 다양한 능력을 요구합니다. 이 과목은 성악 전공자 전반에 참여하여 다양한 주제에 대해 토론 및 훈련과정을 갖게 될 것입니다.

**M2183.004300* 국악가창세미나 2-2-0**

**Seminar on the Korean Traditional Vocal Music**

성악 전공자들은 자신의 전공수업 능력 외에도 사설의 분석, 작창법, 연기력 등 다양한 능력을 요구합니다. 이 과목은 성악 전공자 전반에 참여하여 다양한 주제에 대해 토론 및 훈련과정을 갖게 될 것입니다.
국악지휘전공(Korean Conducting Major)

6543.1258* 국악지휘실기 2-1-2

Conducting Major of Korean Music

국악과의 지휘전공 학생들의 필수 전공과목으로서, 이들이 갖추야 할 지휘기술, 악곡해석 능력, 연주품격 등을 전반적으로 전수받기 위해 각 전공자에 대해 개인지도의 수업형태로 이루어지는 실기 과목이다.

This course is a compulsory subject for students majoring conducting of Korean music. The lecture form is a private lesson to improve techniques, music analytical ability and refinement etc. to provide a full spectrum of knowledge and skills. This subject is a practical technique.

국악작곡전공(Korean Music Composition Major)

6544.1259* 국악작곡실기 2-1-2

Composition Major of Korean Music

국악과의 작곡전공 학생들의 필수 전공과목으로서 국악실기나 국악이론과 같이 개인지도를 원칙으로 한다. 중간고사 와 기말고사 때 모두 작품을 낼다. 단 1학년 1학기 중간고사 때에는 지도교수의 재량에 따라 시험을 볼 수 있다.

This course is a compulsory subject for students majoring composition in Korean traditional music department. This course makes a rule to give personal guidance to students. In the mid-term and the final term, composition majoring students will be expected to hand in a work of composure.

6545.1260* 국악이론 2-1-2

Theory of Korean Music

국악과의 이론전공 학생들의 필수 전공과목으로서 국악실기와 같이 개인지도를 원칙으로 한다. 중간고사 때에는 이론전공자들은 시험을 치루고, 기말에는 논문을 제출하게 된다.

This course is a compulsory subject for students majoring theory in Korean traditional music department. This course makes a rule to give personal guidance to students. In the mid-term test, theory majoring students will be expected to take an exam, and for the final term, they are required to hand in productions.

M1803.000500* 국악작곡세미나 2-1-2

Seminar on the Korean Music Composition

국악작곡학은 근대 이후 한국음악의 장르에서 새롭게 태어난 분야로 교육과정의 정립이 필수 과목으로 이해된다. 예를 들어, 담당교수에 따라 주제와 주제의 변화를 선정하며, 수강생들은 각기 다른 주제에 대한 교과서와 선행 연구에 대한 이해를 바탕으로, 국악작곡을 창작하기 위한 기초 소양을 함양하고, 학기별로 다양한 주제를 선정하여 수강생들은 하여금 국악 작곡을 위한 총체적 경험이를 높여가며 얻는다.

Korean Music Composition is the newly emerging field in the genre of Korean Music, and it’s official curriculum is understood an essential challenge. Each semester the professor establishes the topics. On the basis of selected topics, students will take the class, read their hand out about fixed topics, and discuss them in class. Through these process, they will learn the basics of composition, exchange ideas, and develop their creativity.

Seminar on the Korean Music Theory

이 과목은 국악이론을 전공하는 학생들을 대상으로 마련된 것이다. 이 과목은 수업을 중심으로 진행하며, 세미나 주제는 담당교수가 정한다. 이 과목을 통해 학생들은 한국음악 이론에 대한 문헌고찰, 비판적 독서능력 및 토론능력을 증진시키는다. 천편한 토론에 필요한 연예과정 및 의견을 나누는 능력과 반론을 수용하는 태도 등을 함양할 수 있다.

This course is for undergraduate students majoring in musical theory. On the basis of selected topics, students will survey the reading materials, read their sources critically, and discuss them in class. Through these discussions, they will learn to articulate their thoughts, exchange ideas, and critique one another in a tactful manner.
의과대학
College of Medicine
외과과(Preliminary Medicine Courses)

801P.101A* 의예신생입생세미나 2-2-0

Pre-medical Freshman Seminar

본 과목에서는 의과 1학년 학생들이 예비의료인으로서 다양한 역할을 개발하고자 하는 것을 목표로 한다. 이를 위해 대학생활에서의 자기 계발과 전문할 수 있는 경험을 하게하고, 미래의의료인으로서의 책임, 리더십 등을 확립할 수 있게 하며, 분사를 통해 의사로서의 삶과 인간에 대한 이해와 공감을 할 수 있도록 한다.

The purpose of this course is to prepare first year pre-med students to develop different capabilities as potential healthcare professionals. This course is designed to encourage students to think about their careers and self development; accordingly, it will establish responsibility and leadership which future healthcare providers should be equipped with, enhancing their understanding of human beings in line with life as a doctor through community service.

801P.102* 의학입문 3-3-0

Introduction to Medicine

본 과목에서는 의과과 입학을 앞둔 의과 2학년 학생으로서 예비의사로서의 자질을 함양하는데 목적을 두고 있다. 이를 위해 의학의 다양한 영역과 함께 의학의 과거, 현재, 미래를 함께해 보고, 의사로서의 삶, 생명존중과 윤리에 대한 인식을 제고할 수 있도록 한다.

The purpose of this course is to help second year pre-med students entering the medical program to strengthen essential qualities that potential doctors should possess. For this reason, students are expected to explore different fields of medicine as well as the past, present and future of medicine in order to gain a better understanding of life as a doctor, respect for life and ethics.

801P.107 의학을 위한 신기술 3-3-0

New Technologies for Medicine

본 강좌는 의과 1,2학년생과 관련 학과학생을 대상으로 의학에 응용되는 기술과 이로 인한 미래의의료의 전망을 다룬다. 최신 과학과 과학 기술이 의학연구와 의료에 접목되어 어떻게 의학/의료가 바뀌어 가고 있는지 살펴보며, 학생들은 기술적 발전이 임상의 필요를 충족하기 위해서는 기술발전이 선도하여 의료수준을 바꾸는 방식으로 미래 의료가 구상될 수 있다. 학생들은 1년 후 바람직한 의료를 만들고, 기술발전이 바람직 미래 의료를 예측하게 된다.

This course is intended to provide a general overview regarding how technological development has shaped the present medical practice and what changes are expected in the clinical practice and medical research due to the expected development of science and engineering. The best examples of how technological development changed the clinical practice based on the recent development of new technologies directly related or not. Students of premed course or related science and engineering will learn the core ideas to change the near-future health behavior and understanding of the diseases and how to predict the status of medical practice in the near future.

801P.108 기초의학통계 및 실험 3-2-2

Basic Medical Statistics and Lab

통계학의 모든 분야를 기초적인 수준에서 소개하고 연습을 통해 의학연구와 관련된 통계적 문제의 해결력을 배양하게 한다. 기본적인 확률분포, 추정과 검정의 원리를 소개하고 이를 적용한다. 의학자료 분석과 관련성이 많은 회귀분석, 분류된 자료의 분석, 분산분석 등을 중심으로 통계의 전반적인 분야를 다룬다.

This course is designed to cover basic statistical methods and to improve the ability to solve statistical problems related to medical sciences through a series of lab courses. We will study the theoretical foundations for the concepts of probability distributions, statistical inferences and estimation, and practice applying these concepts to medical statistics. This course will also cover areas in statistics related to medical sciences, focusing on regression analysis, categorical data analysis, and analysis of variance.

801P.109 성의학이해 3-3-0

Introduction of Sexual Medicine

사랑과 성은 인류의 생존에 필수적인 요소이다. 이 강의는 사랑의 성과 심리적인 성의학적 이해를 다룬다. 이후의 성신경학을 이해하고자 한다.

Love and sex is essential in human life. With this program, students can widen their understanding about sex and sex-related medicine.

801P.110 한국근현대의학사의 이해 3-2-2

Understanding the History of Modern Korean Medicine

의과대학(College of Medicine) ∴의과 Dept. of Preliminary Medicine

developed and tested in laboratory animals before they are accepted for humans or domestic animals. A specific course in animal technology is now required for scientists who wish to perform experiments with animals. So, this lecture is consisted with followings; - Historical Perspectives of Laboratory Animal Medicine - Experimental Design and Statistical Analysis - Biology of Laboratory Animals - Impact of the Biotic and Abiotic Environment on Animal Experiments - Microbiological Control and Health Status - Laboratory Animal Analgesia, Anesthesia, and Euthanasia - Basic Principles and Procedures of Nonsurgical Method - Control of Biohazards Associated with the Use of Experimental Animals - Laboratory Animal Genetics and Genetic Quality Control

801P.113 연구기기 이해를 위한 공학개론 3-3-0

Engineering Principles for Medical Instrumentation

현대의 의학은 발전된 의료기기의 창업한 활용에 힘입어 급속히 발전하고 있다. 환자에게 암질의 진료를 제공하고 최첨단의 연구를 수행하기 위하여 이러한 의료기기 역할을 적극적으로 활용하고 있다. 단순한 의료기기의 조직/사용의 방법만을 넘어, 그 본질적인 원리와 핵심적 기술을 이해하는 것이 중요하다. 본 강의에서는 의료기기를 이해하고 발전적으로 사용하기 위하여 필요한 기초적 공학적 지식과 이론들에 대하여 공부하고 의료기기의 창조적 활용에 관한 점을 제공한다.

Currently, medicine is growing continuously with the support of rapidly progressing medical instrumentation technologies. Active use of medical instruments is required to provide high quality medical service for the patients and to lead the researches in the medical science. Toward this goal, understanding the basic principles of medical instrumentation is very important. The course will provide the basic engineering knowledge which is essential to understand medical instrumentation and the prospect for their progressive use in medical science and researches.

M2605.000100 대학생을 위한 지식재산권개요 3-3-0

Intellectual Property Overview for Non-Law Students

본 교과목은 비-법학전공자들에게 상표, 저작권, 특허, 영업 비밀을 포함한 주요 지식재산권의 유형에 대한 기본적인 지식과 이해, 그리고 여러 유형의 지식재산권들의 차이에 관한 통찰력을 도모하고자 한다. 구체적으로, 현대의 글로벌 지식정보사회화에 일상적이고 전문적인 활동에서 많은 지식재산을 사용하게 되고, 다양한 지식재산을 창출하며, 이를 전략적으로 관리하게 될 다양한 전반의 수상경로에 중요한 지식재산 권리를 분배하고, 대표적인 지식재산권들과 경제적 자원들을 서브에하여, 구체적인 시장을 일체에 둔 비교법학적인 관점을 갖출 수 있도록 기회를 제공하고자 한다.

This course is to assist non-law students to acquire the basic information and understanding of major forms of intellectual property (IP) laws and the insights on the differences among them. Specifically, it is to provide an opportunity for the students, who will use, create, and strategically manage the intellectual properties in their daily and professional activities, to analyze the landmark IP cases, to sur-

M2605.000400 의료기를 위한 고전읽기 3-3-0

Reading the Classics for Medical Students

의학 연구과정에 있어서 인문적 교양의 함양은 중요하지만 개별적으로 성공한 의학자들이 적극적으로 활용하고 연구를 수행하기 위하여 이러한 의료기기 역할을 적극적으로 활용하고 있다. 단순한 의료기기의 조직/사용의 방법만을 넘어, 그 본질적인 원리와 핵심적 기술을 이해하는 것이 중요하다. 본 강의에서는 의료기기를 이해하고 발전적으로 사용하기 위하여 필요한 기초적 공학적 지식과 이론들에 대하여 공부하고 의료기기의 창조적 활용에 관한 점을 제공한다.

Currently, medicine is growing continuously with the support of rapidly progressing medical instrumentation technologies. Active use of medical instruments is required to provide high quality medical service for the patients and to lead the researches in the medical science. Toward this goal, understanding the basic principles of medical instrumentation is very important. The course will provide the basic engineering knowledge which is essential to understand medical instrumentation and the prospect for their progressive use in medical science and researches.

M2605.000500 국제의학의 이해 2-2-0

Understanding Global Medicine

의학은 본질적으로 세계적인 성격을 갖고 있으나, 사실상 개발도상국 국민의 건강문제는 그간 선진국의학의 관심사 밖에 있었던 많은 경우를 중심으로 한 국제기구의 일부 관심사에 지나지 않았다. 대대적으로 소홀이 다루어진 개발도상국 국민의 건강문제를 세계적인 건강문제에 포함시켜 다루고자 하는 노력이 최근 커지고 있다. 한국도 공적개발조직에 참여하면서 이러한 노력의 대형이 탄생하였다. 이 수많은 건강문제들 전 세계적 차원에서 살펴봄으로써 그간 소외된 개발도상국의 건강문제에 대한 이해를 높이고 앞으로 의학 및 국제의학을 전공하고자 하는 학생들에게 전 지구적 차원의 지식과 전망을 제시한다.

Medicine has originated being a global discipline; however, health of people living in developing countries were relatively neglected so far except WHO’s concern. Recently, the health developing nation becomes a newly blooming agenda, and Korea began to take a role into the health of under-served people in under-served countries since participating OECD/DAC. This class will give new perspective to the students who are going to major in medicine and global medicine.

M2605.000600* 의학연구의 이해 3-3-0

Understanding of Medical Research

의학은 많은 연구자들의 경험과 연구결과가 집중되고 있던 과학이다. 미래의 의학자로서 기초를 다지기 위해 의학연구의 기본적인 이해가 필요하다. 이 강의에서는 의학의 연구방법과 결과도출, 사회적 영향 등의 여러 영역을 살펴봄으로써 의학연구에 대한 이해를 높이고 앞으로 의학을 전공하고자 하는 학생들에게 의학연구의 기초를 제시한다.

Medicine is the result of extensive experience and research findings, researchers have tested, retested and verified. As a future medical scientist, student in premed, need a basic understanding about medical research. The course will deal with research methods, presentation of results and social impact and provide a basic understanding of medical research for students planning to be a medical scientist.
의과학대학(College of Medicine)

M2605.000700

세계시험 속 의학의 이해 2-2-0

Understanding of Medicine in World Art

의학은 고대에서부터 시작하여 현재까지 가장 큰 발전을 이룩한 분야이다. 의학발전의 길잡이는 많은 세계적 예술작품들에서도 잘 발전되고 있다. 이 강좌는 고대부터 현대에 이르기까지 의학발전의 다양한 모습을 세계적 예술작품들 통해 찾아보고 토론하는 것을 내용으로 한다. 문화, 예술, 예술의 연구를 통해 다양한연대에서의 의학이 인간문화에 어떤 영향을 미쳤는지 살펴부스러게 하는 의학 역사에 대한 이해 높이고 의학을 전공하고자 하는 학생들에게 교양 지식과 전반을 제공할 것이다.

Medicine is a field that made the greatest advance from ancient to modern times. The evidence of progress of medical science can be found in many world arts. This course intends to give an overview of various aspects of progress of medical science and discuss in world arts from the classic age to the present. With studying how medicine influenced on human culture through investigation of culture and arts, this course will provide a knowledge of culture and perspective to students planning to pursue medicine.

M2605.000800

통일의료 2-2-0

Issues in Health Policy for Unification

통일의료와 관련한 현황과 문제를 설명할 수 있도록 북한의 질병부담 및 북한 주민의 건강상태를 이해한다. 통일의료에 적절한 요구기술 활용을 적용하고 주요 문제 해결방안을 제시할 수 있도록 기존 대북 보건의료지원 구조와 현황을 이해하고 태발개발도상국가의 보건의료 공중보건과 비교분석을 통해 대북 지원에 접목할 적정 요구기술 지원방안을 고안한다. 통일 형태를 위한 의료인으로서 의무 및 역할을 이해할 수 있도록 통일한국의 질병부담을 예측하고 통일한국의 보건의료 통합과정 및 질병퇴치 및 예방을 위한 한국 의료인의 역할과 책임에 대해 고찰한다.

Introduce the public health issues and the health status of the people of DPRK. Understand the global trends of human culture, and perceive the importance of health. This course aims to provide an overview of various aspects of progress in medical science and discuss in world arts from the classic age to the present. With studying how medicine influenced on human culture through investigation of culture and arts, this course will provide a knowledge of culture and perspective to students planning to pursue medicine.

M2605.001100

의약 전문용어의 잠꼬값: 원어 아랫부위 도출용어 제작까지 2-2-0

Orientation of Medical Terminology: From Stems to Composition of Korean Terminology

많수의 의학용어들은 모두가 난수표가 아니라 나름대로 어떤 체계성이 있다. 이들은 원발적 순수한 사용에서부터는 용어의 어근들 뿐 아니라 영어 조어법에 대한 기본 지식이 필요하며 이들은 의학용어 학습에 지대한 도움이 된다. 함께 보다 원활한 읽기와 이해를 돕기 위해서는 원어 이외에도 우리말 용어의 습득이 필수적이다. 이 용어는 발현할 수 없고 있을 수도 있으며 새로운 의학 용어들을 어떻게 우리말로 변환할 것인지 사용하는가 하는 새로운 어휘를 연구한다. 이 강좌에서는 과거의 다문화 의학 전문숙달을 순화하는 과정에서 얻은 여러 가지 경험을 바탕으로자 이들 적절한 우리말 용어 제작에 활용할-floating을 수도할 수도 있는 용어의 잠꼬값: 원어 아랫부위 도출용어 제작까지 2-2-0

Journey to the Body: human and surgery

의과 학생들이 의과 전공자료를 통해 문제해결능력과 의사로서의 전문적 주제별 역할을 해야 한다. 이들에 얻은 인문사회학적 의학의 다양한 주제에 대해 학생 6-8명 내외의 소그룹을 구성하여 Team based project 형식으로 학습을 진행하여 팀별 토론 및 발표를 진행한다.

This subject is basically aimed to promote problem-solving skills and clinical reasoning abilities essential to medical doctors, through logical and critical thinking process during the pre-med periods. For this purpose, every single group of around six-eight members is formed and they are encouraged to actively participate in the discussions and presentations in the form of a team-based project while exploring a wide range of topics in Humanities, Social Sciences and Medicine.

M2605.001200

 자유주제탐구 3-3-0

Free Topic Exploration

의과 학생들이 전문적 주제를 통해 문제해결능력과 의사로서의 전문적 주제별 역할을 해야 한다. 이들에 얻은 인문사회학적 의학의 다양한 주제에 대해 학생 6-8명 내외의 소그룹을 구성하여 Team based project 형식으로 학습을 진행하여 팀별 토론 및 발표를 진행한다.

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M2605.001300

몸 속으로의 여행: 인체와 수술 2-2-0

Journey to the Body: human and surgery

의과 학생들이 전문적 주제를 통해 문제해결능력과 의사로서의 전문적 주제별 역할을 해야 한다. 이들에 얻은 인문사회학적 의학의 다양한 주제에 대해 학생 6-8명 내외의 소그룹을 구성하여 Team based project 형식으로 학습을 진행하여 팀별 토론 및 발표를 진행한다.

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Application of Mathematics for Medicine

It is very important to find answers to the nature of life. The recent medical science is rapidly changing from the previous bio(molecular biology, stem cells, regenerative medicine, etc.) to data science. It is also an area called the 4th Industrial Revolution. Therefore, it can be said that interest in how the development and changes in these fields are affecting and how to use them in medicine and actual clinical practice is very high. Pre-medical students who have just entered the medical degree will be able to expect a more advanced future as they come into contact with and experience this study of digital data medicine early.

Introduction to Digital Data Medicine

Life and Science

The books to read and discuss include <What is Life?> written separately by a physicist, a biologist and a chemist in the same title, <Life> published from Seoul National University, From Materials To Life edited Noh et al., Vital Question: Why Is Life the Way It Is? edited by Nick Lane, and <Life on the Edge> edited by Al-Khalili et al. Students will learn the varying theories in different periods and points of view.
Medical Research 2’ course in the second semester of the second year, so you can conduct medical research for up to one year.

M2605.001900

Women's health

Women's health and disease are closely related to female hormones. In the medical field, obstetrics, gynecology, and reproductive endocrinology are subdivided according to this trend. Because doctors treat patients from a holistic perspective.

M2605.002100

Research Paper on Biomedical Science

Medical Research 2’ course in the second semester of the second year, so you can conduct medical research for up to one year.

M2605.002200

Practice of Medical Research 2

Women’s health

Women’s health and disease are closely related to female hormones. In the medical field, obstetrics, gynecology, and reproductive endocrinology are subdivided according to this trend. Because doctors treat patients from a holistic perspective.
"의과대학"(College of Medicine)

칭되어 2학년 1학기 '의학연구의 실제 1'과목을 통해 직접 연구를 수행하고 소논문(결과보고서)을 작성하게 된다. 2학년 2학기 '의학연구의 실제 2'과목은 '의학연구의 실제 1'과목을 수강한 학생이 연구지속을 원할 경우 수강할 수 있다.

This course is to promote interest and motivation for medical research by providing medical students with the opportunity to directly observe the process of medical research and conduct actual research under the guidance of individual advisors, and promote the researcher's spirit of inquiry and communication. This course is designed to cultivate basic research qualities such as cooperation. Participating in medical research from the pre-medical course will help you in choosing a variety of career paths as a doctor scientist.

In the 'Understanding of Medical Research' class, which is a required course in the pre-medical major in the second semester of the first year, various laboratories of the Seoul National University College of Medicine are introduced. You can choose the subject and lab you want to study and take the 'Practice of Medical Research 1' course in the first semester of the second year. You will directly conduct research and write a short thesis(result report). "Practice of Medical Research 2" course can be taken if the student who has taken the 'Practice of Medical Research 1' course wants to continue the research.

본 과정은 두 가지 교육 목표를 추구한다. 첫째는 미래의 바이오창업자가 되고자 하는 수강생들이 스스로의 강점을 파악하고, 다양한 기업가들의 사례를 통해, 학생들이 가지고 있는 기업가적인 성향(자질)을 발견하는 계기를 제공하고, 미래에 자신의 능력을 발휘할 분야와 방법을 찾아 도움을 주고자 한다. 둘째는 주 강생들과 함께 벤처캐피탈회사가 지원하는 신생회사를 창업하여 바이오제품을 성공적으로 개발, 판로를 개척하고, 핵심적인 기술 개발, 바이오창업사례를 따라가며 바이오창업과 관련되는 법적 이슈들에 대한 기본적인 이해를 도모하고자 한다.

This course has two aims. First, it intends to prepare attendees to develop the knowledge, skills, and mindset that will support and enhance their entrepreneurial activities in a startup or corporate setting, by exposing the attendees to a diverse group of entrepreneurs, in terms of their real life stories and their thought processes. Second, this course intends to provide basic understanding of the legal issues in "bio-entrepreneurship" - the translation and commercialization of basic life sciences research into innovative health products and services, by tracking the development of a biotech product through a venture capital backed start-up company.
Tutorials will emphasize problem-solving skills and the understanding of the mechanisms of microbial diseases and an introduction to infectious diseases. Students will gain an understanding of the cell structure and function of the immune system and organisms and host immune responses to provide an understanding of the mechanisms of microbial diseases and appropriate use of microbiology lab data.

Based on the knowledge obtained in the course "Pharmacology 1", individual drug classes according to organ systems will be discussed in this course. The mechanism of action, PK, and clinical use of each drug will be discussed in terms of drug interactions, drug selection, and dose individualization. Main area will be cardiovascular neuropharmacology.

This course will cover the major groups of microorganisms and host immune responses to provide an understanding of the cells and tissues of the immune system and an introduction to infectious diseases. Students will gain an understanding of the mechanisms of microbial diseases and the normal and abnormal functions of the immune system. Tutorials will emphasize problem-solving skills and the integration of independently learned knowledge.

This course will cover the major groups of microorganisms and host immune responses to provide an understanding of the cells and tissues of the immune system and an introduction to infectious diseases. Students will gain an understanding of the mechanisms of microbial diseases and the normal and abnormal functions of the immune system. Tutorials will emphasize problem-solving skills and the integration of independently learned knowledge.

Infectious Disease

Infectious Disease

This course will cover the major groups of microorganisms and host immune responses to provide an understanding of the cells and tissues of the immune system and an introduction to infectious diseases. Students will gain an understanding of the mechanisms of microbial diseases and the normal and abnormal functions of the immune system. Tutorials will emphasize problem-solving skills and the integration of independently learned knowledge.

and approach to nosocomial and device associated infections, and appropriate use of microbiology lab data.
This course will cover the systemic knowledge, techniques, and interview skills applicable to the practice of medicine as a general physician.

801.306A* 정형외과학 및 실습 3-16-80
Orthopedic Surgery & Clerkship

본 과목은 장차 의사가 될 의과대학 학생을 대상으로 정형외과에 대한 전반적인 내용을 교육한다. 그 내용으로는 사지 및 척추, 엉덩이, 손목, 골두부, 그리고 신경계의 이상 및 질환에 대하여 대략적인 내용을 가르치고 실제 환자를 대상으로 하여 치료할 수 있도록 한다.

This course will provide the general features of orthopaedic surgery to medical students who will become doctors. Topics will cover orthopaedic disease (infection, tumors, congenital anomalies, and trauma such as fractures, dislocations, and sprains). Through the 2-week ward education, students will learn to manage patients with orthopaedic problems.

801.309B* 영상의학 및 실습 3-8-64
Radiology & Clerkship

영상의학적 지식을 습득하고, 그룹토의 및 실제 임상증례에 대한 심층 연구를 통해 임상적 능력을 갖춘다.

In this course, students will study the principles of radiologic image formation, basic knowledge for clinical application, and role of radiology in clinical diagnosis and treatment. They will acquire the ability for clinical application through independent study, group discussions, and subspecialty clinical practice.

801.310A* 액체의학 및 실습 1-0-40
Nuclear Medicine and Clerkship

방사성동위원소를 이용하여 신체의 해부학적 또는 생리적 상태를 전반, 평가하고 개발된 방사성동위원소를 이용한 방법을 익혀자자 및 상호에 대한 정보를 생체의학적에서 이용하는 의학적 발전을 이룬다.

In this course, students will study the diagnosis and evaluation of human anatomy and the functional status of the human body by using radioisotopes and explore radioisotope therapy and the development of molecular medicine.

801.314* 신경과학 및 실습 3-0-80
Neurology & Clerkship

<신경과학 및 실습>은 기초 신경과학과 임상 신경과학을 연계하여 주요 신경계 질환의 발생기전 및 병태생리를 파악함으로써 신경계 질환의 진단과 치료원칙을 이해하도록 한다. 구체적인 학습 내용은 정상신경계의 기능 해부학적 특성을 토대로 한 수술적 신경학적 검사기술을 습득하며, 둘째, 중추 신경계 및 막초 신경계의 대표적인 질환들의 병태 생리학적 이해를 통해 진단 및 치료 원칙을 습득한다. 셋째, 신경과 영역의 각종 검사의 원리와 적용중을 이해하고 신경과 영역의 최신 연구동향에 대한 개념을 기초화한다.

Students will learn basic and clinical neuroscience systemically in this course by overviewing the pathophysiology of...
neurological disorders. The course will be helpful to their understanding of the principles of the diagnosis and treatment of diseases. On the basis of neuroanatomical knowledge, students will learn the skills for neurologic examination. They may be able to see patients with major neurological disorders and practice the methods for diagnosis and treatments. Through the course, students will have a taste of the newly developing discipline of neurology.

801.315A* 전단검사학 및 실습 1-0-40
Laboratory Medicine and Clerkship

This course will study the clinical knowledge of physical examination, including the principles of subspecialties in clinical pathology (clinical chemistry, diagnostic hematology, clinical microbiology, diagnostic immunology, transfusion medicine, molecular diagnosis, and laboratory informatics) for clinical applications.

801.316* 응급의학 및 실습 3-5-80
Emergency Medicine & Clerkship

Emergency Medicine is a subspecialty of medicine that deals with the prevention and immediate investigation and treatment of acute and critical conditions. It involves the management of patients with life-threatening conditions that require immediate medical attention. The course will cover the concept of family medicine as well.

801.317* 가정의학 및 실습 1-0-40
Family Medicine and Clerkship

Family Medicine is a primary care specialty that focuses on the comprehensive health care of individuals and families. It integrates the domains of personal, social, and environmental influences on health and illness.

801.469 임상약리학 및 실습 2-0-80
Clinical Pharmacology and Clerkship

Clinical Pharmacology is one of the subspecialties of medicine that focuses on the study of drugs and their effects on living systems. It includes the study of drug absorption, distribution, metabolism, and excretion, as well as the development of new drugs.

801.462* 임상수행능력종합훈련 및 평가 2-0-90
Clinical Performance Training and Examination

Clinical Performance Training and Examination is a course designed to train and evaluate the performance of students who have completed clinical clerkship. It is part of the domain of training and covers every aspect of clinical practice, including health care delivery, patient interaction, and ethical considerations.
research which bridges pharmacology (mechanism of drug) and clinical medicine (individual pharmacotherapy) during the clinical pharmacology clerkship.

M1923.004500* 인간해부학 5-48-120

Human Anatomy

인체의 구조와 형태에 관한 강의와 해부 실험을 통해 의학과 1학년 학생들이 의학의 중요한 자식인 인체의 기능과 구조에 관한 지식을 쌓을 수 있도록 한다. 또한 육안해부학에서의 구조적인 문제와 관련과목을 이해함에 도움을 줄 수 있도록 한다.

Through the detailed human cadaver dissection as well as the lectures for human structure and function, first year medical students will be prepared to build a fundamental knowledge of structure and function of human body. This course also offer experiences to make a better understanding for structural problems in gross anatomy and related subjects.

M1923.004600* 조직학총론 1-10-16

Introduction to Human Histology

강의, 실험 및 토론의 과정을 통해서 의학과 1학년 학생들이 우리 몸의 구성 원칙을 세포 및 조직 차원에서 습득하도록 한다. 이 강좌는 각 장기별 각 주제에 있어서, 세포의 생명 과정을 다룬다. 이 강좌의 주요목적은 학생들이 인체의 미세구조와 기능의 상관관계를 이해하는 기초 지식을 제공하는 데 있다.

First year medical students will learn the organizing principles of our body at the level of cells and tissues through lectures, labs, and open discussions. This is an introductory course before learning advanced knowledge on each organ. The main focus of this course is to let students build a fundamental knowledge of interrelationship between microstructure and function of our body.

M1923.004700* 인체조직과 생리학 5-55-52

Human Histology and Physiology

인체의 정기별 미세구조의 특성과 생리 기능을 통합적으로 이해, 일반세포생리부터 시작하며 심장 및 순환기, 신경계, 신장과 체액의 환상성, 소화 및 내분비기관 등 해부학 소재의 이해를 돕기 위한 조직학과 생리학적 지식의 수용기적 이해를 지향하는 강의 및 실험으로 구성함.

The study and experiment on the human organ-based microstructure and physiological function. The lectures aim to let students have integrated views and understanding of his- tory and function of each body organ system of human body: cardiovascular, respiratory, kidney and body fluid homeostasis, digestive and endocrine organs.

M1923.004800* 인체생화학 4-56-20

Human Biochemistry

생명현상과 인체의 움직임을 분자 수준에서 이해하기 위하여 갖추어야 할 필수적인 기초 지식을 제공하는 과목으로서 구체적인 학습 내용은 다음과 같다. 첫째, 인체의 구성 성분인 단백질, 탄수화물, 지질, 핵산의 화학 구조에 대한 철저한 파악을 통해, 각 생명분자가 인체 내의 기능과 촉매기질의 이해, 생체 생물학적 대사 과정의 이해, 생체내 전자발현과정 및 그의 조절 기전의 이해, 다섯째, 이러한 지식을 바탕으로 인체진환에의 응용능력을 배양한다. 또한 각 생명분자에 대한 구체적인 실험과정을 통하여 술기를 익히면서 연구능력을 배양한다.

The Biochemistry & Laboratory course intends to introduce the basic concepts essential to understand the biological phenomena and human diseases on the molecular level. In detail, students will learn to understand the followings: first, the chemical structures of protein, carbohydrate, lipid, and nucleic acid, the components of human body, second, the metabolic processes of every biological molecules in human and their regulations, third, energy metabolism in human and its regulation, fourth, the structure of the human genome, gene expression processes, and their regulations, and fifth, this course introduces students how these concepts are applicable for various human diseases. Furthermore, practical experiments of each biomolecule will make students familiar with various techniques and basic research.

M1923.004900* 인간사회 의료 1 1-15-15

Human · Society · Medicine 1

The objective of <Human · Society · Medicine 1> is to enable first year students to understand human in social, ethical, and psychological aspects and to make them capable of thinking every topic related to medical humanities by learning medical history.

M1923.005200* 기초 신경과학 3-40-40

Basic Neuroscience

의학과 1학년 학생들에게 중추신경과 말초신경계통을 포함한 신경계통의 기능과 형태에 대한 지식을 확립시킨다. 인체의 신경 해부와 생리에 관한 이해를 돕기 위한 실험이 진행된다.

In this course, first year students can acquire functional and morphological knowledge of the nervous systems both in peripheral and central. This subject includes laboratory practice on the anatomy and physiology of human brain.

M1923.005300* 선택교과 1 1-16-16

Selective Course 1

의학과 선택교과는 다양한 분야(multidisciplinary area)를 다루어 학생들에게 폭넓은 지식을 제공하는 한편 기초의학 분야의 다양한 학문을 경험하며 기초의학의 중요성을 깨닫도록 한다. 본 교과목은 학생의 관심에 따라 다양한 과목을 학생이 선택하여 수강할 수 있게 함으로써 학생의 개인적인 다양성과 학습수준에 따른 학습을 유도할 수 있도록 한다.

This subject can provide broad perspectives on medicine for students by covering multidisciplinary areas. In addition, the students can experience the application of basic medical knowledge and realize the importance of basic medical sciences. The students can select the specific subject according to their interest and can learn the subject consistent with their knowledge level.
Pathologic Basis of Diseases

‘Pathologic Basis of Diseases’ aims to teach students to understand the main causes of disease, basic mechanisms of disease pathogenesis, and how our bodies respond to the development of diseases. The students will be required to be able to comprehend pathophysiological changes at cellular, histological, (tissue), or organ levels in response to stimuli the bodies receive in endogenous or exogenous manners. Based on these, they learn about basic aspects of infection, the interaction of microbe/parasite-host or the microbe/parasite-environment. Students will learn the introduction of the bacteriology, mycology, virology and parasitology (helminthology, protozoology and medical entomology) by the lecture and experiments and understand the basic principles of the microbe/parasite-host interaction, treatment and prevention of various medically important microbial and parasitic infections and tropical medicine to the climate change.

Basics of Infection

‘Basics of Infection’ is to provide fundamental knowledge, which is required for treatment, prevention and management of microbial and parasitic infections, by understanding the characteristics of microbes and parasites, the interaction of microbe/parasite-host or the microbe/parasite-environment. Students will learn the introduction of the bacteriology, mycology, virology and parasitology (helminthology, protozoology and medical entomology) by the lecture and experiments and understand the basic principles of the microbe/parasite-host interaction, treatment and prevention of various medically important microbial and parasitic infections and tropical medicine to the climate change.

Basics of Immunology

‘Basics of Immunology’ course is designed to foster an appreciation of basic concepts of immunology and basic principles of immunological mechanism. This course will lead to Clinical Immunology.
일상의학과 2-1 2-20-40

Introduction to Clinical Medicine 2-1

일상의학과 2-1은 일상의학의 1, 2-2와 연결되어 인체와 질병 과정을 진행하는 2학년 1학기 동안 일주일에 한 번씩 진행되는 과정으로, 과학적이고 의학적으로 구성되어 있다. 학생들은 과정을 통해 기초의학과 일상과학을 융합하여 학습할 수 있도록 한다. 또한 학생들은 환자중심의 사고방식과 태도를 갖추고, 신체검사와 판단 기술, 임상증상을 적절하게 시행할 수 있어야 한다.

Introduction to Clinical Medicine (ICM-2-1) is linked to ICM 1 and ICM 2-2 and is conducted once a week during the first semester of the second year of college of medicine. This course consists of lectures and clinical practice. Students should be able to combine basic medical science and clinical science through this course which offers early clinical experience. Also, the students should have a patient-centered mindset and attitude, and be able to properly administer the physical examination, medical interview skills, and basic clinical skills.

Selective Course 3

의과학 과목은 다양한 분야(multidisciplinary area)를 다루어 학생들에게 독립적 사고를 제공한다. 본 교과목은 학생의 관심에 따라 다양한 과목을 선택하여 수강할 수 있게 함으로써 학생 개개인의 다양성과 학습수준에 따른 학습을 유도할 수 있도록 한다.

This subject can provide broad perspectives for medicine to the students by covering multidisciplinary area. The students can select the specific subject according to their interest and they can learn the subject consistent with their knowledge level.

Human · Society · Medicine 3

이 과목은 학생들이 의학이 갖고 있는 인문사회학적 측면을 고찰함으로써 의학을 사회적, 인간적 역량에서 이해하고 인간과 질병의 관계, 환자의 질병행동, 생활과 건강의 관계를 다각적 측면에서 살펴봄으로써 환자와 인간에 대해 총체적으로 이해할 수 있도록 한다.

The course is designed to guide students in gaining a better understanding of medicine in societal, humanistic context, and in attaining a holistic perspective of patient and human by reviewing multiple aspects of the relationship of health and disease, patient’s illness behavior, and the relationship of daily life and health.

Respiratory System

호흡기의 해부, 생리 및 병리에 대한 기초 지식을 습득한 학생들을 대상으로 기초와 임상을 접목시키는 과정이다. 호흡기의 구조와 기능, 호흡기질환의 발생기전 및 병태생리, 호흡기질환을 진단하는 방법, 예방, 치료원칙을 전반적으로 이해하고, 폐경매, 감염 성 호흡기질환, 폐쇄성 기도질환, 장기성 및 간질성 폐질환, 폐종양, 늑막질환, 폐혈관질환 등 흔히 접하는 호흡기질환에 대한 구체적 치료방법을 학습한다.

In this course, students will be expected to have basic knowledge of the anatomy, physiology, and pathology of the respiratory system because the course will integrate basic and clinical medicine. Students will study the structure and functions of the respiratory system; pathogenesis and pathophysiology of respiratory diseases; various diagnostic tools; preventive measures; therapeutic principles; and detailed therapeutic methods for commonly encountered respiratory diseases such as tuberculosis, obstructive airway diseases, interstitial and occupational lung diseases, neoplastic lung diseases, pleural diseases, and pulmonary vascular diseases.

Circulatory System

심혈관계의 발생, 구조와 기능을 배우게 되며 중요한 순환기질환의 병태생리, 임상증상 및 순환기질환은 진단하기 위한 여러 가지 관찰적, 비관찰적 방법을 소개함으로써 이를 각각 환자에 전반적으로 적용할 수 있는 능력을 배양한다. 또한 중요한 순환기질환의 내과적 및 외과적 치료원칙과 예방책을 수치화시키는 과목으로써 자기학년에서의 임상실습을 시행하여 있어 도움이 될 수 있도록 임상학문과에 있어 통합된 지식을 전달한다.

In this course, students will learn about the embryogenesis, structure, and functions of the cardiovascular system and acquire the ability selectively to apply their skills to each patient by learning the pathophysiology and clinical features of important cardiac diseases as well as invasive and non-invasive diagnostic methods. Through the study of medical, surgical, and therapeutic principles of and preventative measures for important cardiac diseases, students will acquire integrated knowledge in the cardiologic field.

Digestive System

식도, 위, 소장, 대장, 핵질 및 간에 발생하는 질환에 대한 평가 및 치료에 대한 학습을 그 목표로 한다. 복강 내에 위치한 여러 장기들의 질환뿐만 아니라 소화기질환의 진단과 단서를 제공할 수 있는 다른 장기의 지식도 갖추어야 한다. 이외에 도 양장질환 및 소화기에서 발생하는 각종 암에 대한 선별 검사 및 예방에 대한 지식도 갖추어야 한다.

This course covers the basic and clinical knowledge and information pertaining to physiology, epidemiology, and pathophysiology, or the treatment of diseases which originate from the digestive system including the esophagus, stomach, small bowel, colon, pancreas and hepatobiliary system. It also includes clinical nutrition, and the strategy for the prevention and screening of various cancers originated from the digestive tract.

Kidney and Urinary System

신장과 요로의 구조와 기능 및 재래기관과의 관계를 이해하고 기본적인 재배와 신체환경의 변화를 파악함으로써 이를 진단 및 치료학적에 적용하는 과학이다.

This course will provide an understanding of the structures and functions of kidney and urinary tract, the relation with fluids, and pathophysiology of basic fluid disorders and kidney disorders, which can be applied to the diagnosis and principles of management.
근골격, 피부 및 감각기계의 해부, 생리에 대한 기초 지식을 습득한 학생들에게 근골격, 피부 및 감각기계의 구조와 기능을 절합하여 인식하게 하며, 질환의 발병, 발생 기전 및 병태생리들을 이해하게 한다. 학습자가 이들 주요 질환의 진단과 치료의 기본 원칙에 따라서 이해하게 하여, 주요한 임상표현에 대해서는 실제 환자의 증례를 갖고 토론하는 시간을 가짐으로써 임상교육으로 자연스럽게 넘어갈 수 있도록 한다. 

This course is open for the students who are expected to have basic knowledge of the anatomy and physiology of the musculoskeletal, skin and sensory systems. Students will study the musculoskeletal, skin and sensory systems in relation with diseases, and have an understanding of pathology, pathogenic mechanism and pathophysiology of diseases of these systems. Students also study their diagnostic and therapeutic principles, and have discussions over clinical cases on the important clinical features to naturally transfer to clinical education.

본 과목은 인문사회에 대한 이해, 그리고 각각의 시기별 다양한 질환의 이해를 돕는다.
1) 임상/분만/태아 및 신생아기/영아기/소아-청소년기의 정상생리와 병태생리, 여성생식기계 질환/남성생식기계 질환/유방/방광 질환의 병태생리와 병별 사례를 배우므로 임상의학과정에서 배우는 각각의 시기별 다양한 질환의 이해를 돕는다.
2) 정상 신생아의 생리, 관리, 유전자-성장장애와 관련된 신생아 선별검사, 신생아질환의 병태생리, 영유아의 생장 및 발달과, 성장장애의 진단적 접근방법, 소아 영양결핍질환과 비만의 병태생리, 그리고 소아기 웅급질환/생장지연 증후군/청소년의학의 개요를 배운다.
3) 여성생식기 양성질환과, 여성생식기계의 질환 병태생리와 임상적 접근과 분야의 개요를 배운다.
4) 유방의 질환과 고혈압, 남성생식기 및 전립선에서 발생하는 질환의 병태생리와 배운다.

Students will learn about the physiologic and pathophysiologic characteristics in pregnancy/delivery/fetus and the newborn/infant/childhood/adolescent, and the pathophysiology of diseases in female/male reproductive system and breast, which will provide basic understandings of various diseases in each period for clinical practice.

1) Students will learn about the introduction to the physiologic and pathophysiology of pregnancy/delivery, and postmenopause and multiple pregnancy.
2) Students will learn about the physiology and care of the normal newborn, neonatal screening test related to the hereditary inborn errors of metabolism, the pathophysiology of various neonatal diseases, the assessment of growth and development and diagnostic approach-method of growth impairment in infant-child, the pathophysiology of nutrition deficiency diseases and obesity in pediatrics, and the outline of pediatric emergency/severe diseases in growing period/adolescent medicine.
3) Students will learn about the pathophysiology and diagnostic approach of benign and neoplastic diseases in female reproductive system, and the outline of infertility.
4) Students will learn about the pathophysiology of the
In this course, the students participate in research by selecting one of the research topics of interest. Research subjects will be opened by individual professors or teams in various fields such as basic medicine, clinical medicine, and humanities and social medicine. Through this process, students will experience the whole process of medical research such as searching for previous research, drawing up unresolved questions, establishing research hypotheses, designing research plan for hypothesis testing, obtaining and interpreting research data, drawing conclusions, and establishing the future direction of research. The results are required to be written in a simple paper format. Through this, students will acquire basic competencies necessary for conducting medical research as well as critical and creative thinking skills.

**M1923.008300**  
**Combating Exam 2 1-0-30**  
**Phase 2 Examination**

This course will train and evaluate students’ ability by integrating knowledge and skills, problem solving ability, and comprehensive thinking that they have learned in their integrative education courses of “Human and Diseases” such as Reproduction Growth Development 1, 2, Infection and Immunity, Hematology and Oncology, Metabolism and Endocrine System, Neurosciences and Behavioural Sciences, Respiratory System, Circulatory System, Digestive System, ‘Kidney and Urinary Tract’, and ‘Musculoskeleton, Skin and Sensory Systems’.

**M1923.008400**  
**Sensory System 1 1-18-3**  
**Reproduction Growth Development 1**

This course will train and evaluate students’ ability by integrating knowledge and skills, problem solving ability, and comprehensive thinking that they have learned in their integrative education courses of “Human and Diseases” such as Reproduction Growth Development 1, 2, Infection and Immunity, Hematology and Oncology, Metabolism and Endocrine System, Neurosciences and Behavioural Sciences, Respiratory System, Circulatory System, Digestive System, ‘Kidney and Urinary Tract’, and ‘Musculoskeleton, Skin and Sensory Systems’.

**M1923.008500**  
**Human Society Medicine 5**  
**Introduction to Clinical Medicine 3**

This course is designed to deal with essential contents for all clinical departments since students divided into several groups for their clerkship. ICM3 will guide students in preparing for their clerkship by comprehensive under-

**M1923.008600**  
**Human Society Medicine 6**  
**Clinical Reasoning 1**

This course is designed to deal with essential contents for all clinical departments since students divided into several groups for their clerkship. ICM3 will guide students in preparing for their clerkship by comprehensive under-

**M1923.008700**  
**Introduction to Clinical Medicine 3**

- 795 -
standing about hospital system, various roups of patients, tests, and the basics of treatment.

**M1923.00900* 통합임상실습 2-30-30**

**Longitudinal Integrated Clerkship**

The course is designed to provide students with a longitudinal and integrated patient encounter to develop holistic and integrated approaches to patient care and related socio-economic and cultural issues regarding the patient care. Students will meet the faculty as a group every month to discuss the related topics together and receive feedback from the faculty.

**M1923.008900* 인간·사회·의료 7 2-30-30**

**Human·Society·Medicine 7**

The course covers a variety of teaching methods, such as case discussion and talk show about occupational diseases & mental health, prevention of occupational diseases, industrial accident management system.

**M1923.009100* 인간·사회·의료 8 1-15-15**

**Human·Society·Medicine 8**

The course mainly talks about 'medicine and law'. Discussion and presentation which follow a written scenario are included in this course, in order to understand legal issues and forensic medicine.

**M1923.009200 학생인턴 1 2-0-80**

**Student Internship 1**

The course is designed to provide students with a longitudinal and integrated patient encounter to develop holistic and integrated approaches to patient care and related socio-economic and cultural issues regarding the patient care. Students will meet the faculty as a group every month to discuss the related topics together and receive feedback from the faculty.

**M1923.009300 학생인턴 2 2-0-80**

**Student Internship 2**

The course is designed to provide students with a longitudinal and integrated patient encounter to develop holistic and integrated approaches to patient care and related socio-economic and cultural issues regarding the patient care. Students will meet the faculty as a group every month to discuss the related topics together and receive feedback from the faculty.

**M1923.009400 학생인턴 3 2-0-80**

**Student Internship 3**

The course is designed to provide students with a longitudinal and integrated patient encounter to develop holistic and integrated approaches to patient care and related socio-economic and cultural issues regarding the patient care. Students will meet the faculty as a group every month to discuss the related topics together and receive feedback from the faculty.

**M1923.009500 학생인턴 4 2-0-80**

**Student Internship 4**

The course is designed to provide students with a longitudinal and integrated patient encounter to develop holistic and integrated approaches to patient care and related socio-economic and cultural issues regarding the patient care. Students will meet the faculty as a group every month to discuss the related topics together and receive feedback from the faculty.

**M1923.009600 학생인턴 5 2-0-80**

**Student Internship 5**

The course is designed to provide students with a longitudinal and integrated patient encounter to develop holistic and integrated approaches to patient care and related socio-economic and cultural issues regarding the patient care. Students will meet the faculty as a group every month to discuss the related topics together and receive feedback from the faculty.
학생인턴은 3, 4학년의 임상 경험과 지식을 바탕으로, 보다 심도 있게 진료에 참여하는 2주 임상실습 과정이다. 이 과정을 통해 독립된 의사로서 역할을 할 수 있는 역량을 갖추는 것을 목표로 한다. 학생인턴은 1~7기까지 모든 입상과에서 개설되며, 진로탐색을 위해 원하는 실습을 선택할 수 있다.

Student Internship 6

학생인턴은 3, 4학년의 임상 경험과 지식을 바탕으로, 보다 심도 있게 진료에 참여하는 2주 임상실습 과정이다. 이 과정을 통해 독립된 의사로서 역할을 할 수 있는 역량을 갖추는 것을 목표로 한다. 학생인턴은 1~7기까지 모든 입상과에서 개설되며, 진로탐색을 위해 원하는 실습을 선택할 수 있다.

Student Internship 7

학생인턴은 3, 4학년의 임상 경험과 지식을 바탕으로, 보다 심도 있게 진료에 참여하는 2주 임상실습 과정이다. 이 과정을 통해 독립된 의사로서 역할을 할 수 있는 역량을 갖추는 것을 목표로 한다. 학생인턴은 1~7기까지 모든 입상과에서 개설되며, 진로탐색을 위해 원하는 실습을 선택할 수 있다.

Neuroscience, Mind and Behavior

신경계 기관은 어떤 기관에 비해도 가장 복잡하고 강력하면서도 알려지지 않은 것이 많은 시스템이다. 또 이 분야는 괄목할 만하더라도 빠른 변화를 겪고 있다. 이 과정은 이 복잡한 신경계 기관의 구조와 기능, 신경 및 정신 분야의 다양한 질환의 발병과 진단, 그리고 이 질환들에 대한 다양한 진단적 시스템을 포함하고 있다. 학습에는 여러 형태의 팀 작업 바탕으로 하는 자율 학습이 포함된다. 이 과정을 통해 비판적으로워치하고, 기반적인 신경 및 정신과학 지식이 효율적인 신경과 정신분야 실험에 이를 수 있도록 훈련을 제공할 것이다. 동시에 학습자도 지속적으로 기초 및 암시와 관련이 있는 신경과학 및 정신과학 학습이 이루어질 수 있는 배경을 제공하고자 한다. 이 모든 목표들을 달성하기 위하여 각적인 효과를 바탕으로 학생의 임상과 구조화된 교육 경험을 연속적으로 다양한 영역의 교수진들이 지도할 것이다.

The neuronal organ is the most complex, mysterious, and powerful system ever known. This field is also undergoing significant and rapid changes. This course integrates basic neurosciences including structures and functions of the these complex neuronal organs, pathophysiology of neurological and psychiatric illnesses, and the concepts of basic diagnosis and treatment skills. It embraces the various forms of problem-based self-learning on the team basis. This course facilitates acquiring broad and basic knowledge into competent neurological and psychiatric clerkships. It also promotes the development of career-long learning in basic and clinically relevant neuroscience. To achieve these goals we present specific ways of elevating the level of intellectual inquiry, involving multi-disciplinary faculty more productively, and vertically integrating the learning experience.
mastered in academic years by focusing on the problems of patients.

M1923.010300 마취통증의학 및 실습 2-0-80

Anesthesiology and Pain Medicine and Clerkship

This course will cover the basic skills in anesthesia, airway management, cardiopulmonary resuscitation, management of critically ill patients, and pain management.

M1923.010400 피부과학 및 실습 2-0-80

Dermatology and Clerkship

This course will cover the basic structure and functions of skin; pathophysiology, diagnosis, and treatment of common dermatologic diseases; and clinical applications.

M1923.010500 흉부심장혈관외과학 및 실습 2-0-80

Thoracic and Cardiovascular Surgery and Clerkship

This course will study the pathophysiology and treatment of various thoracic organs including the heart, aorta, lungs, esophagus, pleura, mediastinum, and chest wall. Students will be expected to understand the following: 1) The anatomy and physiology of thoracic organs; 2) the pathophysiology associated with various thoracic operations (for perioperative patient care); and 3) the ability to diagnose and to treat patients adequately.

M1923.010600 신경외과학 및 실습 2-0-80

Neurosurgery and Clerkship

This course will cover general and emergency neurosurgery. Students will study general neurosurgical diseases, pathophysiology, clinical courses, management, and future direction. They will also have an opportunity to experience clinical techniques and to inspect clinical courses through practice.

M1923.010700 비뇨의학 및 실습 2-0-80

Urology and Clerkship

This course will study the urogenital system and its disorders as well as the diagnosis and treatment modalities of clinically important urological disorders. It will include bedside clerkship in urological oncology, urolithiasis, endourology, voiding dysfunction, female urology, andrology, and pediatric urology.

M1923.010800 이비인후과학 및 실습 2-0-80

Otolaryngology and Clerkship

This course will cover all kinds of diagnostic methodologies and diseases through an understanding of the anatomical structures and functions of the ear, nose, throat, head, and neck areas. Topics will include the general contents of ENT areas; structure, functions, diagnostic tools, and treatment; electrophysiologic diagnosis, cochlear implantation, neuro-otology, skull base surgery, endoscopic sinus surgery, immunology, and recent trends in head and neck cancers; experience and skills in the diagnosis of ENT area; practice in surgery; education through audiovisual materials; and practical training with and discussions on patients.

M1923.010900 안과학 및 실습 2-0-80

Ophthalmology and Clerkship

This course will study the anatomy and physiology of the eye, common ophthalmologic diseases; ocular manifestations of systemic diseases; fundamental knowledge and techniques of oculor examinations; and therapeutics.

M1923.011000 성형외과학 및 실습 2-0-80

Plastic Surgery and Clerkship

This course will study various areas of plastic surgery including the anatomy and physiology of the human body; surgical techniques and instrumentation; surgical management of various surgical conditions; and the treatment of cosmetic and reconstructive procedures.
일차진료의로서 필요한 성형외과학 분야의 이해를 높이기 위한 과목이다. 구체적 학습목표로 첫째, 화상환자의 응급처치 능력을 키우고, 둘째, 안면부상 환자의 응급처치 및 치료의 기본원리를 이해하며, 셋째, 손에 외상을 입은 환자의 응급처치 및 치료의 기본 원리를 이해하는 것이다. 또한 장상봉합술을 익히고 두안부와 수부의 허혈성 기형에 대한 진단 및 치료의 기본을 이해하는 것이다.

This course will increase primary physicians’ general knowledge of plastic surgery. Students will learn the basic principles of emergent treatment of the burn patient, the facial trauma patient, and the hand injury patient. They will learn to perform the suture closure of lacerations and come to understand the diagnosis and treatment of congenital anomalies in the head and neck region and hands.

**M1923.011100 재활의학 및 실습 2-0-80**

Rehabilitation Medicine and Clerkship

재활의학은 일반적으로 장애가 있는 사람이 주어진 조건하에서 최대한의 신체적, 정신적, 사회적 능력과 그의 취미, 직업, 교육 등의 감정적 능력을 발달시켜주기로 그 사람으로 하여금 가능한 한 장상에 가까운 생활을 할 수 있게 하여주는 분야로 정의될 수 있다. 따라서 본 장의 실습은 4학년 학생을 대상으로 장상의 방해와 병원 실습을 통해 의사로서의 재활의학의 기본적인 지식과 숙기를 얻는 것이다.

Rehabilitation is the process of helping a person to reach the fullest physical, social, vocational, avocational, and educational potential consistent with his or her physiological or anatomical impairment, environmental limitations, desires, and life plans. This course, which consists of lectures and practice, will cover the basic knowledge and technique needed by senior medical students to take care of patients in this field as general physicians.

**M1923.011200 방사선학 및 실습 2-0-80**

Radiation Oncology and Clerkship

생체에 미치는 방사선 작용의 물리 및 생물학적 기본 원리와 인체의 구조와 형태에 관한 강의와 인체 해부 실습을 통하여 학생들이 의학의 중요한 지식인 기능과 구조에 관한 지식을 쌓을 수 있도록 한다. 또한 육안해부학에서의 구조적인 문제나 관련과 목록 이해에 도움을 줄 수 있도록 한다.

Through this course on the structure and functions of the human body, students will be prepared to build fundamental knowledge. The course will also offer a chance for a better understanding of the structural problems in gross anatomy and related subjects.

**M1923.011300 지역사회학 및 실습 2-0-80**

Community Medicine and Clerkship

지역사회학 강의를 통해서 지역사회와 지역사회학의 기본개념을 이해하고 지역사회 보건문제를 파악하여 보건계획을 수립하는 과정을 습득하며, 지역사회 보건활동의 전개과정과 지역사회의 보건사업의 평가방법을 익히고, 그리고 지역사회학의 실습은 병원에서 환자로 만나게 될 주민들을 실습현지에 방문하여 직접 언어와 주민들의 생활환경과 상황을 현장에서 관찰함으로써, 건강과 질병현상을 사회적, 정신적 및 신체적 측면에서 포괄적으로 이해하는데 목적이 있다.

This course will study the characteristics of health patterns in Korean communities along with the principles of primary health care and community medicine. Students, in small groups, will undertake fieldwork in communities. They will apply managerial and analytical techniques to the resolution of problems that confront these communities.
자유전공학부
College of Liberal Studies
Selected Topics Seminar 1

This seminar offers lectures and discussions on selected topics by a team of faculty members to assist students in formulating comprehensive perspectives for an integrated analysis of the topics encompassing the fields of liberal arts and sciences. The purpose of this seminar is to make students familiar with the diverse approaches and methods of different disciplines.

Selected Topics Seminar 2

This seminar offers students an experience of reading and writing on selected major topics of different disciplines. Course goal is to develop students' ability of creative thinking through group discussions of the reading materials, developing research questions, and formulating possible answers. The instructor will provide an intensive guidance for improving students' writing skills by commenting on a series of students' essays on assigned topics.

Individual Course Design 1

This course is designed to give students a chance to re-examine the history of university as well as different disciplines and their approaches in order to help them find or develop his or her major and understand what it means to major in a field of study at university in the 21st century. Lectures and workshops will be organized to help the students understand the historic formation and development of university and higher education in the East and West, the changes in role and function of university, the past, present and future of major disciplines and their branches, and the efforts at fusion, composition, and integration of sciences so that they can make informed choices and designs regarding their fields of study and career paths.

Selected Topics Seminar 3

This seminar includes readings, lectures, discussions in English or another foreign language on selected topics of different disciplines.

Individual Course Design 2

This course aims at guiding students to design his/her own courses. With this course, students would be able to find out how a field of study can be derived from the integrative combination of existing study area. The course uses individual seminar format in which a student presents design of his/her own curriculum for selected field and instructor makes comments about it.

Selected Topics Seminar 4

This seminar encourages students to explore in depth one of the major topics typically dealt with in <Selected Topics Seminar 2>, while learning by doing the essentials of research methodology. It aims to develop students' creativity and research skills by offering a chance to plan and perform one's own research project under the guidance of the instructor, often, but not necessarily in connection with <Community Service-based Learning>, <Global Experiential Learning> or <Capstone Design>.

Independent Research 1

This course is designed to give students a chance to review the history of university as well as different disciplines and their approaches in order to help them find or develop his or her major and understand what it means to major in a field of study at university in the 21st century. Lectures and workshops will be organized to help the students understand the historic formation and development of university and higher education in the East and West, the changes in role and function of university, the past, present and future of major disciplines and their branches, and the efforts at fusion, composition, and integration of sciences so that they can make informed choices and designs regarding their fields of study and career paths.

Independent Research 2

This course is designed to give students a chance to review the history of university as well as different disciplines and their approaches in order to help them find or develop his or her major and understand what it means to major in a field of study at university in the 21st century. Lectures and workshops will be organized to help the students understand the historic formation and development of university and higher education in the East and West, the changes in role and function of university, the past, present and future of major disciplines and their branches, and the efforts at fusion, composition, and integration of sciences so that they can make informed choices and designs regarding their fields of study and career paths.

Individual Course Design 3

This course aims at guiding students to design his/her own courses. With this course, students would be able to find out how a field of study can be derived from the integrative combination of existing study area. The course uses individual seminar format in which a student presents design of his/her own curriculum for selected field and instructor makes comments about it.

Individual Course Design 4

This course is designed to give students a chance to review the history of university as well as different disciplines and their approaches in order to help them find or develop his or her major and understand what it means to major in a field of study at university in the 21st century. Lectures and workshops will be organized to help the students understand the historic formation and development of university and higher education in the East and West, the changes in role and function of university, the past, present and future of major disciplines and their branches, and the efforts at fusion, composition, and integration of sciences so that they can make informed choices and designs regarding their fields of study and career paths.
타구방법을 사용하며, 전학교적 지도교수의 밀착지도를 받으므로써 창의적인 학자로서의 소양을 함양할 수 있다. 전공 3학점으로 등급평가를 기준으로 한다. 연구결과보고서를 발표함으로써 학문적 커뮤니케이션의 체험을 제공한다.

이 과목의 목표는 저학년 학생들이 먼저 연구 주제를 자발적으로 설정하고, 학문적 문제를 해결하는 과정을 경험하도록 한다. 이 과목은 자유전공학부의 학생들이 자신이 탐구하고 싶은 주제에 대해 연구를 수행하여 성과를 보여줄 수 있는 기회를 제공한다.

This course is designed to provide self-directed learning and creative/critical thinking ability of undergraduate students in School of Liberal Studies. Students may select research themes, methods, and advisors in interdisciplinary fields or contemporary issues. Students would submit research proposals and conduct research of their own with the support of the professor(s). Students would receive academic credits (3, A~F) based on the final reports of their research, and be recommended to present their research outcomes.

991.302 국내현장학습 2-0-4
**Community Service-based Learning**

이 과목의 목표는 지역사회의 자원봉사, 시민조직, 공공기관 등의 참여를 통한 현장체험학습을 제공한다.

This course provides students with opportunities of experiential learning through participation in the activities at service-oriented, nongovernmental and public organizations.

991.303 해외현장학습 2-0-4
**Global Experiential Learning**

이 과목의 목표는 국제기관의 인턴십 기회를 통해 국제적인 안목을 배양하고 리더십 소양을 개발하게 하는 것이다.

This course facilitates students’ activities that cultivate a global outlook and encourage leadership development through internships at international organizations.

991.304 자율연구 2 3-2-2
**Independent Research 2**

본 과목의 목표는 <자율연구 1>을 성공적으로 수행한 학생들에게 자신의 탐구와 발상을 창의적으로 심화하고 새로운 도전을 받아보는 기회를 제공하는 것이다. 학생들은 <자율연구 1>에서 수행한 연구를 더욱 발전시키고 새로운 주제를 선택할 수도 있다. 이 과목을 통해 자유전공학부가 중시하고 있는 자기주도적 학습, 비판적 사고, 창의적 문제해결 능력을 더욱 강조시킴으로써, 초보적인 수준에서나마 학문 연구 수행의 경험을 해 보도록 하는 것을 목표로 한다.

This course intends to give yet another chance to select research themes and methods, and conduct research of their own with the support of the professor(s) to those students who have successfully finished <Independent Research 1>. Either by further developing the projects from their <Independent Research 1>, or by initiating a new research project, students are expected to enhance their abilities in self-directed learning, critical thinking, and creative problem-solving.

991.305A 창의융합세미나 3-3-0
**Creative Fusion Seminar**

이 과목은 학부 고학년 학생들이 합의적인 주제로 학과와 토론을 함으로써 창의적 성과를 산출하는 경험을 얻도록 하는 것을 목표로 한다. 다양한 경험을 통해 주요 주제에 대해 자신의 학습 경험을 토대로 다른 수강생들과 협력하여 창업적(emergent) 연구를 기획하게 될 것이다. 수강생들은 조를 구성한 후 담당 교수의 지도하에 합의적이고 창의적인 주제를 자유롭게 설정하고, 방법론에 대한 학문적 기반 연구 계획서를 공동으로 집필하게 된다. 기말에 합의적 탐구 결과를 발표하며 상호, 비판적 견해를 교환하게 될 것이다. 이런 과정을 통해 개인의 지적 능력을 개발하는 동시에 집단 창의성과 융합적 문제 해결방법을 경험하는 것이 주요 목표이다.

This course is designed to give junior or senior an opportunity for experiencing a creative fusion research by interdisciplinary approaches. The students who are studying their own majors in various disciplines come together and find the emergent research topics that they begin with and discuss methods, and write an interdisciplinary research proposal together. For these activities, the students work as a group and the groups may present preliminary research results at the end of the term. From this course, the students will have some experiences of group creativity for solving multi-dimensional puzzles and interdisciplinary approaches to complex problems.

991.306A 창의융합프로젝트 3-3-0
**Creative Fusion Project**

본 과목은 학부 고학년 학생들이 합의적이고 창의적인 주제로 그룹으로 학과와 토론을 해서 합의적 연구를 수행하는 기회를 제공하는 것이다. 한층 진급한 수준의 탐구를 실현함으로써 실제적인 공동 결과물을 창출할 수 있도록 하는 것이다. 학생들은 <창의융합세미나>에서 수행한 공동 연구를 더욱 발전시킬 수도 있으며, 다른 구성원들과 더 창의적인 주제를 발전하여 더 긍기 있는 융합적 연구 성과물을 낼 수도 있다. 이런 과정을 통해 학생들은 집단 창의성과 창의적 문제 해결 능력을 실제적으로 경험하게 될 것이다. 이 과정을 통해 학생들은 창의적 융합성을 탐구함으로써 창의적 사고와 학문적 솔루션을 대량으로 얻게 될 것이다.

This course aims to give yet another opportunity for making substantial results of interdisciplinary joint researches to those students who have successfully completed <Creative Fusion Seminar> which doesn’t require substantial results. The students may develop the joint research further as a group that had been conducted in <Creative Fusion Seminar> during the previous semester, or excavate another research topic and work together for the result of it. From this course, the students will experience reality of group creativity and problem-solving ability by interdisciplinary approaches.

991.307 고전탐구세미나 1 3-3-0
**Classics Seminar 1**

본 과목은 다양한 분야를 접목하는 학부 고학년 학생들이 서양 고대와 근대의 인문학, 사회과학, 자연과학 분야 가공 과학을 잊고 이들 학문적 의미와 함의에 대해 합의적으로 학문에 대한 학문들의 이해를 향상시키고 다시 나아가 그들이 제기하는 문제에 대한 학문들의 창의적 사고 능력과 문제 해결 능력을 향상시키는 것을 목표로 한다. 또한 다양한 분야를 접목하는 학생들이 학문을 잊고 합의적으로 학문적 문제를 해결하는 과정에서 자연스럽게 자신의 정교 영역이 아닌 다른 분야의 관점과 논리를 접해 볼 수 있도록 하며 이를 통해 학생들은 창의적 융합성과 창의적 학문적 능력을 향상시키고자 한다. 학생들은 매주 정해진 과정을 잊고 스스로 자신의 전공 분야나 관련 분야의 문제를 해결하도록 하고 이에 대한 해결책을 모색하는 과정에서 창의적 사고와 문제해결 능력을 가질 수 있을 것이다. 이러한 경험은 자유전공학부의 학생들에게는 매우 핵심적인 경험이 될 것이다.

This course is designed to give yet another opportunity for making substantial results of interdisciplinary joint researches to those students who have successfully completed <Creative Fusion Seminar> which doesn’t require substantial results. The students may develop the joint research further as a group that had been conducted in <Creative Fusion Seminar> during the previous semester, or excavate another research topic and work together for the result of it. From this course, the students will experience reality of group creativity and problem-solving ability by interdisciplinary approaches.
본 과목은 〈고전탐구세미나 1〉과 연계된 과목으로서 다양한 분야를 전공하는 학부 과학한 학생들이 19세기와 20세기 인문학, 사회과학, 자연과학 분야에 대한 고전 텍스트를 읽고 이를 텍스트의 한계적 의미와 함께 해석함으로써 고전에 대한 학생들의 이해를 증진시켜 더 나아가 고전을 이해하는 데에 대해 함께 해설하고 이에 있어서 독자적인 해석을 실시하는 것을 목적으로 한다. 이 과목에서는 현대 사회와 보다 직접적으로 관련된 고전 텍스트를 읽으면서 우리의 삶과 현실에 대해 생각할 수 있는 기회를 갖게 될 것이며, 이 두 분야에 대해 절단한 토론을 유도하고자 한다. 이 과정에서 다른 사람의 고전 해석과 주의 주장을 이해하고 성공적인 토론의 능력과 문제 해결 능력을 향상시키는 것을 목적으로 한다. 본 과목의 주제는 인문학, 사회과학, 자연과학 품 문화, 예술, 공학 등 분야에서 핵심적 주제를 산급하고 다양한 전공을 가진 학생들이 팀을 이뤄 진행하는 팀 프로젝트와 팀 리서치 등을 필수 과제로 포함할 예정이다. 이를 통해 본 과목은 자유전공학부 학생들의 창의적 사고 능력, 문제해결 능력, 협업 능력, 자기주도학습 능력, 협업 능력 향상에 기여하고자 한다.

본 과목은 전공을 선택한 자유전공학부 3-4학년 학생들을 대상으로 하는 과목으로 특정 주제에 대해 전공을 담당하는 학생들이 함께 모여 교재를 읽고 강의를 듣으며 토론하는 과정에서 자연스럽게 타 학문과의 차이와 융합적 시각을 습득할 수 있도록 하는 것이 목적으로 한다. 과목의 주제는 인문학, 사회과학, 자연과학 품 문화, 예술, 공학 등 분야에서 핵심적 주제를 산급하고 다양한 전공을 가진 학생들이 팀을 이뤄 진행하는 팀 프로젝트와 팀 리서치 등을 필수 과제로 포함할 예정이다. 이를 통해 본 과목은 자유전공학부 학생들의 창의적 사고 능력, 문제해결 능력, 협업 능력, 자기주도학습 능력, 협업 능력 향상에 기여하고자 한다.

본 과목은 고전을 선택한 자유전공학부 3-4학년 학생들을 대상으로 하는 과목으로 특정 주제에 대해 전공을 담당하는 학생들이 함께 모여 교재를 읽고 강의를 듣으며 토론하는 과정에서 자연스럽게 타 학문과의 차이와 융합적 시각을 습득할 수 있도록 하는 것을 목적으로 한다. 본 과목은 또한 모든 수업 과정을 영어로 진행함으로써 자유전공학부 학생들의 외국어 능력 향상에 기여하는 것을 목적으로 한다. 과목의 주제는 인문학, 사회과학, 자연과학 품 문화, 예술, 공학 등 분야에서 핵심적 주제를 산급할 예정이며
다양한 전공을 가진 학생들이 팀을 이뤄 진행하는 팀 프로젝트와 팀 리서치 등을 필수 과제로 포함할 예정이다. 이를 통해 본 과목은 자유전공학부 학생들의 창의적 사고 능력, 문제해결 능력, 융합 능력, 자기주도학습 능력, 협업 능력 향상에 기여하고자 한다.

This course purposes to provide junior and senior students of the College of Liberal Studies with an opportunity to examine and discuss advanced topics with other students who have different majors, and thereby to help them to converge various perspectives. By conducting all classes in English, this course also help them to improve their English capability. The topics will include not only traditional issues in the fields of humanities, social sciences, and natural sciences, but also some recent issues in the fields of culture, arts, and engineering. Requiring students to have a team project or team research, this course would contribute to improving students'capabilities of creative thinking, problem solving, converging, self-initiated learning, and cooperating.

M2199.000500 주제심화프로젝트 1 3-3-0

Advanced Topics Project 1

본 과목은 전공을 선택한 자유전공학부 3-4학년 학생들을 대상으로 하는 과목으로 다양한 전공과 학문적 배경을 가진 학생들이 함께 팀을 이뤄 특정 주제로 대상으로 연구 프로젝트, 사회공헌 프로젝트, 문제해결 프로젝트, 현장경험 프로젝트 등을 수행하는 과정에서 자연스럽게 타 학문의 시각과 융합적 시각을 습득할 수 있도록 하는 것을 목적으로 한다. 특히 본 과목은 학생들이 전공 수업을 통해 습득한 지식을 직접 구현해 보거나 또는 관련 분야 현장에 직면해 볼 수 있도록 함으로써 학생들에게 이론과 현실을 접목해 볼 수 있는 기회를 제공하고자 한다. 이를 통해 본 과목은 자유전공학부 학생들의 창의적 사고 능력, 문제해결 능력, 융합 능력, 자기주도학습 능력, 협업 능력 향상에 기여하고자 한다.

This course purposes to provide junior and senior students of the College of Liberal Studies with an opportunity to conduct research projects, social service projects, problem solving projects, and many other field-related projects together with other students who have different majors, and thereby to help them to converge various perspectives. Especially, this course purposes to provide them with an opportunity to translate, or to apply, the ideas they learned in the classroom into reality. In doing so, this course would contribute to improving students'capabilities of creative thinking, problem solving, converging, self-initiated learning, and cooperating.

M2199.000600 주제심화프로젝트 2 3-3-0

Advanced Topics Project 2

본 과목은 전공을 선택한 자유전공학부 3-4학년 학생들을 대상으로 하는 과목으로 다양한 전공과 학문적 배경을 가진 학생들이 함께 팀을 이뤄 특정 주제를 대상으로 연구 프로젝트, 사회공헌 프로젝트, 문제해결 프로젝트, 현장경험 프로젝트 등을 수행하는 과정에서 자연스럽게 타 학문의 시각과 융합적 시각을 습득할 수 있도록 하는 것을 목적으로 한다. 특히 본 과목은 학생들이 전공 수업을 통해 습득한 지식을 직접 구현해 보거나 또는 관련 분야 현장에 직면해 볼 수 있도록 함으로써 학생들에게 이론과 현실을 접목해 볼 수 있는 기회를 제공하고자 한다.

This course purposes to provide junior and senior students of the College of Liberal Studies with an opportunity to conduct research projects, social service projects, problem solving projects, and many other field-related projects together with other students who have different majors, and thereby to help them to converge various perspectives. Especially, this course purposes to provide them with an opportunity to translate, or to apply, the ideas they learned in the classroom into reality. In doing so, this course would contribute to improving students'capabilities of creative thinking, problem solving, converging, self-initiated learning, and cooperating.

991.401 종합 설계 3-2-2

Capstone Design

본 과목은 다양한 전공 영역을 갖는 학생들이 졸업 마지막 학기에는 그 동안 학습한 내용을 종합하여 결과물을 만들어낸으로써 대학에서의 학업을 정리하는 과정을 학습할 수 있는 기회를 제공한다. 강의 시간에는 다양한 전공의 학생들에게 공통되는 종합적 인 문제 해결의 토대가 되는 내용을 다루며, 실습 시간에는 각 학생이 선정한 주제의 문제를 스스로 활동을 통하여 해결해 나가는 과정을 진행한다. 또한 자유전공학부 학생들의 기본적인 문제 해결 능력 향상, 협동 학습 능력 향상, 그리고 각종 보고서 작성 및 발표 능력 향상도 도모한다.

This course is designed to offer an opportunity to produce finishing results by combining the outcomes of the undergraduate study. Students should complete outputs of any forms such as paper, thesis, real or prototype products of one’s own design. The instructions include the basic theories and techniques for problem solving and students are expected to exercise them during practice hour. Increasing cooperation and writing ability is also included in the outcomes of the course.
혁신공유학부
Department of COSS
과목 목록과 설명

M3500.000300 (공유)빅데이터 개론 1 3-3-0

(COSS)Introduction to Big Data

비대 데이터는 현실세계에서 일어나는 복잡한 문제를 해결하기 위한 통찰력을 제공한다. 이 과목은 비대 데이터를 소개하며, 데이터 가공, 분석 및 시각화를 위한 프로그래밍 언어 (Python), 데이터 분석을 위한 통계 및 머신러닝 방법 등을 가르친다. 실험 및 프로젝트를 통해 학생들이 실제 데이터를 분석할 수 있는 능력을 배양한다. 데이터 중심의 컴퓨팅, 정량적 사고와 추론, 탐색적 데이터 분석에 대한 강조를 통해 이 과목에서는 데이터 과학의 핵심 원리와 기술을 다룰 것이다.

Big Data offers insights into solving complex real-world tasks. This course provides core principles and techniques to understand Big Data, including data-centric computing, quantitative thinking and reasoning, and exploratory data analysis. Students will learn a programming language to manipulate, understand big data, including data-centric computing, quantitative thinking and reasoning, and exploratory data analysis.

M3500.000400 (공유)비대 데이터 조형/비대 데이터 활용 UX 디자인 3-3-0

(COSS)UX Design Using Data Formation/Big Data

본 과목에서는 디자이너의 기회를 위한 분석의 대상, 문제해결과 정의의 분석자료, 디자이너의 인식의 확장, 사용 환경과의 최적화를 위한 Big Data 활용 약간 개요를 목표로 한다. 이에 기여 데이터와 UX 디자인, 데이터 마이닝 및 패턴의식, MS Coco 응용 등을 주로 배운다.

This course aims to develop Big Data utilization capabilities to optimize the use environment, expand designer awareness, and analyze the problem-solving processes for design planning. In this course mainly learn self-tracking data and UX design, data mining and pattern consciousness, and MS Coco applications.

M3500.000500 (공유)비대 데이터 분석기술 실무 및 신기술 경향의 이해 3-3-0

(COSS)Practical Big Data Analysis Technique: Understanding Leading Edge Trend

사물인터넷(IoT)을 비롯한 스마트 환경과 소셜네트워크 서비스의 보편화로 인해 다양한 모바일 데이터가 발생하고 있다. 이와 함께 이용한 자연의 데이터를 신속히 처리할 수 있는 컴퓨팅 환경의 발달과 창의적인 시각으로 데이터를 분석하고 연결한 인공지능의 개발로 바이데이터는 여전히 핵심적인 패러다임으로 등장하고 있다. 바이데이터는 데이터 그 자체의 효용성을 다르게 변환한 방식의 가공을 통해 데이터 간의 연결 및 창의적인 분석을 통해 혁신적인 가치를 창출하고 있으며, 바이데이터의 분석과 활용은 경쟁력의 키로 되고 있다.

With the widespread use of smart environments and social network services (SNS) starting the Internet of Things (IoT), various and vast amounts of data are being generated. Along with this phenomenon, Big Data is emerging as an innovative paradigm in various fields with the development of a computing environment that can quickly process huge amounts of data and the development of artificial intelligence that analyzes and connects data from a creative perspective. Big Data creates innovative value through creative analysis and connections between data rather than just the utility of the data itself. With this Big Data has become a measure of industrial and national competitiveness.

M3500.000600 (공유)비대 데이터 분석 신기술의 이해 3-3-0

(COSS)Understanding of Leading Edge Big Data Analytics

사물인터넷(IoT)을 비롯한 스마트 환경과 소셜네트워크 서비스의 보편화로 인해 다양한 모바일 데이터가 발생하고 있다. 이와 함께, 이용한 자연의 데이터를 신속히 처리할 수 있는 컴퓨팅 환경의 발달과 창의적인 시각으로 데이터를 분석하고 연결한 인공지능의 개발로 바이데이터는 여전히 핵심적인 패러다임으로 등장하고 있다. 바이데이터는 데이터 그 자체의 효용성을 다르게 변환한 방식의 가공을 통해 데이터 간의 연결 및 창의적인 분석을 통해 혁신적인 가치를 창출하고 있으며, 바이데이터의 분석과 활용은 경쟁력의 키로 되고 있다.

Various and vast amounts of data are being generated due to the generalization of smart equipment including the Internet of Things (IoT) devices and social network services(SNS). Along with this phenomenon, Big data is emerging as an innovative paradigm in various fields with the development of a computing environment that can quickly process huge amounts of data and the development of artificial intelligence that analyzes and connects data from a creative perspective. Big data is creating innovative value through connection and creative analysis between data through processing in various methods rather than the utility of the data itself and the analysis and utilization of Big data are becoming a measure of competitiveness.

M3500.000800 (공유)제너레이티브 디자인 2-1-1

(COSS)Generative Design

본 수업은 디자인을 위한 창의적 3D Modeling Algorithm 실습을 통하여 생성적 조형창작의 과정과 방법 심도에 목표로 한다. 3D Modeling의 기초 실습과 프로젝트 구축을 위한 물을 학습하고, 이를 다양한 매체로 응용하는 디자인 실습 프로젝트를 진행하여 학생들의 디자인 방법론에 대한 개념 확장과 조형 표현 능력을 향상시켜 학생들의 디자인 창작의 구체적인 전망을 찾을 수 있도록 한다.

How can A.I. create a meaningfully constructed text, a story? This is one of the most challenging and interesting questions many A.I. researchers are facing. In order to be able to answer this question, we need a comprehensive understanding of the structure of stories. For this purpose, this seminar tries to convey the basic knowledge of the story as well as the basic structure of the game story to the participants using the example of stories in games.

M3500.000700 (공유)디지털 스토리텔링과 게임 1-1-0

(COSS)Digital Storytelling

인공지능은 어떻게 의미 있는 구조를 갖춘 백스트, 즉 스토리를 생성할 수 있을까? 이것은 인공지능 연구가 가지고 있는 가장 어려운 문제 중 하나이다. 이 질문에 대답할 수 있다면 우리는 무엇보다도 스토리는 기본적이고 구조를 강화하여 이해할 수 있게 된다. 본 강좌에서는 이를 위해 비교적 비교하기 쉬운 구조를 가지고 있으며, 스토리가 개발될 때 매개로 스토리와 스토리텔링의 기본적인 성격을 살펴보고 스토리 분석의 방법을 알아보고, 참여학생들이 이를 바탕으로 인공지능에 의한 스토리 창작의 구체적인 전망을 찾을 수 있도록 한다.

How can A.I. create a meaningfully constructed text, a story? This is one of the most challenging and interesting questions many A.I. researchers are facing. In order to be able to answer this question, we need a comprehensive understanding of the structure of stories. For this purpose, this seminar tries to convey the basic knowledge of the story as well as the basic structure of the game story to the participants using the example of stories in games.
개발하는 기회를 가지도록 한다.

This course aims to experiment with the process and method of generative formative creation through creative 3D modeling algorithm practice for design. Students will learn basic practice of 3D Modeling and tools for algorithm building, and conduct design practices that apply in various media, and give students an opportunity to expand their concepts of design methodology and develop their ability to express form.

M3500.000900 (공유)회귀분석 3-3-0
(COSS)Regression Analysis

본 수업에서는 데이터를 이용한 모형의 추론과 예측모형 생성을 배우며, 그 과정을 통해 질문의 구조화, 데이터 수집과 정리, 통계추론, 예측모델링, 의사결정과정의 핵심원리를 배운다. 중급수준의 데이터의 변환, 데이터 정제, 모형적합, 모형선택, 모형진단 등에 대한 기초이론을 배우며, 데이터 실습을 통해 그 과정을 익힌다.

This course teaches infer and generate predictive models using data. Through the process students learn key principles of structure questions, collect and organize data, statistical inference, predictive modeling, decision-making process. Study basic theories about intermediate-level data conversion, data refinement, model fit, model selection, model diagnosis, etc., and learn them by data practice.

M3500.001000 (공유)빅데이터 수학 3-3-0
(COSS)Mathematics of Big Data

본 수업에서는 데이터를 이용한 모형의 추론과 예측모형 생성을 배우며, 그 과정을 통해 질문의 구조화, 데이터 수집과 정리, 통계추론, 예측모델링, 의사결정과정의 핵심원리를 배운다. 중급수준의 데이터의 변환, 데이터 정제, 모형적합, 모형선택, 모형진단 등에 대한 기초이론을 배우며, 데이터 실습을 통해 그 과정을 익힌다.

This course teaches data-based model inference and predictive model generation. Through the process, students learn the core principles of the question structure, data collection and organization, statistical inference, predictive modeling, and decision-making process. Study basic theories about intermediate-level data conversion, data refinement, model fit, model selection, model diagnosis, etc., and learn them by data practice.

M3500.001200 (공유)고급통계자료분석 3-3-0
(COSS)Advanced Statistical Data Analysis

다변량 데이터, 그래프 데이터, 시계열 데이터, 공간데이터의 분석에서 사용하는 다양한 모형적합 방법을 배우고 결측치가 있는 데이터에서 올바른 모형 사용범위를 배운다. 본 수업은 모형평가를 위한 수치실형방법, 일반화 가정모형, 확률모형으로의 추론, 인과모형, 공간통계적 모형 분석방법을 포함한다.

This course introduces various model fit methods used in the analysis of multivariate data, graph data, time series data, and spatial data, and learn how to use the correct model in data with missing values. This course includes numerical experimental methods for model evaluation, generalized additive models, inference of probability density functions, causal models, and spatiotemporal analysis model analysis methods.

M3500.001400 (공유)고급 기계학습 프로젝트 3-3-0
(COSS)Advanced Machine Learning Project

본 과목에서는 딥 러닝 기술을 활용하여 문제를 해결하는 프로젝트를 한 학기에 걸쳐 진행한다. 연구 주제는 수강생이 직접 선택하며, 1)산업에서 실제로 겪고 있는 문제를 파악하고 이를 해결하기 위한 기법을 개발하거나, 2) 딥 러닝 분야의 세부 연구 분야를 선정, 최선의 기술 동향을 파악하고 이와 관련한 주제를 선택하여 연구를 진행한다.

This course runs a project over a semester to solve problems using deep learning technology. Students choose their own research topics, but 1) identify and develop techniques to solve problems they are actually experiencing in industries, or 2) select detailed research fields in the deep learning field, identify the latest research trends, and select related topics to conduct research.

M3500.001600 (공유)이미지 데이터 처리 3-3-0
(COSS)Image Data Processing

본 과목에서는 이미지 데이터 처리 분야의 주요 기술을 다루며, 딥 러닝 기반 최신 기술을 소개한다. 강의 전반부에는 신호처리, 유전학적 검출, 영상 추적 등의 전통적인 Computer vision 분야의 이슈들을 다루며, 후반부에는 최근 개발된 딥 러닝 기반 주요 이미지 처리 기법 및 모델(CNN, U-Net, GAN 등) 및 활용 분야에 대해 소개한다.

This course deals with major technologies in image data processing and introduces the latest technologies based on deep learning. The first half of the lecture deals with issues in the traditional computer vision field such as signal processing, contour detection, and image tracking, while the second half introduces the recently developed deep learning-based major image processing techniques and models (CNN, U-Net, GAN, etc.) and application fields.

M3500.001700 (공유)자연어 처리 3-3-0
(COSS)Natural Language Processing

본 과목에서는 자연어 처리 분야의 최근 기술 발전과 이를 이해하기 위한 배경 지식 전반을 강의한다. Transformer model 기반 자연어 처리 기법을 주로 다루며, 이를 이해하기 위해 필요한 배경 지식(Embedding, Encoder-Decoder, Attention 등)을 다룬다. 실제 자연어 처리 문제를 해결하기 위해 Transformer를 수정/활용하는 프로젝트를 진행한다.

This course teaches the recent technological advances in the field of natural language processing and the overall background knowledge. It mainly deals with transformer model-based natural language processing techniques, and deals with the necessary background knowledge (Embedding, Encoder-Decoder, Attention, etc.). In order to solve the actual natural language processing problem, a project to modify/utilize Transformer is carried out.

M3500.001800 (공유)클라우드 시스템 3-3-0
(COSS)Cloud System

본 과목은 클라우드 시스템/클라우드 시스템을 활용하여 빅 데이터를 처리하는 방법에 대해 다룬다. 이를 위해 병렬 프로그래밍의 기초, 각종 병렬 프로그래밍 언어(Pthread, OpenMP, MPI, OpenCL, CUDA)를 강의하며, 클라우드 시스템 활용 시 난리 환경으로 구성된 프로젝트를 통해 학습한다.
This course deals with how to process big data using cloud systems. It also teaches the basics of parallel programming, various parallel programming languages (Pthread, OpenMP, MPI, OpenCL, CUDA), and introduces virtualization tools (Docker, Kubernetes, etc.) used in cloud systems.

M3500.001900 (공유)운용물리지 및 지식 그래프 3-3-0

(COSS)Statistical Computing and Optimization

In order to analyze modern complex and diverse statistical models, it is essential to acquire statistical calculation methods using computers. This course introduces various statistical analysis techniques (Newton Rapton, Gibbs sampling, Metropolis Algorithm, Monte Carlo, etc.) based on the computational performance of computers, and introduces the data structure and matrix calculation techniques required for statistical analysis techniques.
본 과목에서는 대용량의 텍스트를 분석하여 유의미한 결론을 도출하는 텍스트마이닝 기법에 대해 강의한다. Natural language processing, probabilistic topic model, text clustering, text categorization, contextual text mining 등, 텍스트마이닝 분야의 핵심 Keyword 및 기법에 대해 다룬다.

This course introduces text mining techniques that analyze large amounts of text and draw meaningful conclusions. It deals with key words and techniques in the field of text mining, such as natural language processing, probabilistic topical model, text clustering, text category, and contextual text mining.

Linux 서버를 구성/활용하기 위한 기본 지식 및 프로그래밍 기술을 강의한다. 시스템 프로그래밍과 운영체제의 주요 개념(프로세스 관리, 메모리, 관리, 파일 시스템과 입출력, 네트워크 프로그래밍, 병렬 프로그래밍 및 동기화 등)을 다루며, 다수의 사용자가 동시에 활용하는 서버 구성/활용하기 위한 기반 기술(계정 시스템, 파일 시스템, 편집기 관리, 보안 등)을 다룬다. 실습으로 실제 서버 시스템을 구성/활용하며 관련 기술을 익힌다.

This course teaches underlying knowledge and programming skills for configuring/utilizing Linux servers. It deals with the main concepts of system programming and operating systems (process management, memory management, network system and input/output, network programming, parallel programming and synchronization, etc.), and underlying technologies (account system, file system, package management, security, etc.) for multiple users. Practice building/utilizing actual server systems and learn related technologies.

본 과목에서는 바이어 데이터를 저장하기 위한 스토리지 시스템을 소개한다. 스토리지 하드웨어 구상(HDD, SSD, RAID 등), 분산 파일 시스템(GFS, Lustre, HDFS 등), 클라우드 스토리지, 데이터베이스(relational database, NoSQL), checkpoint 및 recovery 등 주제를 다룬다.

This course introduces a storage system for storing big data. It deals with topics such as storage hardware configuration (HDD, SSD, RAID, etc.), distributed file systems (GFS, Lustre, HDFS, etc.), cloud storage, database (relational database, NoSQL), checkpoint, and recovery.

본 과목에서는 데이터 분석 알고리즘, 시스템, 옵티마 등 다양한 분야의 문제를 이해하고, 기존 기술의 제약점을 해결하는 프로젝트를 한 학기에 걸쳐 진행한다. 연구 주제는 각 수강생이 직접 정한다. 강의 시간에는 수강생이 연구 진행 방향을 발표하며, 담당 교수와 타 수강생들의 피드백을 줄 수 있도록 한다.

In this course, a project to understand problems in various fields such as data analysis algorithms, systems, and applications and to solve limitations of existing technologies will be carried out over a semester. The subject of the study is selected by each student. During the course, students present their research directions and give feedback from professors and other students.

This course introduces the basic probability/statistics concepts that need to be learned for big data analysis. This course deals with concepts such as definition of probability, conditional probability, probability variables and sample distribution, statistical inference, inference about distribution, analysis of discrete data, correlation and regression analysis, and analysis of variance.

인공지능은 사람의 생각과 행동을 모사하고, 이성적인 행위를 통하여, 주어진 목적을 달성하는 시스템을 연구하는 학문 분야이다. 본 수업에서는 인공지능 시스템을 구성하기 위한 다양한 방법론을 논한다. 이는 효율적인 탐색, 지식의 표현, 불확실성에 대한 이해, 상태변화와 인과관계에 대한 이해, 시각, 음성, 자기 등,학습, 학습을 포함한다. 이를 통해 학생은 인공지능의 핵심 원리와 기술에 대해 수학적, 논리적, 정성적, 정량적, 확률, 통계학적, 학습적 관점 등으로 종합적인 이해를 한다.

Artificial Intelligence studies various ways human thinks and acts rationally and intelligently in order to achieve provided goals. This course discusses a list of various methods through projects.
Revised Document: Undergraduate Courses

M3500.004200 (공유)알고리즘 3-3-0

(COSS) Algorithm

문제를 해결하기 위해 알고리즘을 구성하고 이를 분석하는 방법에 대해 강의한다. 알고리즘의 효율성 분석 도구(근진의 복잡도, 점화식), 정렬 및 선택 알고리즘, 자료의 저장과 검색(검색 트리, 해시 테이블), 집합의 처리, 동적 프로그래밍, 그래프 알고리즘, 문자열 매칭, 계산의 한계(NP-completeness), 상태공간 트리의 탐색 등을 다룬다.

This course teaches how to construct and analyze algorithms to solve problems. Students will learn the algorithm's efficiency analysis tools (intermittency complexity, ignition methods), utilization method, and efficiency of data structures. Programming, graph algorithms, string matching, NP-completeness, sorting and selection algorithms, storing and searching efficiency analysis tools (intermittency complexity, ignition methods).

M3500.004400 (공유)프로그램밍 기초 3-3-0

(COSS) Foundations of Programming

프로그래밍은 빅데이터를 다루기 위해 필요한 기초적 소양이며, 점진적으로 문제를 분석하고 테이터를 다루는 모든 분야에서 필요하며, 국내외 교육의 수단이 매우 높다. 본 교과목은 널리 쓰이고 있는 Python 언어와 C 언어를 바탕으로 프로그래밍의 핵심 원리를 다룬다.

Programming is fundamental knowledge needed for handling big data, which is in high demand in almost all fields. This course teaches core programming principles using two widely used computer languages: Python and C.

M3500.004500 (공유)자료구조 3-3-0

(COSS) Data Structure

컴퓨터를 활용하여 문제를 해결할 시 그 활용이 필수적인 기본적인 자료 구조에 대해 가르치며, 배열, linked list, stack, queue, priority queue, search tree, hash table, balanced search tree 등의 자료구조의 구성, 활용 방법 및 활용성을 강의한다. Python 기반의 숙제를 통해 수강생이 직접 각 자료구조를 구현/활용할 수 있는 능력을 배양한다.

This course introduces the basic data structure necessary to solve problems using computers. This course teaches the composition, utilization method, and efficiency of data structures such as arrangement, linked list, stack, queue, priority queue, search tree, hash table, and balanced search tree. Through Python-based tasks, students cultivate their ability to directly implement/use each data structure.

M3500.004700 (공유)빅데이터 개론 2 3-3-0

(COSS) Introduction to Big Data 2

빅데이터 분석에 필요한 기술과 성과에 대한 기초적인 지식과 방법을 통합적으로 학습하고 데이터와 관련된 다양한 주제를 소개하는 일반 과목이다. 데이터 과학에 관련된 다양한 경험을 공유할 수 있는 기회를 제공하여 종합적 사고 능력과 융합인문 분석 역량을 기르는다. 파이썬 언어를 통하여 데이터의 구조와 처리를 배우고 이를 바탕으로 전통적 자료와 시각화를 학습한다. 더 나아가 빅데이터에 기반한 추출의 기초 원리를 학습하고 빅데이터와 관련된 사례와 경험을 통하여 빅데이터의 생애 주기를 이해한다.

This course covers basic principles and methodologies of computation and inference for big data analysis. It introduces various topics related to big data. Through this course that provides opportunities to share experience related to data science, students can develop comprehensive thinking and integrated analysis abilities. Students learn the structure and processing of data including data summary and visualization through the Python language. Furthermore, students learn the basic principles of reasoning based on data and understand the life cycle of big data through cases and experiences.

M3502.006300 (공유)언어인지 데이터 측정 및 활용1-기초 1-1-0

(COSS) Measurement and Application of Cognitive Language Data 1-Basic

본 교과목은 언어인지 작용의 결과로 투여에서 산출되는 언어인지 데이터의 특성과 유형별로 이해하는데 목표를 두고 있다. 언어인지 데이터는 산출과정과 수용과정 그리고 음성언어와 문자언어의 두 가지 양상으로 나누어 분석할 수 있다. 본 강의에서는 이 두 가지 관점에 따라 말하기, 쓰기, 들기, 읽기의 네 가지 세부과정으로 나누어 언어데이터의 특성을 분석하게 될 것이며, 또한, 이러한 언어데이터를 산출과 처리하는 두뇌의 인지기제를 살펴보게 된다. 이를 통해 언어인지 데이터와 신경학적 특성을 활용하게 될 것이다. 본 강의는 언어인지 데이터를 측정하고 이를 처리하기 위한 기초자식을 습득하는 데 기여하게 될 것이다.

The purpose of this course is to help students gain an understanding of the characteristics of language cognitive data generated by the cognitive activity for each type of language processing. Language cognitive data can be analyzed according to two aspects: the production and reception process and oral and written language. Using these perspectives, the characteristics of the language data are analyzed and divided into four detailed processes: speaking, writing, listening, and reading. Students will also investigate the cognitive mechanisms of the brain that generate and process these linguistic data. Through this, students will learn the neuro-logical characteristics of language cognitive data. This lecture will contribute to the acquisition of basic knowledge for measuring and processing language cognitive data.

M3502.006400 (공유)빅데이터 활용 UX디자인 3-2-1

(COSS) UX Design: Utilizing Big Data

본 강좌는 빅데이터를 UX디자이너의 프로세스와 결과물에 활용할 수 있는 기초를 학습하고 응용할 수 있는 디자인 양식 계발을 목표로 한다. 이를 위해, 빅데이터에 기반한 특성을 학습하고 UX디자이너의 프로세스 단계에서 필요한 데이터와 이를 활용하는 방법과 도구를 학습하고, 데이터를 활용하여 UX디자이너의 프로세스에서 관련의 근거를 활용할 수 있도록 한다. 또한, 빅데이터를 활용한 UX/서비스 디자인 프로젝트를 기획하고, 데이터를 사용할 때의 효과를 활용하여 자신의 행동에 유의무한 변화를 줄 수 있는 행동 기반 디자인 프로젝트를 기획할 것이다.

This course aims to cultivate design competency through learning to apply big data to the UX design process and fi-
nal project outputs. To achieve this, students will learn the basic characteristics of big data, the data needed throughout the various stages of the UX design process, as well as the methods and tools to utilize it as a basis for decision-making in the UX design process. In addition, students will plan and design a behavior-based UX service design project using big data that can make meaningful changes to one's behavior by using data as a reflective tool.

**M3502.006500** *(Course) Algorithm Formative Technique*

This course aims to learn basic computer programming skills based on stylegan. Students can learn the basic of AI to the style gan. Also, Students can get a learning experience on the principles and structure of AI and learn basic computer programming to deal with images. In addition, Students can design a behavior-based UX service design project using big data. Also, Students can apply it to create their work. Therefore, Students can develop the ability to use computer programming to deal with images.

**M3502.006600** *(Course) Big Data and Life Solutions*

- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.
- Learn the basics of AI and apply it to create their work.
- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.

- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.

**M3502.006700** *(Course) Language Data Processing*

This course aims to understand and get the characteristic of voice data systematically, design the voice database and develop the ability to analyze acoustic characteristics. This course aimed to understand and get the characteristic of voice data systematically, design the voice database and develop the ability to analyze acoustic characteristics. This course aimed to understand and get the characteristic of voice data systematically, design the voice database and develop the ability to analyze acoustic characteristics. This course aimed to understand and get the characteristic of voice data systematically, design the voice database and develop the ability to analyze acoustic characteristics.

- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.
- Learn the basics of AI and apply it to create their work.
- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.

- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.

- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.

- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.

- Develop the ability to use computer programming to deal with images.
- Design a behavior-based UX service design project using big data.
※ 본 교과목 수강을 위해 python 프로그래밍에 대한 기초 지식이 필요함

The data analysis application course develops the ability to process data in various ways for data analysis and the ability to select and visualize appropriate charts using Python libraries. This course consists of arithmetic data processing, structured data processing, and data visualization programming parts. In the arithmetic data processing chapter, we learn how to use ‘NumPy’ library to process large amounts of arithmetic data quickly and conveniently. In the structured data processing chapter, we learn various methods of processing structured data, such as missing data processing and filtering, using the ‘Pandas’ library, which has the standard data structures ‘Series’ and ‘Data frame’ as its core structures. In data visualization programming chapter, we learn how to select charts that can visualize data effectively and how to deal with python's visualization libraries, ‘matplotlib’ and ‘seaborn’.
※ Basic knowledge of python programming is required to take this course
This course provides the theoretical concepts for Artificial Intelligence (AI). Based on these learning you will have practical exercises for the big data analysis, generation of a predictive models, and lassification. In the end, you will be able to have the ability related to Artificial Intelligence (AI).

This course aims to provide the first hands-on experience of hardware design for students who have no experience in computer programming or hardware operation. It offers experiments that connect and drive sensors such as temperature, humidity, and illuminance and output devices such as LED and LCD. This course explains simple programming skills to students with no experience in hardware design for students who have no experience in computer programming or hardware operation. In addition, it offers experiments to design hardware devices such as simple adders by using basic hardware elements such as resistors, capacitors and simple semiconductor switches. This course introduces how to simulate hardware operation with computer programming. By practicing the contents of the advanced courses for hardware design in advance, students will experience the need for the knowledge of hardware design to be taught in subsequent hardware design courses.

This course learns the basic concepts of semiconductor devices and it introduces the semiconductor industry, deals with the basics of crystal and semiconductor properties, energy bands and semiconductor carriers, photons and excess carriers, semiconductor manufacturing processes, and semiconductor properties and device properties.

This course provides an opportunity to obtain speciality in instruction as well as an interest in the students of the local community. Furthermore, it aims to develop a sense of community as a practitioner that have a well-balanced character with a sense of purpose and a love for humanity. To compete course requirements, students can work as an assistant teacher in elementary and secondary schools and as an after-school teacher for students with learning difficulties or students with multi-cultural backgrounds. They can also work for child-caring programs in elementary schools, educational activities in relation to the free-semester system, educational activities of talent donations, and so on.

In this course, the understanding of artificial intelligence and deep learning, and proceed with TensorFlow concepts and basic programming practice. Learn the deep learning-based object detection method and the automatic training trainset creation method for unmanned store development applications through practice. YOLO V3 Object Detection practice is conducted using the NPU accelerator Board with AI Chip and nVidia Jetson TX2 Board. Finally, learn about GPU structure through GPU programming concept and parallel programming practice using nVidia CUDA.
아날로그 및 디지털 회로 및 데이터 컨버터의 동작원리 및 회로 설계 기법을 학습한다. 

이론적 학습은 실습을 병행함으로써 자료구조와 알고리즘을 이해한다.

It deals with transceiver systems that support wireless communication standards such as GSM/WCDMA/LTE/LTE-A/5G NR, Wifi, Bluetooth, and GPS. The basic concepts of RF circuits such as sensitivity, dynamic range, NF, and IIP3, as well as the structure and operation characteristics of receiver and transmitter are reviewed. Learn about LNA and mixer, which are representative blocks of receiver.
리닝의 기초 및 심화문제를 해결하고 해결된 방법으로 머신러닝 알고리즘을 응용한다.

In this course, students practice and learn the basic theory of machine learning, the characteristics and operation principle of machine learning algorithms, and Python programming techniques for machine learning. Solve basic and deep problems of machine learning and apply machine learning algorithms in a solved way.

M3502.001000
(COSS)Introduction to Neuromorphic Computing

뉴로모픽 기술은 기존의 컴퓨팅 기술과 차별화되는 차세대 컴퓨팅 기술 중 하나로 최근 전 세계적으로 활발히 연구되고 있는 분야이다. 초기 뉴로모픽 기술은 아날로그 접속회로를 이용하여 신경세포를 포함한 가상의 신경망 구현을 목표로 하였으나 현재는 디지털 접속회로 및 차세대 메모리 기반 기술을 포함하는 광범위의 인공지능을 구현하는 뉴로모픽 브레인을 의미한다. 본 강의 전반부는 뉴로모픽 기술의 개발역사, 의미, 그리고 모방하고자하는 두뇌의 핵심기능에 대해 전반적인 배경을 포함하며 후반부는 현재 뉴로모픽 기술의 기술동향, 산업동향 및 주요 응용분야에 대한 설명을 포함한다. 특히 차세대 딥러닝 하드웨어 가속기로서의 뉴로모픽 프로세서의 의미 및 기존 범용/중급용 딥러닝 가속기와의 차별성 및 경쟁력에 대해 고찰하며 딥러닝 가속기의 기술을 이해하려는 기존의 기술의 재검토가 아닌 새로운 기술로서의 가치를 고찰한다.

Neuromorphic technology is one of the next-generation computing technologies that are differentiated from existing computing technologies, and is a field that is being actively researched worldwide. Early neuromorphic technology aimed to implement a virtual neural network including nerve cells using analog integrated circuits, but now refers to hardware for implementing artificial intelligence in a broad sense including digital integrated circuits and next-generation memory-based technologies. The first half of this lecture includes the overall background of the development history of neuromorphic technology, its meaning, and the core functions of the brain to imitate. And the second half includes descriptions of current technological trends, industry trends, and major applications of neuromorphic technology.

In particular, this lecture examines the meaning of neuromorphic processor as a next-generation deep learning hardware accelerator, and its differentiation and competitiveness from existing general-purpose/semi-general-purpose deep learning accelerators. In addition, beyond the function of the deep learning accelerator, it examines the value as a new technology rather than a replacement for the existing technology.

M3502.001200
(COSS)VLSI Design for Information Security

본 강의를 통하여 속도 및 안정성 등 소프트웨어 기반의 보안 시스템의 단점을 보완하기 위한 하드웨어 기반의 정보보호 시스템을 설계하고 VHDL을 이용하여 구현한다. 하드웨어 구현을 위한 주요 알고리즘 이론을 학습하고 VHDL을 이용하여 가속기 구현하는 것을 목표로 한다.

Through this lecture, we design a hardware-based information protection system to compensate for the shortcomings of software-based security systems such as speed and stability, and implement it using VHDL. It aims to learn the main algorithm theory for hardware implementation and implement an accelerator using VHDL.

M3502.001300
(COSS)Hardware Implementation of Artificial Neural Networks

본 강의에서는 인공지능신경망에 대한 기초적인 내용부터 응용까지를 다루고, 인공지능 신경망을 이해하고 응용을 개발하는데 필요한 다양한 응용분야와 개발 환경에 대해 설명하며, 인공지능 신경망 응용을 프로그래머하여 설계해 보는 과정을 통해 직접 경험해 보도록 한다. 특히 FPGA 하드웨어로 구현하는 과정을 실습하여 딥러닝용 칩 개발에 필요한 설계를 배운다.

This lecture covers the basics and applications of artificial intelligence neural networks, explains various theoretical backgrounds and development environments necessary to understand and develop applications of artificial intelligence neural networks, and program and practice artificial intelligence neural network applications. Let’s experience it firsthand. In particular, learn the design necessary for deep learning chip development by practicing the process of implementing it with FPGA hardware.

M3502.001400
(COSS)Programming Practice

컴퓨터 프로그래밍을 위한 기초와 컴퓨터 프로그래밍 언어를 학습하는 과목이다. 수업은 컴퓨터의 기초와 Java 언어를 공부한 학생들로 하며, Unix의 기초와 사용 방법과 Java AWT/network, C/C++의 주요 사항, 윈도우 프로그램의 기초를 학습한다.

This is a subject to study computer programming skills and computer programming languages. This class is aimed at students who have studied the basics of computers and the Java language, and learns the basics of Unix and how to use it, Java AWT/network, major issues of C/C++, and the basics of Windows programs.

M3502.001500
(COSS)Junior Project

실습과에서 접할 수 있는 다양한 전자제품을 분해, 분석 또는 조립하여 그 안에 탑재된 반도체 부품의 동작 원리, 회로 설계, 적용 사례를 배운다. 비전공자들도 이해하기 쉬운 실습 위주의 교과 과정으로, 초반부에서는 기초 원리의 강화와 실제 제품의 분석 위주로 진행하고, 후반부에서는 회로 변경, 제품의 설계, 반전 설계 등의 개발 프로젝트를 학생 개인 또는 팀 단위로 수행한다. 실제 제품을 제작하여 반도체 기술과 논리적 사고를 통해 설계하는 것이 이 과정의 목표이다. 대상 전자제품과 프로젝트의 주제는 매 학기 변경될 수 있으니 강의 계획서의 참조가 필요하다.

By disassembling, analyzing or building various electronic products found in real world, we will learn the operating theory, circuit design and application examples of semiconductor devices inside the product. This is an on-hands course which is easy enough to be understood by non-major students. The first half of the course will focus on understanding the basic principles and analyzing real products. In the second half, each individual student or a team will execute a designated project, which may be modifying the existing circuit, more deeply analyzing the product operation, or re-designing from ground-up. The goal of this course is
developing the semiconductor knowledge and logical thinking process through real-world products. The target products and project topics may change each semester, so referring to the course syllabus is necessary.

M3502.001600 (공유)컴퓨터구조 3-3-0

(COSS)Computer Organization
AI 용도 프로그램을 위한 디지털 시스템 설계 프로젝트는 CPU, 메모리, 버스, 인터페이스 및 CNN HW 가속기를 포함하여 AI 용도 프로그램을 위한 디지털 시스템을 설계하는 데 있어 가치 근본적인 문제를 다룬다. 이번 학기 동안 H/W 자동차 및 매뉴 RISC-V 프로세서, SRAM/DRAM 메모리, 버스 상호 연관, CMOS 이미지 센서 인터페이스를 포함한 인터페이스 및 LCD 디스플레이 패널이 관련된다.

Digital System Design Projects for AI Applications cover several fundamental issues in designing digital systems for AI applications including CPU, memory, bus, interfaces and CNN H/W accelerators. In the first part, the H/W tutorials and labs are related to RISC-V processor, SRAM/DRAM memory, bus interconnection, interfaces including CMOS image sensor interface, and LCD display panel.

M3502.001700 (공유)공학 지식 및 실무 3-1-4

(COSS)Field of Engineering Knowledge
차세대 반도체 교육을 받고 사회로 진출하는 사람들의 졸업 전 공학 지식 및 다양한 경험을 산업 발전 및 사회 발전의 근간이 될 수 있는 수업이다. 본 과목목표는 학교 내에서 학습한 것을 통해 응용한 공학기초 지식 및 공학용융직지식이 산업현장에서 어떻게 응용이 되는지를 체험하고, 응용사례, 적용분야, 개선방안에 대하여 종합적으로 분석하는 능력을 키운다. 기술경험을 통하여 문제의 접근방법, 조사 및 분석방법, 결과과정 방법 등에 대해 고찰하고, 실제 산업현장에서의 실습을 통해 공학지식의 적용현황 및 방안을 체험하며, 개선 및 발전에 관한 새로운 아이디어를 도출한다. 실습을 통하여 알게 된 산업체의 공학적용사례 및 기술개발과정을 요약, 발표하고, 그 동안 학교에서 배운 공학지식을 바탕으로 문제해결 능력을 향상하고, 학생들의 능동적인 참여를 유도하고, 학생들의 창의성과 기반과제를 통하여 실질적인 설계 경험을 얻는다.

This course learns the basics of system design, such as embedded processor structure, embedded operating system, components used in embedded systems, and the process of integrating them. In addition, practical design experience is gained through related practice and final assignments.

M3502.001800 (공유)고급 프로젝트 3-3-0

(COSS)Senior Project
현재까지 배운 고급 과정 지식을 토대로 실제 문제에 연관시켜 문제 해결 능력을 향상하고 학생들의 능동적인 참여를 유도하고, 수업을 통해 실제 문제에서 발생할 수 있는 문제점을 파악함으로써 자신감을 부여한다. 학생들에게 창의적인 프로젝트 개발을 위한 주제를 선정하고, 이를 통하여 창의적인 프로젝트 아이디어 기획, 설계, 개발 등의 자기주도적 성과능력을 배양하고 학생 역량의 발달을 목표로 한다.

Based on the advanced course knowledge learned so far, it is related to practice to improve problem-solving ability and induce active participation of students, and to give confidence by identifying problems that may arise in practice through class. Students select a topic for creative project development, and through this, self-directed practical skills such as planning, designing, and developing creative project ideas are cultivated and the goal is to achieve student competency.

M3502.001900 (공유)임베디드SW 3-3-0

(COSS)Embedded SW
임베디드 프로세서 구조, 임베디드 운영체제, 임베디드 시스템을 사용하는 부품들과 그들간의 접속하는 과정 및 시스템 설계에 대한 기반적인 내용을 배운다. 또한 관련 실험과 기말과제를 통하여 실질적인 설계 경험을 얻는다.

This course learns the basics of system design, such as embedded processor structure, embedded operating system, components used in embedded systems, and the process of integrating them. In addition, practical design experience is gained through related practice and final assignments.

M3502.002000 (공유)인공지능 반도체 소자 설계 프로젝트 2-0-4

(COSS)Semiconductor Device Design Project for AI Applications
AI 반도체 소자를 제작하기 위한 공정을 이해하고 이를 바탕으로 소자 설계 프로젝트를 수행한다. 신화공정, 확산공정, 화학반응 증착공정, 사진공정, 이온주입공정, 금속화 공정 등을 강의와 동영상으로 학습하고, 공정 시뮬레이션을 통해 이해한 후, 공정 절차를 통해 소자 제작이 이루어지는 과정을 학습한다. 소자 설계에 필요한 소자 시뮬레이션 기법을 습득하고, 이를 활용하여 neuron, synapse 등에 필요한 소자를 설계하고 검증한다. 프로젝트 진행 과정에 대하여 설명하는 결과 보고서 및 설계된 소자 특성을 설명하는 주요 발표를 포함한다.

Understand the process for manufacturing AI semiconductor devices and perform device design projects based on this. Oxidation process, diffusion process, chemical vapor deposition process, photo process, ion implantation process, metallization process, etc. are learned through lectures and videos, and after understanding through process simulation practice, learn the process of device manufacturing through process integration do. Learn device simulation techniques required for device design, and use this to design and verify devices required for neurons, synapses, etc. Include a result report describing the progress of the project and an oral presentation describing the characteristics of the designed device.
경기과학(Undergraduate Courses) : 혁신공유학부(Department of COSS)

M3502.002100 (공유)인공지능 반도체 회로 설계 프로젝트 2-0-4

(COSS)Semiconductor Circuit Design Project for AI Applications

AI 연산을 위한 GPU 등의 하드웨어는 반도체 공정을 통해 만들어지는 VLSI 회로로 구성된다.
본 과정에서는, VLSI 설계에 사용되는 CAD Tool을 활용하여, full-custom VLSI 회로를 구현하는 방법을 실습으로 배운다. 기 본적인 logice gate에서부터 출발하여, GPU의 핵심 구성 요소 중 하나인 ALU까지 transistor level에서 직접 설계하고, layout/가지 완수하는 것을 목표로 한다.

Hardware such as GPU for AI operation is implemented as a VLSI circuit made through a semiconductor process.

In this course, you will learn how to implement a full-custom VLSI circuit by using the CAD tool used for VLSI design. Starting with a basic logic gate, we aim to design directly at the transistor level up to the ALU, one of the core components of GPU, and complete the layout.

M3502.002200 (공유)디지털논리회로 3-3-0

(COSS)Digital logic circuit

본 강의는 이를 통해 조합 및 순차 디지털 논리회로 동작원리를 이해하고, 논리 게이트 및 회로 기반 설계 방법에 실습을 통하여 습득한다. FPGA 기반 디지털 회로 설계 구현 실습을 통하여 개 발이론 및 개발 역량을 함양한다.

Through this lecture, you will understand the operation principle of combinational and sequential digital logic circuits, and learn the logic gate and circuit-based design methods through practice. Build development theory and development competency through FPGA-based digital circuit design implementation practice.

M3502.002300 (공유)반도체공정의 이해 3-3-0

(COSS)Introduction to semiconductor device fabrication

차세대 반도체 분야의 기초가 되는 과목으로 반도체 공정의 기 본 개념을 파악하고 소자 및 회로 제작 공정을 이해할 수 있는 기본 지식을 갖추도록 한다. 또한, 대표적인 반도체 공정의 기본 원리 이해를 통하여, 기초 소자 제작을 위한 공정 설계를 할 수 있도록 한다. 수식을 최대한 배제하고 개념 위주의 수업을 실시한다.

This course is the foundation of the next-generation semiconductor field. It is designed to understand the basic concepts of semiconductor process and to acquire basic knowledge to understand the device and circuit manufacturing process. In addition, by understanding the basic principle of a representative unit process, it is possible to design a process for manufacturing a basic device. Formulas are excluded as much as possible, and concepts-oriented classes are conducted.

M3502.002400 (공유)디지털논리회로 실험 1-0-2

(COSS)Digital logic circuit lab

FPGA 기반 디지털 논리 회로 설계 구현 실습을 통하여 개발이론 및 개발 역량을 함양한다.
본 강의는 이를 통해 논리 게이트 및 스키매틱을 통한 디지털회로 설계 방법, IVADO 기반 디지털회로 설계, 사물레이션, 검증 방 법, Xilinx FPGA 설계 보드를 통한 설계 FPGA에서의 디자인 시스템 개발 방법을 습득하는 것을 목표로 한다.

Through this course, students learn the basic concepts and development capabilities through FPGA-based digital logic circuit design implementation practice. Through this lecture, we aim to learn how to design digital circuits through logic gates and schematics, IVADO-based digital circuit design, simulation, and verification methods, and how to develop digital systems in real FPGAs through Xilinx FPGA practice board.

M3502.002500 (공유)반도체집적공정 3-3-0

(COSS)Semiconductor process integration

오늘날 반도체의 기본의 CMOS 소자를 제조하기 위한 공정상의 흐름을 이해하고 설계할 수 있도록 한다. 특히 완성된 소자 제조를 위해 단위 공정이 집합되는 단위 및 전체 공정과 단위 공정의 상호작용에 대한 이해를 추구한다. 또한 공정 이해, 저전력 소자 제조, FINFET, EUV 등 차세대 집적 공정 기술 및 DRAM 공정, 3D NAND 공정 등 신기술 동향에 맞는 및 최신 반도체 공 정 기술을 소개하고 향후 반도체 혁신 공정이 추진되는 과학에 대해 알아본다.

To understand and design the process flow for manufacturing CMOS devices, which are the basis of today's semiconductors. In particular, it seeks to understand the principle of unit process integration and the interaction between the entire process and the unit process for the manufacture of a finished device. In addition, next-generation integrated process technologies such as process miniaturization, low-power device manufacturing, FINFET and EUV, and the latest semiconductor process technologies suitable for industry trends such as DRAM process and 3D NAND process are introduced, and the challenges faced by the semiconductor integration process in the future are explored.

M3502.002600 (공유)전자회로 3-3-0

(COSS)Electronic Circuits

차세대 반도체 분야의 기초가 되는 과목으로 소자의 전기적, 물리적 특성 및 회로의 개념을 파악하고 회로를 구성하여 특정한 동작을 할 수 있는 능력을 갖추도록 한다. 또한, 기본 응용 회로의 분석을 통하여 다양한 전자회로를 분석하고 설계할 수 있도록 한다.

This course is the foundation of the next-generation semiconductor field. It aims to understand the electrical and physical characteristics of devices and the concept of circuits, and to equip them with the ability to perform specific operations by composing circuits. In addition, it is possible to analyze and design various electronic circuits through the analysis of basic application circuits.

M3502.002700 (공유)운영체제 3-3-0

(COSS)Operating Systems

운영체제의 기본 개념들은 학습하고 가장 널리 쓰이는 운영체제 중의 하나인 Linux의 기본적인 사용법을 익힌다. 운영체제의 기본 기능은 프로그래스 관리, 메모리 관리, 파일시스템에 대해 이해하고 각 기능의 동작방식과 원리에 대해 학습한다. 프로그래스 생성과 관리에 대해 Linux를 이용하여 강의와 실습을 통해 익힌다.

Through this course, students learn the basic concepts of operating system and learn the basic usage of Linux, one of the most widely used operating systems. Understand the ba-
sic functions of the operating system, such as process management, memory management, and file system, and learn the operation method and principle of each function. Learn about process creation and management through lectures and practice using Linux.

M3502.002800 (공유)전자회로 실험 1-0-2

(COSS)Electronic Circuits Laboratory

컴퓨터, 가전기기, 통신시스템 등을 구성하는 전자회로에 사용되는 반도체소자의 특성과 반도체소자의 구성원의 종류와 그 응용에 대하여 설명을 통하여 이해하고, 프로젝트를 통해 전자회로 설계 및 분석 능력을 함양한다.

To understand the characteristics of semiconductor devices used in electronic circuits constituting computers, home appliances, and communication systems, and the operation and application of electronic circuits implemented with semiconductor devices through experiments, and to design and analyze electronic circuits through projects to cultivate.

M3502.002900 (공유)EDA를 이용한 full-custom 설계 3-3-0

(COSS)Full-custom design using EDA tools

Full-custom 설계를 핵심으로 하여 회로 설계 및 Simulation 등의 강의와 실습을 통해 익힌다. 그리고 회로 설계 설계를 한 후 Layout 설계 이해 및 설계 설계 등의 강의와 실습을 통해 Layout 설계를 익힌다.

In order to create an optimal circuit design in full-custom chip design, learn through lectures and practice on circuit design and simulation tools. And after designing the optimal circuit, learn layout design through lectures and practice on layout design understanding and design tools.

M3502.003000 (공유)인공신경망 3-3-0

(COSS)Artificial Neural Network

인공신경망의 원리와 종류를 살펴보고 그 동작을 이해한다. 이를 바탕으로 딥러닝 네트워크의 원리를 공부하고 설계하여 그 동작 이해와 설계를 통해 익힌다. 또한 응용 분야에 따른 다양한 딥러닝 네트워크를 얻고 그 학습과 검증 과정을 통해 설계 및 응용분야에 적용하는 이해를 공부한다.

Through this course, we will examine the principles and types of artificial neural networks and understand their operation. Based on this, we study and design the principles of deep learning networks and understand their operation through theory and practice. In addition, Through this course, we will examine the principles and types of artificial neural networks and understand their operation. Based on this, we study and design the principles of deep learning networks and understand their operation through theory and practice. In addition, various deep learning networks according to application fields are studied and examples applied to design and application fields are studied through learning and verification processes.

M3502.003100 (공유)반도체소재 3-3-0

(COSS)Semiconductor Materials

본 강의를 통하여 반도체 부품 개발 및 생산을 위한 기초단계로서 반도체 제료의 종류와 그 특성을 학습하며 반도체 개발, 생산, 공정 능력 등을 배양한다. 반도체, 반도체 제료, 기본 소자에 대한 이해를 바탕으로 반도체 공정 제료 및 특성 실험을 목표로 한다.

Through this lecture, students learn the types and characteristics of semiconductor materials as a basic step for the development and production of semiconductor parts to cultivate semiconductor development, production, and processing capabilities. Based on the understanding of semiconductors, semiconductor materials, and basic devices, we aim to experiment with semiconductor process materials and properties.

M3502.003200 (공유)캡스톤디자인 3-3-0

(COSS)Capstone Design

공학교육에 반도체기술을 접목하여 관련 작품을 기획, 설계, 제작 하여 반도체 산업 현장 실무 능력을 배양할 수 있도록 한다.

This course allows students to plan, design, and manufacture related works by applying semiconductor technology to engineering education, thereby cultivating practical skills in the semiconductor industry.

M3502.003300 (공유)기초반도체물리 3-3-0

(COSS)Elementary Semiconductor Physics

반도체에서의 전압/전류 관계를 이해하기 위한 물리학 수학의 기초를 다룬다. 전기신호에 대한 이해를 바탕으로 반도체물리에 필요한 미분방정식과 벡터를 수학하여 반도체 전압/전류 관계식에 대한 이해를 하는 것을 목표로 한다.

This course covers the basics of physics and mathematics to understand the voltage/current relationship in semiconductors. Based on the understanding of electrical signals, the goal is to understand semiconductor voltage and current relations by mathematically calculating differential equations and vectors necessary for semiconductor physics.

M3502.003400 (공유)SoC구조 및 설계 3-3-0

(COSS)System-on-Chip Design

디지털시스템설계 고급단계로서 SoC구조와 설계에 대한 이론을 학습한 후, SoC 설계 토큰을 사용하여 Full SoC 설계를 진행한다. FPGA prototyping 및 benchmark 코드 개발을 통해 설계한 SoC의 성능 검증과 수행하한다.

As an advanced stage of digital system design, after learning the theory of SoC structure and design, full SoC design is carried out using SoC design tool. It even performs performance verification of the designed SoC through FPGA prototyping and benchmark code development.

M3502.003500 (공유)반도체센서공학 3-3-0

(COSS)Semiconductor Sensor Engineering

본 과목에서는 광센서, 이미지센서, 바이오센서, 자기센서, 온도센서 등 반도체 기반 다양한 센서 소자의 구조 및 동작원리와 ROIC를 포함한 센서시스템 구성을 위한 학습에 대해 포괄적으로 학습한다. 다양한 반도체 소자의 구조 및 동작원리를 이해하여 반도체 설계의 다양한 응용방법에 관한 학습하는 것을 목표로 한다.

In this course, the structure and operation principle of various semiconductor-based sensor elements such as optical
sensors, image sensors, biosensors, magnetic sensors, and temperature sensors, and circuits for sensor system configuration including ROIC are comprehensively studied.

It aims to learn about various application methods of semiconductor sensors by understanding the structure and operation principle of various semiconductor devices.

M3502.003600 (공유)메모리소자 3-3-0
(COSS)Memory devices

본 과목에서는 현재 메인 메모리 소자로 사용되고 있는 SRAM, DRAM, Flash 메모리, 그리고 몇 가지 차세대 메모리의 기본 소자 및 이에 해당 구성을 중심으로 시작하여, 기본적인 입력/쓰기 동작, 주변회로의 구성 등에 대해서 다룬다.

In this course, starting with the basic elements and array configuration of SRAM, DRAM, Flash memory, and some next-generation memories, which are currently used as main memory devices, basic read/write operations and the configuration of peripheral circuits are covered.

M3502.003700 (공유)양자전자공학 3-3-0
(COSS)Quantum Electronics

본 강좌는 양자역학의 기초와 양자전자소자의 원리와 응용을 다룬다.

This course deals with the basics of quantum mechanics and the principles and applications of quantum electronic devices.

M3502.003800 (공유)전기회로 3-3-0
(COSS)Electrical Circuit

전기회로를 해석하고 설계하기 위한 능력을 개발한다. 전기회로를 구성하는 전자, 전류, 전압, 저장, capacitance, inductance와 전력 및 에너지의 개념, Kirchhoff의 법칙, Impedance의 개념, 최대전력전달, Thvenin의 정리, Norton의 정리 등을 배우며, Laplace Transform과 Computer Program을 활용하여 회로 해석과 실제 능력을 향상시킬 목표로 한다.

This course develops the ability to analyze and design electric circuits. Students learn the concepts of charge, current, voltage, resistance, capacitance, inductance and power and energy constituting an electric circuit, Kirchhoff's law, the concept of impedance, maximum power transfer, Thvenin's theorem, Norton's theorem, Laplace Transform and Computer It aims to acquire circuit analysis and design skills by using the program.

M3502.003900 (공유)전기회로 실험 1-0-2
(COSS)Electrical Circuit Experiment

전기회로의 기본원리를 이해하고 오디오 앰프를 제작한다. 실험 매뉴얼을 바탕으로 실험을 진행하며 저항 및 실험기기 사용을 학습하고 오디오 앰프 실험을 통하여 전기회로를 이해한다.

This course understands the basic principles of electric circuits and produces audio amplifiers. Practice based on the experiment manual, learn to use resistance and test equipment, and understand electrical circuits through audio amplifier practice.

M3502.004000 (공유)반도체공정실습 3-3-0
(COSS)Semiconductor Fabrication Laboratory

반도체 소자 공정의 기본원리 및 소자 분석기법을 배운다. 본 강좌에서는 반도체 소자에 대한 이해를 바탕으로, OLED, LCD 등의 평판디스플레이에 널리 이용되는 박막트랜지스터를 설계, 공정, 측정, 분석하는 학습을 진행한다.

Through this course, students learn the basic principles of semiconductor device processing and device analysis techniques. In this lecture, you will learn to design, process, measure, and analyze thin-film transistors (TFTs), which are widely used in flat panel displays such as OLED and LCD, based on your understanding of semiconductor devices. proceed.

M3502.004100 (공유)학부생 연구 인턴 1-0-2
(COSS)Undergraduate Research Internship

연구실에서의 연구참여 활동을 통해 전공 지식을 심화 학습한다. 각자가 원하는 연구에 참여하며 그 연구에 대한 직접적인 경험을 얻는다.

In-depth study of major knowledge through research participation activities in the laboratory. Each participant participates in the desired research and has direct experience of the research.

M3502.004200 (공유)시스템반도체설계 3-3-0
(COSS)System LSI Design

본 강좌는 초대형 디지털 설계(ASIC)의 전체 프로세스를 소개한다. 강의 주제에는 조합 및 순차 논리 설계, 하위 시스템 설계(가산기, 곱셈기), HDL 코딩, 논리 합성 및 물리적 설계가 포함된다.

This course introduces the entire process of very-large-scale digital design (ASIC). Topics in lectures include combinational and sequential logic design, sub-system design (adder, multiplier), HDL coding, logic synthesis and physical design.

M3502.004300 (공유)초고주파공학 이론 및 응용 3-3-0
(COSS)Microwave Engineering

본 강좌의 초대형 디지털 설계(ASIC)의 전체 프로세스를 소개한다. 강의 주제에는 조합 및 순차 논리 설계, 하위 시스템 설계(가산기, 곱셈기), HDL 코딩, 논리 합성 및 물리적 설계가 포함된다.

This course introduces the entire process of very-large-scale digital design (ASIC). Topics in lectures include combinational and sequential logic design, sub-system design (adder, multiplier), HDL coding, logic synthesis and physical design.
M3502.004500 (공유)고속반도체 입출력회로 3-3-0

(COSS)High-Speed Semiconductor I/O Circuits

본 강의는 급격한 발전하는 산업에 기초와 학부교육의 근간을 출발하는 것을 목표로 한다.
수 GHz(또는 Gbps)에서 수십 GHz (Gb/s)에 달하는 고속 반도체 입출력 회로의 기본 이론과 실험실습하며 수십 GHz/Gbps 에 달하는 최신 고속 반도체의 입출력 동작을 다룰 수 있는 기술과 기술을 습득한다.

This lecture aims to bridge the gap between rapidly developing industrial technology and undergraduate education.

Learn the basic theory and experimentation of high-speed semiconductor input/output circuits ranging from several GHz (or Gbps) to several tens of GHz (Gb/s), and acquire knowledge and skills to handle input/output operations of the latest high-speed semiconductors ranging from several tens of GHz/Gbps do.

M3502.004600 (공유)처음 만나는 전기회로와 PCB설계 3-3-0

(COSS)Design of electrical circuits and PCBs that meet for the first time

본 교과목을 통해 PCB 설계를 위한 전기회로 기초이론과 PCB설계를 위한 기술을 습득한다.
교과목을 통해 첫째반도체 분야의 기본이 되는 처음 접하는 PCB설계자를 위한 전기회로의 기초를 학습하고 PCB설계를 위한 최초도반 기초교육을 이해하며 설계할 수 있다. 또한, PCB설계 공정과 제작 과정을 이해할 수 있게 한다.

Through this course, students learn basic electrical circuit theory for PCB design and technology for PCB design.

Students can learn the basics of electrical circuits for PCB designers who are new to the next generation semiconductor field, understand the circuit drawing process for PCB design, and design them. In addition, it is possible to design by understanding the PCB design process and manufacturing process.

M3502.004700 (공유)반도체 센서로 바라보는 세상 3-3-0

(COSS)The world seen through semiconductor sensors

본 강의는 이미지 센서의 기본 개념을 다루며, 수많은 형태의 이미지 센서와 관련된 기술에 대해 다루어진다. 또한, 이미지 센서를 통해 맥락정보로 바라보는 시각화 기법을 통해 우리에게 이미지로서의 과정에 대해 이해할 수 있도록 한다.

This lecture covers the basic concepts of image sensors, and provides students with general knowledge about the characteristics of semiconductor devices and related technologies required for image sensor development at a basic beginner level. Also, how light information is converted into digital information through an image sensor and image signal processing techniques allow us to understand the process of becoming an image.

M3502.004800 (공유)전자전기공학개론 1-1-0

(COSS)Introduction to Electrical Engineering

본 강좌를 통해 학생들에게 다양한 전자공학 분야에 대해 소개한다. 수업을 통해 전자공학 분야에 대한 이해를 돕고 각 분야의 상관 관계를 이해할 수 있도록 한다.

Through this course, students are introduced to various fields of electronic engineering. Through classes, students can understand the field of electronic engineering and understand the relationship between each field.

M3502.004900 (공유)반도체 산업 이해 2-2-0

(COSS)Understanding Semiconductor Industry

반도체는 현대 산업과 문명에 터치하게 된 핵심 기반 산업이며 대한민국이 세계 일류의 위치로 나아가기 위해 노력할 중요한 분야이다. 전 세계 반도체 산업의 주요 인물들과 함께 반도체 산업의 재정, 할인, 배포를 살펴본다. 대한민국이 거세는 산업 규모와 장학기의 과정과 경험을 공유하는 시간을 갖는다. 반도체 산업을 구성하는 생산자, 제품가격, 기획, 재무 인사, 하부 공급 체제와 운영, 제품기술과 협력 네트워크 등을 이해한다. 학생들은 초연단 과학, 전장 인문학이 어울려 성장하고 있는 산업을 이해하고 전문역량과 스스로의 목표를 설정하는 동안 도움이 되도록 한다.

Semicorductor is a key infrastructure industry that has brought about a major change in modern industry and civilization, and is a field in which Korea is striving to advance to a world-class position. We examine the origins, growth, and drivers of the semiconductor industry through current and former key figures in the semiconductor industry. Take time to share the process and experience that Korea has developed into a huge industry. Students will understand product technology, product technology, planning, financial personnel, design and operation of large factories, and supply chains and customer networks that constitute the semiconductor industry. Undergraduate students understand the growing industry with cutting-edge science, engineering and humanities to help them set their own professional competencies and goals.

M3502.005000 (공유)반도체 CEO 특강 2-2-0

(COSS)Semiconductor CEO Special Lecture

교과목은 반도체 산업의 현황과 트렌드의 이해와 창업자의 경험을 통해 기업가 정신을 함양하는 것을 목표로 한다. 수업에서는 최근 창업한 반도체 기업 대표들을 모시고, 창업정리와 사업모델, 창업 전략에 대해 들을 수 있으며, 반도체 CEO 와의 집합상담과 같은 경험을 통해 반도체 산업의 전반에 대한 이해와 기술적 창업과 관련한 다양한 경험들을 공유한다.

This course aims to cultivate entrepreneurship through understanding the current status and trends of the semiconductor industry and the experiences of founders. In the class, we invite representatives of recently established semi-
M3502.005100 (공유)실생활에서 배우는 전기전자 회로 3-3-0

(COSS)Practical Electric Circuits in Real Life

실생활에서 일어나는 다양한 전기 전자 현상을 통하여, 전기와 전자회로의 이론과 실제에 대하여 학습한다. 각 주제에서 핵심적인 전기 전자 공학의 개념과 원리를 소개하고 실습을 통해 직관적인 이해를 높인다. 또한 강의 중 수강생들의 실생활의 전기 전자 현상에 관한 주제들도 포함하여 토론과 강의를 통하여 학습의 깊이와 범위를 넓힌다.

In this class, students learn about the theory and practice of electronic and circuits through various electrical phenomena that occur in real life. In each topic, core concepts and principles of electrical and electronic engineering are introduced. Also, with various experiments and trainings by building actual electric circuits, students enhance the overall understanding of electrical and electronic circuits by focusing more on intuitive understanding through practice. Also, during the course of the lecture, it expands the depth and scope of learning through discussions and lectures by including additional topics related to real-life electric and electronic phenomena experienced by student.

M3502.005200 (공유)인공지능을 이용한 영상 객체 인식 3-3-0

(COSS)Object Detection using AI

AI를 이용하여 주차장 게이트에서 번호판을 인식시 주차장 게이트를 Open/deny 하는 과정을 구현한다. 자동차 번호판을 인식하기 위해 object-detection, Text Detection, OCR, Image Captioning, Generative Model 등 다양한 컴퓨터 비전에 사용되는 딥러닝 모델들의 개요에 대해 배우고, GPU 서버를 이용하여 이 과정들을 구현한다.

This is a project-based learning class. In this project, we will implement a license-plate recognition program at the parking garage using a GPU server. In each step of the project, we will also learn the concept of deep learning and computer vision including object-detection, text detection, OCR, image captioning, generative model, etc.

M3502.005300 (공유)전자제품 디스플레이 만들기 3-3-0

(COSS)Building Electronic Displays

많은 전자제품에는 Dot-Matrix LED, 그래픽 OLED, 컬러 LED 형태와 같은 다양한 전자 표시장치(디스플레이)가 사용되고 있다. 이와 같은 디스플레이 부품을 마이크로 컨트롤러에 연결하고 SPI, I2C 통신 포트를 통해 데이터를 디스플레이에 보내고 표시하는 실습을 통해 디스플레이 장치의 동작 원리를 배운다. 여기에 입력 장치와 브로드 컨트롤러 IC를 연결하여, 주어진 입력 위치에 따라 디스플레이 내용이 바뀌고 오디오 불빛이 조절되는 응용 제품을 만들어 본다.

Many electronic products use different types of electronic display devices such as dot-matrix LED, graphical OLED and color LED rings. By connecting such display devices to a micro-controller and sending data through SPI and I2C ports, we will learn how various display devices operate. We will then add an input device and a volume control IC to create a system that displays different contents and adjusts the audio volume depending on the input position.
본 교과목은 컴퓨팅으로 문제를 해결하기 위해 필요한 컴퓨터처럼 생각하기를 소개한다. 컴퓨터처럼 생각하기는 컴퓨터의 장단점을 고려하여 컴퓨팅으로 문제를 풀고자 할 때 적합한 사고 방법이다.

컴퓨터처럼 생각하기는 문제를 얼마나 컴퓨터처럼 바라보는지에 따라 결정되며 사람이 직접 문제를 해결할 때와 매우 다른 사고를 필요로 한다. 본 교과목에서는 Python 언어를 이용하고 컴퓨터처럼 생각하는 방식을 연습하고 직접 구현해 본다.

This elementary course introduces algorithmic thinking and problem-solving skills of computers using Python to students. It will cover the python basic language constructs and help guide students towards a more reasoned and logical way of thinking. It aims to improve programming skills based on theoretical learning about the basic grammar of python. Through this lecture, students build basic knowledge of programming using Python and expand their knowledge so that they can easily solve tasks that are difficult to handle by hand in daily life.
에너지산업 혁신공유대학사업단(New Energy Industry Convergence and Open Sharing System)

미래 청정사회 구현(차세대 스마트그리드 및 분산 전원)을 위한 환경성, 공공성, 비교강성 특성의 신에너지원인 양산요소 및 수소 양의 특성에 대한 기초이론, 구조, 재료, 응용 및 기술, 산업 동향에 대하여 학습한다.

The topics in this class are the basic theory, structure, materials, application and technology, and industry trends of fuel cell and hydrogen energy, which are new energy sources with environmental, public, and non-depletable characteristics for realizing a clean society in the future.

전 세계적으로 주목받고 있는 수소경제 중에서 수소연료전지에 대한 기본적인 개념부터 종류, 활용에 이르는 산업동향을 파악할 수 있다. 이를 통해 학생들이 수소산업의 이해 및 수소연료전지를 이해할 수 있다.

Among the hydrogen economy, it is possible to recognize the industrial trend from the basic concept to the type and use of the hydrogen fuel cell. Through this course, students can understand hydrogen industry and hydrogen fuel cell.

본 과목을 통해 다양한 학문분야의 입장에서 에너지 저장기술을 설명함으로써 에너지 신산업에 입문하는 신입생들이 응용분야의 핵심성을 이해할 수 있다.

Learn about the electrochemical energy storage system and its basic principle, research trend, industrial applications.

기초 과학을 바탕으로 에너지 산업 현장에서 활용 가능한 에너지 저장에 대해 기본적인 개념을 정립하는데 있어 에너지 소자로 해석하는 고분자, 세라믹, 및 금속을 소개하고 그 특성 및 응용분야를 확대할 수 있다.

Based on basic science, this course is to establish basic concepts for energy materials that can be used in the energy industry. Polymers, ceramics, and metals which are widely used as energy devices can be introduced. Also, their characteristics and applications can be expanded.

수소연료전지의 VR 실험 및 에너지 산업 현장에서 활용 가능 한 수소연료 전지 및 이차전지의 재료 합성 및 제조를 통해 실험 경험을 증대시킬 수 있다.

It is possible to increase practical experience through VR practice of hydrogen fuel cell, and manufacturing of hydrogen fuel cell. Also, this course can understand and experience Li-ion battery in terms of the energy industry field.
This course will examine the multiple effects of global environmental change by the conventional energy consumption. As an introduction course, we will pay particular attention to 1) the central place of environmental crises associated with energy security issues, 2) the interrelations between energy and environmental consequences, and 3) the technological aspects of new and renewable energy production/management innovation.

M3500.004100 (공유)에너지와 기후변화 3-3-0

(COSS)Energy and Climate Change

지질환경을 이해하고 전통적인 에너지산업이 탄소순환에 미치는 영향을 학습한다. 또한, 지구환경의 기후변화 원인을 이해하고 지구환경을 활용한 탄소저감 방법을 학습한다.

The Earth's history, geology, and energy forming process will deliver related to the carbon cycle. In addition, understand climate change and learn how to reduce carbon using geological characteristics.

M3500.004300 (공유)에너지반응공학 3-3-0

(COSS)Reaction Engineering for Energy Production

본 강좌에서는 수소에너지, 바이오에너지 등 신(재)생에너지와 에너지 생산공정소요의 합성 반응에 대한 화학적, 유리적 이해와 관련 반응기의 설계와 해석에 필요한 반응공학적 기초를 학습한다.

반응공학 및 반응기설계의 기초인 반응속도론, 반응기 물질/에너지 수치, 반응기 설계방정식 등의 이해를 높이고 신에너지 및 관련 공정 소재 합성반응에 대한 응용사례들을 중심으로 학습한 이론들을 적용한다.

This course aims to understand the basic principles of reaction engineering for the synthesis of new energy resources such as hydrogen and bioenergies and the related process materials. The lecture will focus on the review of reaction engineering basics, including reaction kinetics, material/energy balance, reactor design equation, etc. The emphasis will be placed on the applications of the theories to the production of energy resource materials and the related process materials.

M3500.004600 (공유)바이오프라테머지에너지공학 3-3-0

(COSS)Bio-waste to Energy Conversion Engineering

바이오에너지로의 전환된 신재생에너지의 개발은 인류의 생존 문제와도 직접되는 범세계적인 문제로 대두되고 있다. 차세대 신에너지에서 주목받고 있는 바이오에너지, 수소에너지, 태양에너지 등을 포함한 신재생 에너지 이용을 위한 핵심요소 기술 개발과 최적의 기술이 필요해진 현실에서 본 교과목은 바이오프레시메이커 기반 에너지 생산에서의 기초적 과제와 경제적 가치가 있는 바이오연료 생산을 위한 전처리기술 및 다양한 바이오프레시메이커 장공정에 대한 공학적 지식을 다룬다.

“Bio-waste to Energy Conversion Engineering” provides an introductory understanding to biowaste, biowaste to Energy (e.g. biogas, bio-diesel, bio-ethanol, bio-butanol) conversion process, and their challenges. The course will also provide entry level understanding of the concepts of chemistry for biowaste and fuel.

M3500.004800 (공유)대기에너지저장 3-3-0

(COSS)Large Energy Storage System

신재생 에너지의 품질과 사용효율을 제고할 수 있는 기대에너지 저장이 필요성을 확신하고, 다양한 방식의 기다겨에너지 저장 시스템에 대한 이해와 기대에너지는 저장 시스템의 주요조차, 설계, 사용에 대한 기술을 학습한다.

In this class, we will examine the necessity of large energy storage that can improve the quality and efficiency of renewable energy. Students will improve their understanding of various types of large energy storage systems and learn techniques for site investigation, design, and construction of large energy storage facilities.

M3500.004900 (공유)차세대전력전자 및 전기기기 3-3-0

(COSS)Advanced power electronics and electric machines

본 과목에서는 전기기기의 발행, 소비, 제어에 필요한 전기기기와 전력전자기술의 융합기술에 대하여 이해하고자 한다. 강의의 세부 내용은 다음과 같다.

- 전기-기계의 변환의 원리
- 변압의 원리와 정성적 해석법
- 직류기기와 교류기기의 구동원리와 정성적 해석
- 에너지 변환기기의 동적해석법
- 전력전자의 원리 및 해석
- 전력전자기술을 이용한 에너지변환 계玑
- 전력전자와 전기기기의 신기술과 미래 기술전망

This course aims to understand the convergence technology of electric equipment and power electronic technology necessary for the generation, consumption, and control of electric energy. The details of the lecture are as follows.

- Principle of electrical-mechanical energy conversion
- Principle of energy transformation and analysis
- Analysis of driving principle and normal characteristics of DC and AC devices
- Dynamic characteristic analysis method of energy converter
- Principle and analysis of power electronics
- Energy conversion control using power electronics technology
- New technologies and future technology prospects for power electronics and electric devices

M3500.005000 (공유)화학적에너지수송 3-3-0

(COSS)Chemical energy transport

신재생에너지 기술을 기반으로 생산된 에너지를 화학적으로 전환시킬 수 있는 방법 및 이론, 적용 가능한 화학적 수송 매체의 종류 및 특성, 수송 시 고려해야할 사항을 다룬다. 환경오염 문제, 에너지 자원의 지역적 분배를 통해 안정된 수송량, 추가의 고갈과 동시에 해결할 수 있는 화학적에너지수송 기술을 이해하고 적용 가능한 저직을 실증한다. 바이오반응공학 또는 그와 유사한 교과목을 이수하기를 권장함.

Methods and theories that can chemically convert energy produced based on renewable energy technology, types and characteristics of applicable chemical transport media, and considerations for transport are covered. The knowledge about chemical energy transport technology that can simultaneously solve environmental pollution problems, supply and demand instability problems due to regional concentration of
energy resources, and depletion of energy resources can be understood.

M3500.005100 (공유)AI-based Safe Energy Engineering

본 강의에서는 전기에너지 관리에 있어 인공지능 기술적 적용 가능성을 살펴보고, 인공지능 기술적 기초 지식을 습득하여 전기에너지 관리 분야에서 인공지능 기술을 활용하는 융합적인 지식을 습득한다.

In this lecture, application of artificial intelligence technology to electric energy management is studied. Basic knowledge of artificial intelligence technology is taught and the examples of applying artificial intelligence technology to electric energy management field are introduced.

M3500.005200 (공유)Data Analytics in Power Systems

최근 전력에너지공학 분야에서 다루는 여러 문제들에 대한, 비대터 기반의 머신러닝 기법의 적용을 통해 해결하려는 추세에 있다. 전력에너지공학 분야에서 해결해야 하는 문제들은 무엇이며, 비대터 기반의 머신러닝 기법을 통해 어떻게 해결할 수 있는지에 대한 강의를 진행한다. 강의는 전력에너지공학의 문제들에 대한 기본 개념, 비대터 기반의 머신러닝 기법(일부) 소개, 이것에 대한 간단한 예제와 실습으로 구성된다.

※ 본 강의는 실습 위주의 강의로서 수강생들은 필요한 GPU 자원을 갖춘 학생만 수강하도록 강력히 권장합니다.

Recently, there is a trend to solve various problems in the field of power system engineering through the application of big data based machine learning techniques. This lecture deals with the problems that need to be solved in the field of power system engineering and how to solve them through big data based machine learning techniques. The lecture consists of basic concepts of problems on power system engineering, introduction of big data based machine learning techniques, and simple examples & practices.

※ This lecture is a hands-on lecture, and it is strongly recommended that students take only those who have the necessary GPU resources.

M3500.005400 (공유)Climate and Energy Change 3-3-0

The objective of this course is to provides an principle and application of geothermal energy as renewable energy. The course covers geothermal heat pump, direct utilization of geothermal heat and geothermal power generation applied for shallow and deep geothermal applications. For shallow geothermal, the course deals with principles, construction and operation of ground source heat pump, site investigation and groundwater engineering. For deep geothermal energy, geothermal exploration and site investigation, geothermal drilling, geothermal reservoir engineering, principles of steam power generation, and operation of geothermal power plant are covered. The condition, principles and case studies of direct geothermal utilization is also studied. The course covers geothermal resources estimation and environmental impact of geothermal energy development. Lastly, the course studies the emerging topics in geothermal energy such as geothermal energy storage and enhanced geothermal systems.

M3500.006300 (공유)Wind Energy Engineering

본 교과목에서는 풍력발전의 원리, 풍력발전기의 구조 등을 풍력에너지 기초 설계능력에 대하여 학습한다. 특히 최근의 기후 변화에 대한 풍력발전발전을 예시로 들어 설명한다.

1. 해상풍력발전 및 환경적 및 경제적 풍력발전의 이론과 실습을 이용한 풍력발전기(Micro-siting) 설계기술을 통해 경제적 설계능력 습득하며, 해상 자전부터 해상정원기기 설계를 통해 해상풍력발전 기초설계 및 기초설계 능력을 양성한다.
2. 해상풍력 제어의 이해를 통해 해상 설계 설계 이론, 풍력발전장치 설계 및 해양설비 등을 통해 해상풍력발전기 기초설계 및 기초설계 능력을 양성한다.
3. 해상풍력 기기설계 해석을 통해 각기구조성 평가능력을 기
로, 다중 투명화체를 통해 전체 해상풍력 발전시스템이 고려된 전산모사 실습을 수행하여 동력전달시스템을 이해한다.

이 코스에서, 학생들은 기초론적 모델의 구축과 이를 바탕으로 실제 시스템을 설계하는 실습을 수행한다.

1. Acquire economic analysis ability through technical education on turbine placement (micro-siting) using measurement data of offshore wind farms and wind conditions, and cultivate core technology and basic design capabilities for offshore wind power through offshore ground survey and basic offshore wind power education.

2. Acquire the ability to solve problems related to wind turbine structures through analysis and design theory through an understanding of the wind turbine rotor system and design and analysis of key mechanical elements.

3. Develop structural stability evaluation ability through offshore wind power support structure analysis, and understand power transmission system by performing computational simulation practice that considers the entire offshore wind power generation system through multi-body dynamics analysis.

M3500.006500 (공유)수소에너지공학 3-3-0
(COSS)Hydrogen Energy Engineering

본 강좌에서는 수소에너지의 생산, 저장 및 운송, 이용에 대한 전반적인 내용을 학습한다. 각 부분에서 재료과학, 전기화학, 및 열역학 등의 기초이론을 학습하고 이를 실제 사례들에 적용하여 수소에너지에 대한 이해도를 높이게 한다.

이 코스는 수소에너지의 생산, 운송, 이송, 이송의 모든 단계에서의 기초이론과 실제 사례들을 학습한다. 이를 바탕으로 실제 시스템을 설계하는 실습을 수행한다.

M3500.006600 (공유)차세대에너지장반환공학 3-3-0
(COSS)Advanced Energy Storage/Conversion Engineering

미래사회의 인간형 로봇, 드론, 전자차 등에 대한 전자기 기기의 전력원으로 사용하기 위한 차세대 파워소스를 소개하고 구동 원리와 응용기술에 대해 학습한다. 차세대 이온전지, 연료전지 등 다양한 파워소스의 기초이론을 파악하고, 응용에 있어 발생하는 기술적 이슈와 잠재적(향후전망)에 대해 학습한다.

이 코스는 차세대 파워소스의 기초이론과 응용기술에 대해 학습한다. 이를 바탕으로 실제 시스템을 설계하는 실습을 수행한다.

M3500.006800 (공유)수소생산과 연료전지응용 3-3-0
(COSS)Hydrogen Production and Fuel Cell Application

차세대 환경 에너지기술의 미래 에너지 체계의 핵심 역할을 할 수소에너지의 전반적인 가치살산(광합, 생명, 저장, 운송)에 대해서 공부한다. 1) 강의 전반부에서 수소 사용의 측면에서 수소경제적 효율성과 기술적 우위를 설명한다. 2) 수소의 환경성과 에너지의 이동성에 대해 이해한다. 3) 수소화학에 대해 이해한다. 4) 수소의 환경성과 에너지의 이동성에 대해 이해한다.

이 코스에서는 수소에너지의 전반적인 기초이론과 기술적 이슈를 이해한다. 이를 바탕으로 실제 시스템을 설계하는 실습을 수행한다.

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In this course, students will learn various power engineering, distributed energy utilization, and power conversion technology. These topics are the smart grid element technologies necessary for transport and management of electric energy. The students will also acquire convergence knowledge applicable to smart grid.

M3500.007400 (공유)Smart Grid

- Basic concepts and future directions of the latest energy technologies. Experts from various backgrounds and experiences such as energy production, energy storage/conversion, energy delivery/management, and energy economics will be invited to the lecture.

M3500.007600 (공유)Feasibility Assessment of Energy Project

- Analysis methods on the major factors for the feasibility study on renewable energy projects and conventional energy projects are taught. Assessments of the economic factors (cost-benefit, Net Present Value), resource availability of the projects are taught. Assessments of the economic factors (cost-benefit, Net Present Value), resource availability of the projects are taught. Assessments of the economic factors (cost-benefit, Net Present Value), resource availability of the projects are taught.

M3500.007800 (공유)Special topics on New Energy industry

- Recent challenges and innovations in energy technology aimed at carbon neutrality have taken place worldwide. In this lecture, various energy experts will talk about the current trends and future directions of the latest energy technologies. Experts from various backgrounds and experiences such as energy production, energy storage/conversion, energy delivery/management, and energy economics will be invited to the lecture.

M3502.005900 (공유)Convergence of Electrochemical Energy Storage

- Understanding of the energy conversion system to realize green buildings and facilities that minimize the energy load required in buildings and facilities and minimize the energy consumption by using new and renewable energy or unused energy.

M3502.006100 (공유)AI-based Safe Energy Engineering

- Recent challenges and innovations in energy technology aimed at carbon neutrality have taken place worldwide. In this lecture, various energy experts will talk about the current trends and future directions of the latest energy technologies. Experts from various backgrounds and experiences such as energy production, energy storage/conversion, energy delivery/management, and energy economics will be invited to the lecture.
의미 자동차 산업을 이끌 전자 자동차용 리튬이온전지에 대한 제작 공정을 이해하고 제품 개발 및 출시에 대한 프로세스 학습. 이차전지 회사에서 진행하는 전극 설계, 파우치셀 조립, 화성 평가 기준에 대한 이해 및 상용 리튬이온전지 해체 및 분석, 고용량의 리튬이온전지를 제작하여 전기화학 평가 및 안전성 평가를 진행.

This course provide the manufacturing process for the pouch type lithium-ion batteries and its electrochemical test will be carried out.
Courses for Teachers—Training Program
교육이론영역(Theory)
T1831.000300 생활지도 및 상담 2-2-0

Guidance and Counselling

학교 장면에서 학생들의 인성교육 및 문제해결을 위한 상담과
생활지도의 기초개념, 주요 원리, 주요 활동과 기능을 고찰하고 그
것이 갖고 있는 이론적, 실천적 함의를 다룬다. 특히 이 교과서는
성과 반응에 상담의 실천과정 및 기법을 다루어 교육적 대화를
통해 인간 문제 해결에 필요한 이론적 기초를 제공하는데 중점을
다음. 또한 이강 교과서는 상담의 예방 및 신고의무와 관련
한 내용을 통해 학생들에게 상담을 대상 사람들에 대한 예방 및 대처
능력을 기르는

This course examines the concepts and principles of guidance
and counselling, discusses their theoretical and practical
implications. In particular, in this course the theories, practical
procedure and techniques of counseling will be included
in order to strengthen the theoretical basics for solving problems
by educational communication. This course also presents the
prevention knowledge of sexual abuse and harassment against
children and adolescents and the duty to report. It will de-
velop Student Teachers’ ability to prevent and cope with
sexual abuse and harassment against students in schools.

700.002 교육심리 2-2-0

Educational Psychology

본 과목은 예비교사들이 갖추어야 할 교육심리학 지식과 이를
바탕으로 한 교육실천과정에 대한 이해를 향상시킬 수 있도록 하는 데 그
목적이다. 본 과목에서는 인지과정, 정서과정, 학습과정, 정서학, 정서
특수학생, 학습성격, 평가에 대한 내용들이 교육현장에서의 적용을
중심으로 다루어진다.

This course is intended to equip pre-service teacher students with
knowledge of Educational Psychology and to develop pre-
service teachers’ understanding of teaching-learning processes.
Practical implications of various theories of Educational Psychology are dealt in depth, including cogni-
tive development, affective development, learning theories, in-
telligence, students with special needs, learning motivation,
and evaluation.

700.003 교육철학 및 교육사 2-2-0

Philosophy and History of Education

이 과목은 교육철학과 교육사를 통합한 접근으로서 교육
과정의 기초적 과목이다. 이 과목은 교육활동의 기본개념과 이론적
·실제적 쟁점에 대한 철학적 분석의 성과를 다루며, 또한 교육사
의 주요 변화와 원리에 대한 기반적인 이해를 추구한다.

This is an introductory course on the history and philo-
sophy of education, which is a prerequisite subject to get
teacher qualification certificate. This course deals with philo-
sophical analysis on the basic concepts and theoretical · practical
tools of education, and includes various approaches to
understand the main trends in the history of education.

700.004 교육사회 2-2-0

Sociology of Education

이 과목은 교육과정의 하나로 학교교육과 전반적인 사회구조 간
의 복합적 관계에 관한 기존의 교육사회학적 이론들에 비판적으로
검토하고, 이를 토대로 하여 우리나라 학교교육의 사회적 현실을
층칙적으로 인식할 수 있는 근거를 형성하는 데 그 목적이 있다.

This course introduces sociology of education for pro-
spective teachers and it is part of teacher certificate program.
It focuses on the relation between school education and so-
cial structure.
This course will focus on the understanding general principles of educational evaluation and the appropriate types of evaluation in the context of school learning. The goal of this course is to allow students to have a perspective on educational evaluation and to understand current educational evaluation system. The course also includes process-focused assessment, development and feedback of test items and drawing up student records.

701.101A* 교육학개론 2-2-0

Introduction to the Study of Education

교직과정과목으로서 교육의 개념과 목적에 관한 사고와 이론을 검토하고, 제도교육의 실상에 관한 구제적이고도 체계적인 간략을 제공한다.

This course discusses the concepts and purposes of education. It also covers current status of educational systems.

교육실습영역(Practicum)

T2184.001200 학교현장실습 2-0-4

School Teaching Practicum

교육실습의 실천단계로서 학교교육의 형상에서 직접 교사 활동을 실습함으로써 교육활동의 내용과 방법의 실천적 요소를 탐색하고 이에 의하면, 이러한 실습에서 얻는 문제들을 발견하고 그에 대한 발전적 방안들을 모색하며 평가하게 한다. 근무의 내용은 교과수업과 창의적 체험활동 수업참관을 포함한 한편 리서치과 취득하고자 하는 자격증의 직무 및 수업, 학생평가 연구를 포함한 실태실습으로 구성한다. 초등참관실습은 1주, 중등과 고등실습은 4주 동안 진행한다.

Teaching Practicum aims to cultivate practical and pedagogical skills of students through actual teaching in school. Through this field-based experience, students will be able to understand teaching principles and develop a variety of learning strategies.

This course covers class observations on teaching and creative experiential activities, practices of teaching subjects, and evaluation of students’ learning in school. Students will be evaluated on the basis of the 1 week of practicum in elementary schools and the 4 weeks of practicum in secondary schools.

T2184.001300 교육봉사활동1 1-0-30

Educational Volunteer Program 1

본 강좌는 교사가 될 학생들을 대상으로 교육적인봉사를 통한 교사로부터의 사명감을 고취시키고, 교육과정 및 교수학습에 대한 보다 깊이 있는 전문성을 함양하는 것이 그 목적이 있다. 아울러 다양한 학생들과 교사들과의 만남을 통해 교육실전과 연구조사로서의 공동체 의식을 갖도록 하는데 그 목표가 있다. 이 강좌는 교육봉사활동, 기반봉사활동으로 구성되며, 교육봉사활동으로 유치원 및 초 · 중 · 고등학생을 대상으로 보조교사, 부과가, 학교수업 방과후교사, 초등돌봄교실 및 자유학기제 관련활동, 타문화학습 자도, 학생 생활지도 관련 활동, 제공거부 등 교육적인 방법으로 실시된다.

The main objective of this course is to provide pre-service teachers with an opportunity to obtain specialty in curriculum and instruction as well as a sense of purpose as a teacher through educational volunteering program. Furthermore, it aims to develop a sense of community as a practitioner and a researcher working with a variety of students and teachers. This course is composed of educational activities and a final evaluation on the activities. To compete course requirements, students can work as an assistant teacher in elementary and secondary schools and as an after-school teacher for students with learning difficulties or students with multi-cultural backgrounds. They can also work for child-caring programs in elementary schools, educational activities in relation to the free-semester system, educational activities of talent donations, and so on.

교직소양영역(Grounding)

700.020A 특수교육학개론 2-2-0

Education for Students with Special Needs

학생들은 모든 이들의 존엄성을 지켜주고, 학습권을 보장해줄 수 있어야 한다. 특히, 고등학생의 교육 요구는 차등 교육 동안 몇 가지 영역을 갖는 학생들을 포함하기에, 특수교육은 대상 아동들의 학습적 특수성을 만드시기에 위해 특별하게 계획된 교육이다. 이러한 특수교육 대상 아동들은 많은 시간을 일반학교에서 교육 받고 있기 때문에 특수학교에서 특수교육 교육 대상 아동에게 대비하여, 특수교육을 위한 준비가 되어있어야 한다. 이 강좌는 예비교사들이 전반적인 특수교육 및 통합교육을 이해하고, 각기 다른 특수교육 교육 대상아동들의 특수학습 교육과 학교 서비스에 대해 스스로 학습할 수 있도록 방향한다. 본 강좌는 다양한 교육수단 및 협력 모형 등을 제시하여 실질적인 교육 환경에서의 적용을 도모하였으며, 대표적인 교육 사례를 들어 예비교사들의 이해를 돕는다.

All students require support from teachers, classmates, family, and friends in order to thrive and to gain full benefit from their school experience. Some students (both the handicapped and the gifted) have special needs that require support beyond those ordinarily received in the school setting. This course provides some of the most comprehensive coverage of the characteristics of learners with special needs, as well as some of the latest assistive technologies. This is a
course that is comprehensive but deliberately concise so that the learners can effectively translate the theories of effective teaching and special education into practical inclusive classroom strategies.

700.021 교직실무 2-2-0
Teacher Preparation for Student Management

이 강좌는 예비교사로 하여금 교사가 수행하는 다양한 역할과 직무에 대한 구체적인 이해를 돕기 위해 교직 업무 직무의 초기 직무를 도와주는 데 목적이 있다. 교직기술, 사회공학과 교육, 진로교육, 학교와 학교의 관리, 학교-사회, 학생의 안전 관리 등과 같이 교사의 직무 수행에 요구되는 역량을 주제별로 다루며, 교사가 실제로 수행하는 구체적 직무들을 파악하고 반성하는 데 중점을 둔다.

The main objective of this course is to help the prospective teachers to adapt themselves to the secondary school setting as beginning teachers and to understand teachers' role and their administrative work. This course provides comprehensive topics needed for student management such as teachers’ ethics, ‘social changes and education,’ ‘career education,’ ‘school and classroom management,’ ‘academic affairs, administrative management and general administrations.’

Main focus of this course is on grasping the practical knowledges and skills needed for teachers to do the practical job at the school setting.

700.025 다문화교육의 이해 2-2-0
Understanding Multicultural Education
본 강좌는 다문화 교육의 이론과 실제를 가르칠 뿐만 아니라, 수강생들이 다문화에 대해 간병적으로 이해하고 미래 교육자로서의 준비를 갖추도록 한다. 본 강좌를 통해 학생들은 다문화적 환경에서의 수업 설계와 수행 능력을, 그리고 다문화가정 자녀에 대한 상담 및 지원 능력을 키울 수 있다. 강좌는 일반 강의와 워크숍으로 구성되며, 워크숍에서 수강생들은 자신의 전공과목과 다문화교육 수업 자료를 개발하여 발표하며 관련 내용들을 해상 토론을 한다.

This course provides a comprehensive introduction and review on the theory and practice of multicultural education for the pre-service teachers. By taking this course the students are expected to develop desired qualities and insights into multicultural society and schools as pre-service teachers. The course will help the students to design specific instruction activities sensitive to multicultural school environments in Korea. By actively participating at this course the students will enhance their classroom performative competencies and counseling strategies for the multiracial or multicultural children and youth at school.

T1831.000200 학교폭력예방 및 학생의 이해 2-2-0
Understanding School Violence Prevention and Students’ Developmental Characteristics

이 강좌의 목적은 예비교사들이 최근 사회적 문제가 되고 있는 학교폭력에 대해 이해하고, 이를 사전예방하기 위한 조치 및 사후 학교폭력 문제를 해결하는 데 필요한 규정과 전략을 이해하는 데 있다. 인성교육, 학생생활문화, 학생성장교육분야, 학생생활저지 등 아동-청소년 발전에 관련된 중요한 이슈를 다루는 것이다. 이를 위해 이 강좌에서는 학교폭력 및 아동-청소년 발달에 대한 개념적 이해뿐만 아니라, 실제 사례들을 중심으로 학교폭력과 기타 문제들을 예방하고 문제 발생 시 효과적으로 조치할 수 있는 다양한 방법에 대해 알도록 한다. 이 강좌에서 아동·청소년을 대상으로 한 상담과 예방을 이해하고 신고하는 점에서 대학으로도 포함한다.

This course has two purposes. First, this course is intended to have pre-service teachers to understand what school violence is and rules and procedures that they have to follow to resolve the violence in school. Second, understanding the issues about character education, students’ culture, adolescents’ emotional-behavioral development characteristics, and guidance is another aim for this course.

In this course, not only conceptual understanding on school violence and children/adolescents’ development characteristics, but also practical knowledges that are required for pre-service teachers to prevent and solve school violence and other problems in school will be dealt intensively with various cases. This course also help pre-service teachers to understand the actions to prevent and report sexual violence against children/adolescents.

T2184.001900 교과-소프트웨어 융합역량 교육론 2-1-2
Software Education for Teaching Subject Matters

4차 산업혁명으로 대면되는 미래사회에 대비할 인재 양성을 위해, 사범대학 예비교사들은 소프트웨어와 교과을 융합하여 수업할 수 있는 역량이 요구된다. 이 강좌는 사범대학 예비교사들이 소프트웨어를 활용하여 수업을 설계하고 실시할 수 있는 역량을 갖추는 것을 목적으로 하였다. 학생들이 택스트프로그래밍 실습을 통해 예비교사들의 소프트웨어를 다루는 실력과 직업적 사고력을 향상시키고, 이를 본인의 교과에 접목하여 수업을 설계하고 실시할 수 있는 기초 역량과 연계를 제공한다.

Pre-service teachers should be able to converge software with their subject matter to empower themselves to have talents for the future society represented by the Fourth Industrial Revolution. This course aims to equip pre-service teachers with the ability to design and conduct instruction using software and coding. Through block coding and text coding practice, students will improve their skills to teach the software and computational thinking. The course presents basic competencies and prospects for designing and conducting lessons by integrating software into their subject matter.

과목교육역량(Individual Subjects)

공통사회(Integrated Social Studies)

700.101A 공통사회과교과교육론 3-3-0
Integrated Social Studies Education

이 과목은 ‘공통사회’ 전공교사 양성과정에서 제시된 기본이수 과목으로서, 공통사회과 교과에 있어 가장 기초적인 과목이다. 일반사회, 역사, 지리 등의 사회과 제반영역에 대한 교육론을 개관한다. 이와 함께 중등학교 사회과 교과목과 교육법의 근본이념, 사회과학과 공통사회교육의 관계 등에 대해 이해하려 한다. 이 과목은 고등학교 교과서 교육을 성취하도록 하는 교육과정의 근간이기 때문이다. 공통사회과 교과에 관련된 최근의 연구현장과 문제를 중심으로 이 과목의 주요 부분을 이해한 연구를 앞으로 사회와 각 영역에 있어서 교과연구와 지도 방법 등을 전문적으로 탐구하는 데 기초가 된다.

In this course, which is a core mandatory curriculum for training intermediate school teachers, students will survey education theories of a variety of social studies such as history, geography and general society, and review the latest
trends in the aims, curriculum, and methods of secondary school social studies education. Also, the relation between social science and integrated social studies education will be examined. The purpose of this course is, based on these basic investigations, to seek the direction and methods of integrated social studies considering the present condition of Korean society.

700.312B 공통사회교과연구 및 지도법 3-3-0
Materials and Methods in Teaching of Social Studies Education

This course, which is a core mandatory curriculum for training intermediate school teachers, is made up of a set of lectures, discussions, and evaluation methods on the development of educational materials and its pedagogical construction. The academic range of this course covers a variety of Social Studies such as history, geography, and general society.

700.314A 공통사회 논리 및 논술 2-2-0
Logic and Essay Writing in Integrated Social Studies Education

This course, which is a core mandatory curriculum for training secondary school teachers, is made up of a set of lectures, discussions, and evaluation methods on the development of educational materials and its pedagogical construction. The academic range of this course covers a variety of Social Studies such as history, geography, and general society. The purpose of this course is to improve students’ capabilities to use essay in accordance with the nature and essence of Integrated Social Studies education, by dealing with educational objectives, contents, teaching and evaluation methods respectively. In this course, students will learn how to analyze current issues of society and main topics of a variety of Integrated Social Studies systematically and scientifically from the temporal, spatial, social, and ethical perspectives, and how to formulate the result logically.
Materials and Methods in Teaching Integrated Science

Commons and educational practice to the assessment of standardized tests. This course pursues educational practice and knowledge reflecting the features of school subjects.

Materials Evaluation and Development in Education

Students will experience inquiry activities and learn practical instructing methods for teaching integrated science in national curriculum effectively. A cooperative teaching group from different areas will lead this course from organizing contents to instruction. This course has practice times following lecture.

Logic and Writing in Education

This course overviews methodologies for pedagogic research on school. It deals with experiment methods, data analysis, and report preparation.

Theories of Thinking Faculty of Korean Language and Essay Writing Education

This course focuses on the procedure of language thinking faculty, especially performing Korean language. Creative thinking would be expressed by formed genre essays to communicate with the Korean language community. All class participants investigate proper methodology of teaching essay writing.

Theories in Teaching English as a Foreign Language

This course covers concepts, theories and methodologies on Education. Students can understand structures and characteristics of Education. The objective of this course is to apply theories of Education to actual school affairs including curricula and evaluation.
This course is a comprehensive survey of basic concepts, theories and practices in learning and teaching of the English language. Throughout the course, students will become familiar with current, practical issues in the area of second language teaching and learning.

707.313* 영어교수법 3-3-0

Methods of Teaching English as a Foreign Language

This course is a general introduction to theoretical foundations, such as linguistic, psycholinguistic, and sociolinguistic, as well as main theories and techniques for teaching English as a foreign language. This course focuses on the latest teaching learning model according to the change of educational policy and investigates teaching methods in terms of the applicability to real-world.

707.404A* 영어교과교재 및 연구법 3-3-0

Materials Evaluation and Development in Teaching English as a Foreign Language

This course focuses on enhancing prospective teachers’ practical knowledge and skills in materials for English language teaching and preparing them for the teaching practicum in the weeks immediately following the course as well as professional teaching after graduation. The course deals with topics related to language teaching materials including the designing of syllabi, curriculum theories, and developing as well as adapting educational materials.

707.422A* 영어교과논리 및 논술 2-3-0

Logic and Writing in Teaching English as a Foreign Language

The purpose of this course is to develop the abilities for prospective English teachers to teach English expository writing to secondary school students in the future. The course is designed to enhance the prospective teachers’ own abilities to write English expository essays and at the same time to cultivate their instructional abilities to teach English expository writing effectively.
This course aims to compare the characteristics of the pedagogics in the theory of foreign language education and also learn about the trends of the theories in Teaching French as a Foreign Language through the changes of curriculum and teaching materials. On the basis of theses theories, students will look at various types of French textbooks and teaching materials to write their lesson plans. They will practice teaching using their lesson plans. And they can prepare for the practice teaching.

독어교육과(Department of German Language Education)

709.317B* 독어교육세미나-논리 및 논술
Seminar in German Education-Logic and Writing

본 교과목은 독어교육과 관련된 다양한 주제들을 학생들이 선택하여 직접 조사, 발표하고 토론하는 세미나식 수업을 통하여 우리나라 독어교육과 관련된 제반 문제점들을 찾아내고 이에 대한 해결책을 모색해 그것을 글로 논증하는 데 주안점을 두고 있다.

The course examines the issues and problems in German language education in Korea by researching diverse topics. Students will then try find alternative solution to these issues and demonstrate them in writing.

M1853.000400 독어교재연구 및 지도법 3-3-0
Materials Research and Didactics in Teaching German Language

본 강좌는 현재 한국에서 사용되고 있는 고등학교 독어 교과서를 분석, 비교, 검토하는 한편, 고등학교 현장에서의 독어 수업에 적용될 수 있는 자료들을 발굴, 연구하는 데 주안점을 두고 있다.

The course analyzes and compares Korean high school textbooks. It focuses on finding and studying data applying them real class room situations.

709.427* 독문학과수법 3-3-0
Teaching Methods of German Literature

본 강좌는 문학의 교육적 가치, 수업방법 등을 문학과문학과 연계하여 탐색하는 강좌이다. 특히 독문의 '해석 및 생산지향 문학교육 수법'을 중심으로 강의가 이루어질 것이다.

This course discusses the educational value of literature and pedagogical methodologies. In particular, it focuses on "Handlungs- und Produktionsorientierter Literaturunterricht (Actions- and Production-Oriented Literary Education)."

M1853.000500 독어교육론 3-3-0
Theories in Teaching German as a Foreign Language

본 강좌는 독어교육 방범의 변화와 흐름을 다룬다. 각 교육 방범을 이해하고 이 방범에 따라서 학생들이 직접 수업을 시도해 본다. 독일어의 학습은 학교에서 읽음은 교과서에서 읽음은 교과서의 영역과 교과에서의 영역을 읽음은 발생된다는 개념 간의 연계를 수행한다.

The course provides students with opportunities to teach German in a virtual classroom setting. It will also deal with the pedagogics applied in German textbooks.

사회교육과(Department of Social Studies Education)

700.116* 일반사회교육론 3-3-0
Teaching of Social Studies

사회교육과 관련한 가장 기초적인 과목으로서 사회교육과의 개념과 특성, 역사적 발전과정과 기초이론 등을 학습한다. 이와 함께 고등학교 사회교육과의 목표와 교육과정 및 교육방법의 근본 경향, 사회교육과 사회교육과의 관계 등을 검토하면서 사회교육과의 핵심 주제에 적합한 고등학교 사회교육과의 방향과 방법을 모색하는 데에 교과의 목표가 있다. 사회교육과 관련 근본의 연구방향과 문헌의 조사도 이 과목의 중요한 부분이 되며 이러한 연구는 앞으로 사회교육과의 교재연구와 지도방법 등을 전문적으로 탐구하는데 기초가 된다. 또한 사회과 수업의 실제와 과정 중 심의 평가 등 초중등 교육과정의 자료내용에 중점을 둔다.

In this basic course, students will examine the major concepts, historical development, aims and objectives, curricula, and teaching methods of secondary school social studies education and search for the right direction and methods for the improvement of Korean social studies education. The latest trends in research on social studies education and an examination of treatises will be important parts of the course. Emphasis will be placed on the materials and methods needed to teach social studies professionally. This course also focuses on the details of the social studies curricula, such as the practice of social studies teaching and the process-centered evaluation.

M1855.000500 사회과 논리 및 논술 2-2-0
Logic and Essay Writing in Social Studies

이 강좌에서는 학생의 논리적인 사고 능력을 배양하기 위한 방법으로 논술을 사회과 교육에서 어떻게 사용할 것인지에 대해 살펴본다. 특히 특정한 사회 현상을 위해 자신의 생각을 나열하는 수준을 넘어 주장할 수 있는 근거를 제시하는 데 필요한 다양한 고전사고력을 함양하기 위한 논술 교육의 역할과 방법에 대해 탐구한다.

This course focuses on teaching essay writing as a tool in improving students’ skill in logical thinking. Especially, it is
design to investigate the role and methods of essay writing to promote higher-order thinking skills in taking one’s stand regarding many controversial issues.

### 역사교육과(Dept. of History Education)

**712.301** [전자교과론](3-3-0)

**Teaching of History**

현대사회와 교육사조의 흐름에 바탕을 두고 역사교육을 담당할 역사교사의 역사교육관을 정립하기 위해 교과별 수업의 실제과 과정 중심의 평가 등 중등 교과과정에 대한 내용에 중점을 두고 교과교육적 기초이론과 교수학습방법의 이론 및 기능을 다루어 역사교육에 영향 전문직사로서의 기초를 다진다.

This course is a core course in the field of history education. It deals with the issues and problems in teaching history at a secondary level. The historiographical background and educational basis of history teaching will be the main topics of the course.

### 시계사교과연구 및 지도법 (3-3-0)

**Materials and Methods in Teaching of World History**

이 교과목에서는 우선 세계사란 무엇인가에서 출발하여, 직접 중고등학교의 세계사 현장교육에서 필요한 교재로는 무엇이 있고 또 어떻게 다루며, 그 효과가 무엇인지 알아보고 효과적인 지도 방법을 생각해 보는 것이 주 과제가 된다. 구체적으로 지리교과 교육사실습 연계를 강화하고 교과 통합 교과과정 운영 등에 중점을 두어, 교과서를 비롯한 역사지도, 사료, 사정학적 교육, 향토사료, 유적 등을 어떻게 학급에 유용하게 사용하느냐 하는 문제와 아울러 상황에 따라 강의법, 탐구법 등 융통성 있는 활용방안을 알아보고 교과작성, 평가의 문제까지도 다룬다.

This course deals with the meaning of world history, the organization of teaching materials for secondary level world history, and effective teaching methods. By investigating these issues, this course covers practical matters concerning the teaching and learning of world history.

### 국가교육과 연구 및 지도법 (3-3-0)

**Materials and Methods in Teaching of Korean History**

국가교육에 적용된 교재에 관한 기초이론과 주요교재를 근거로 하여 국가교육에서 교재의 의의를 이해하는 한편 학교현장의 교육실습과 연계, 교과 통합 교과과정 운영 등에 중점을 두고 국가의 교수학습에 관한 이론과 현장기능에 관계되는 문제를 다루어 국가 교사의 전문적 기반을 구한다.

This course investigates basic theories about teaching materials and texts in Korean history. It also offers theories on teaching and learning Korean history for prospective teachers.

### 지리교육과(Department of Geography Education)

**712.401** [지리교육론](3-3-0)

This course is a core course in the field of geography education. It deals with history, and effective teaching methods. By investigating these issues, this course covers practical matters concerning the teaching and learning of geography education.

### 시계사교과연구 및 지도법 (3-3-0)

**Materials and Methods in Teaching of Geography**

지리교육과의 역할, 목표, 중고등학교 교육과정의 분석 등 교과교육 전반에 관하여 다루고 학습한다. 또한 지리교육에 관련된 제반 이론, 방법, 현장교육의 현황 등을 광범위하게 다룬다.

This course deals with overall contents of geography education including historical background, objectives, and analysis of the secondary school curricula. Also this course deals with major theories, methodologies, practical issues of field in geography education.
윤리교과목(Dept. of Ethics Education)

**M1865.001300 도덕·윤리교과론 3-3-0**

Theories of Moral & Ethics Education

본 과목은 중·고등학교 도덕·윤리교과를 담당할 교사로서 반드시 지식할 교과교육의 이론을 정립하고 동시에 윤리교육과 학생들이 정체성 확립에도 도움을 주기 위한 것이다.

이를 위해 본 과목에서는 '기사까지 발전의 저명도 중등학교 도덕·윤리과의 성격을 밝히고, 동시에 도덕교육과 인문교과, 윤리교육의 메시지를 바탕으로 개발된 맹의 인격교육, 정신교육에 대한 종합 연구를 실시한다. 특히 교과교육의 현대성과 미래에 대해서도 관심을 기울입니다.

이 과목은 학생들이 윤리교육과 학문 영역에서 중요한 논쟁적 이슈를 탐구할 것이다.

이 과목은 학생들이 윤리교육과 학문 영역에서 중요한 논쟁적 이슈를 탐구할 것이다.

This course is intended to help students learn the theories of moral & ethical education which will be required to know as teachers of ‘Moral Education’ in the middle school and as teachers of ‘Ethics Education’ in high school selective curriculum. The establishment of firm identification as a student majoring in national ethics education is also required through this course work. Especially, in this course crucial tasks in the area of secondary moral education will be discussed.

**M1865.002100 도덕·윤리 교육연구 및 지도법 3-3-0**

Teaching Materials and Methods in Moral & Ethics Education

본 과목은 도덕·윤리 교사에게 요구되는 교육 개발 및 활용 능력, 그리고 다양한 지도방법을 효과적으로 적용할 수 있는 교육 전문성을 향상시키는 데 목적이 있다. 이를 위해 본 과목에서는 대표적인 학생용 교재인 중·고등학교 도덕·윤리 교과서를 중심으로 분석하고 활용 방안을 모색하며, 다양한 교사·학생 및 평가 방법의 효과적인 활용 방안에 대해 탐구할 것이다.

This course is intended to help pre-service teachers’ key competencies for developing and implementing effective teaching materials and the teaching & evaluation methods that will be used when they become moral and ethical education teachers in the secondary school. For these purposes, pre-service teachers will have meaningful opportunities to analyze secondary moral education textbooks and search for these application plans. Further, they will explore the effective ways to use teaching & evaluation methods.

**M1865.002200 도덕·윤리 논리 및 논술 3-3-0**

Logical Thinking and Writing in Moral &Ethics Education

본 과목에서는 예비 교사들에게 도덕·윤리 교과의 성격 및 목표에 부합하도록 논술을 지도할 수 있는 교사 역량을 강화하는 데 목표를 두고 있다. 이를 위해 도덕·윤리 논리 및 논술교육의 목표, 지도 및 평가 방안 등을 포괄적으로 다루고, 이에 대한 이해를 바탕으로 도덕·윤리 교과교육 내용 영역에서 제시되어 온 핵심 정립(특히, 정치철학, 사회철학, 인문학, 통합인문학, 통합학 등 다양한 교과 배경 학문 영역에서 중요한 논리적 이슈)을 활용하여 논술 문장의 개발과 이를 효과적으로 활용할 수 있는 방법에 대해 탐구할 것이다.

The purpose of this course is to improve students’ competencies for using logical writing in accordance with the nature and essence of moral and ethics education. For this purpose, this course will comprehensively deal with objectives, teaching and evaluation methods of logical thinking and writing.
학사과정(Undergraduate Courses) - 사범대학

물리교육과(Dept. of Physics Education)

717.329* 물리교육론 3-3-0

Introduction to Physics Education

물리교육에 관한 전반적인 주제들을 학습하는 과목으로서 물리학사, 물리교육의 역사, 물리교육철학, 물리교육과정, 물리교육평가, 물리교육시설 등 중고등학교 및 고등학교에서 필요한 물리교육 내용을 전반적으로 탐색하여 물리교육에 관한 기초적인 지식을 습득하게 한다.

As a basic course on general topics in physics education, this course will cover the history and philosophy of physics and physics education, curricula, assessment, and facilities. Through the course, students will acquire general knowledge of physics education.

717.414 물리교육론 및 지도법 3-3-0

Materials and Methods in Teaching of Physics

이 강좌는 우리나라 중고등 과학교육 과정 하의 물리 수업 실천 및 수업분석능력 개발에 중점을 둔다. 강의에서는 물리학 자식의 본성, 물리교육 분정, " 좋은" 수업을 위한 이론과 방법 등을 구체적으로 다룬다. 본 강좌를 통하여 학생들은 반성적 실천 능력을 갖춘 예비교사로 성장할 것을 기대한다.

This course addresses the development of practices and analysis in teaching physics in our secondary school science curriculum. We will conduct the important issues such as the nature of Physics knowledge, the foundation of Physics education, theory and practices of 'good' teaching in detail. We will conduct the important issues such as the nature of Physics knowledge, the foundation of Physics education, curricula, assessment, and facilities. Through the course, students will acquire general knowledge of physics education.

M1870.000100 물리과학수법 3-3-0

Physics Teaching Methods

이 강좌에서는 과학 교육과 과정 학자들의 물리 수업 실천 및 수업평가능력 개발에 중점을 둔다. 강의에서는 물리학자식의 본성, 물리교육 분정, " 좋은" 수업을 위한 이론과 방법 등을 구체적으로 다룬다. 본 강좌를 통하여 학생들은 반성적 실천 능력을 갖춘 예비교사로 성장할 것을 기대한다.

This course addresses the development of practices and analysis in teaching physics in our secondary school science curriculum. We will conduct the important issues such as the nature of Physics knowledge, the foundation of Physics education, theory and practices of 'good' teaching in detail. We expect students become a pre-service teacher who is able to do reflective practice.

700.401A 과학논리 및 논술 2-2-0

Logic and Writing in Science

이 강좌에서는 과학적 사고와 이해의 특징 그리고 이를 언어적 방식을 통해 의사소통하는 활동에 대한 이론적 실천적 학습을 하고자 한다. 특히 중등학교 교사로서 학생들에게 과학적으로 사고하고 표현하는 능력을 함양하고 이를 위한 효과적인 지도방법을 실천하는 방안을 학습하고자 한다. 이를 통해 과학을 지도함에 있어서 학생들의 독서 및 토론 활동이 활발해질 수 있는 실질적 방법들을 탐색한다.

This course aims to teach practical as well as theoretical knowledges of the features of the thinking and understanding in science and of the linguistic ways to communicate them. Special focus will be given to the ability of secondary teachers to improve students’ thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students’ reading and discussion in teaching them science will be explored.

화학교육과(Dept. of Chemistry Education)

718.316* 화학교육론 3-3-0

Theories of Chemistry Education

중등학교 화학교육에 적용할 수 있는 행동주의 학습이론, 인지 프레임워크, 구성주의 학습이론과 같은 학습이론들을 다룬다. 현재의 학습이론을 강조하고, 학습양식 및 학습이론과 직접 관련이 있는 교수방법도 다룬다.

This course aims to teach practical as well as theoretical knowledges of the features of the thinking and understanding in science and of the linguistic ways to communicate them. Special focus will be given to the ability of secondary teachers to improve students’ thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students’ reading and discussion in teaching them science will be explored.

718.419* 화학교재연구 및 지도법 3-3-0

Materials and Methods in Teaching of Chemistry

화학 과학과정의 변천과 우리나라 학생과화학 교육과정을 학습한 후, 우리나라 고등학교 화학 교재 및 중학교 화학 교재의 내용을 분석 한다. 중등학교 화학수업에 적용할 수 있는 교재이론을 학습하고, 주요이론을 적용한 교재를 향한다. 또한, 과학-기술-사회를 강조 한 교수방법과 교사자료들을 익히고, 교사의 자기 평가도 다룬다.

This course covers learning theories applied to chemistry instruction in secondary schools. It discusses the topics such as behavioral, cognitive, and constructivist learning theories. In addition, the course emphasizes the contemporary perspectives of learning theories.

718.442* 화학교육연구 3-2-2

Research in Chemistry Education

화학 과학과정과 과학교육에서의 시사점을 논의한다. 화학교육의 목적과 목표 등을 배우고, 교육을 가르칠 때 필요한 평가 이론 및 방법론을 익한다. 또한, 화학교육에서 기본 과목을 이수한 학생들에게 적절한 연구방법 및 화학교육 연구환경을 다룬다.

This course discusses topics regarding contemporary theories about the nature of science. Specifically, it studies the purposes and objectives of chemistry education, as well as its evaluation methods.

700.401A 과학논리 및 논술 2-2-0

Logic and Writing in Science

이 강좌에서는 과학적 사고와 이해의 특징 그리고 이를 언어적 방식을 통해 의사소통하는 활동에 대한 이론적 실천적 학습을 하고자 한다. 특히 중등학교 교사로서 학생들에게 과학적으로 사고하고 표현하는 능력을 함양하고 이를 위한 효과적인 지도방법을 실천하는 방안을 학습하고자 한다. 이를 통해 과학을 지도함에 있어서 학생들의 독서 및 토론 활동이 활발해질 수 있는 실질적 방법들을 탐색한다.

This course aims to teach practical as well as theoretical knowledges of the features of the thinking and understanding in science and of the linguistic ways to communicate them.
Special focus will be given to the ability of secondary teachers to improve students’ thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students’ reading and discussion in teaching them science will be explored.

**Biological Science Lab, for Inquiry Learning**

> 본 과목은 중등생물교육과정에서 다루어지는 실험, 실험 내용을 중심적으로 다루게 된다. 실험, 실험 내용을 실제로 시행해 보고 그 내용 자체의 이해와 함께 중등 학생들의 응바른 지도와 이해를 돕기 위한 방법을 모색하게 한다.

This course covers mainly the experiment and practice of biology in the middle school curriculum. Students can do the experiment and the practice of that curriculum themselves, and try to discover better ways of teaching the material to their future students.

**Logic and Writing in Science**

> 이 강좌에서는 과학적 사고와 이해의 특징 그리고 이를 언어적 방식을 통해 의사소통하는 활동에 대한 이론적 실천적 학습을 하고자 한다. 특히 중등학교 교사로서 학생들에게 과학적으로 사고하고 표현하는 능력을 함양하고 이를 위한 효과적인 지도방식을 실천하는 방법을 학습하게 한다. 이를 통해 과학을 지도함에 있어서 학생들의 독서 및 토론 활동이 활발해질 수 있는 실천적 방안을 탐색한다.

This course aims to teach practical as well as theoretical knowledges of the features of the thinking and understanding in science and of the linguistic ways to communicate them. Special focus will be given to the ability of secondary teachers to improve students’ thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students’ reading and discussion in teaching them science will be explored.
This course aims to teach practical as well as theoretical knowledges of the features of the thinking and understanding in science and of the linguistic ways to communicate them. Special focus will be given to the ability of secondary teachers to improve students’ thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students’ reading and discussion in teaching them science will be explored.

Physical Education Curriculum

The curriculum of physical education is entire physical learning experience provided by teachers’ careful planning and systemic instruction. The course deals with goals and objectives, contents, methods, and assessment issues in physical education curriculum, and also apply these into model-based curriculum planning and implementation.

Study of Physical Education Teaching Materials and Method of Guidance

This course covers training methods and its significance in physical education. It is intended to be an enjoyable class that helps students understand the value and importance of physical education.
일반과정 환경교육전공
(Program in Environmental Education)

724.502 환경교육교수학습방법론 3-3-0
Instructorial Design and Teaching Methods in Environment Education

본 과목에서는 환경에 관한 학교교육 및 사회교육에서 필수로 요구되는 교수학습방법론을 다룬다. 주요 과목 내용으로는 초등학교의 환경교육과 교수 학습 방법, 특별활동과 환경교육, 비제도권에서의 환경교육 등을 들 수 있다. 또한 이 과목에서는 환경교육의 현장 방문 견학과 모의 학습을 통한 교수 학습 방법론 모색을 도모한다.

이 과목은 학생들의 수준에 적합한 환경교육의 내용을 선정하고, 학습내용을 조작하는 방법을 탐색하며, 학생들의 전반적인 지식과 태도를 변화시킬 수 있는 환경교육 교재를 개발하는 원리와 구체적인 개발 방법을 교육하는 데 목적이 있다.

The objective of this course is to enhance the students’ understanding of the principles and methods of environmental teaching material development.

724.508 환경교육교재개발 3-3-0
Development of Teaching Materials in Environmental Education

본 과목은 학습자의 수준에 적합한 환경교육의 내용을 선정하고, 학습내용을 조작하는 방법을 탐색하며, 학생들의 전반적인 지식과 태도를 변화시킬 수 있는 환경교육 교재를 개발하는 원리와 구체적인 개발 방법을 교육하는 데 목적이 있다.

The objective of this course is to enhance the students’ understanding of the principles and methods of environmental teaching material development.

724.514 환경교육논리 및 논술 3-3-0
Logic and Essay Writing in Environment Education

국가 사회의 현안 문제들이나 환경교육의 주요 관심 주제들은 대상으로 환경교육학적인 방법론을 사용하여 체계적·과학적으로 분석하고, 그 결과를 논리적으로 표현하는 방법을 익힌다.

In this course, students will learn how to analyzes current issues of society and main topics of environment education systematically and scientifically using environment education methodology and to cultivate the result logically.

교직과정(Undergraduate Courses)

700.002 교육심리 2-2-0
Educational Psychology

본 과목은 에비교사들이 갖추어야 할 교육심리학 지식과 이를 바탕으로 한 교수-학습과정에 대한 이해를 형성하도록 하는 데 그 목적이 있다. 본 과목에서는 인지발달, 정서발달, 학습이론, 지능, 특수아동, 학습동기, 평가에 대한 내용들이 교육현장에서의 적용을 중심으로 다루어진다.

This course is intended to equip pre-service teachers with knowledge of Educational Psychology and to develop pre-service teachers’ understanding of teaching-learning processes. Practical implications of various theories of Educational Psychology are dealt in depth, including cognitive development, affective development, learning theories, intelligence, students with special needs, learning motivation, and evaluation.

700.003 교육철학 및 교육사 2-2-0
Philosophy and History of Education

이 과목은 교육철학과 교육사를 통합한 입문 과정으로서 교육 과정의 한 과목이다. 이 과목은 교육학의 기본적인 개념과 이론적·실제적 경쟁에 대한 철학적 분석의 성과를 다루며, 또한 교육사의 주요 변화와 흐름에 대한 기본적인 이해를 추구한다.

This is an introductory course on the history and philosophy of education, which is a prerequisite subject to get teacher qualification certificate. This course deals with philosophical analysis on the basic concepts and theoretical·practical problems of education, and includes various approaches to understand the main trends in the history of education.

700.004 교육사회 2-2-0
Sociology of Education

이 과목은 교육학의 하나로 학교교육과 일반적인 사회구조 간의 복잡한 관계에 관한 기존의 교육사회학 제 문헌들을 비판적으로 검토하고, 이를 토대로 하여 우리나라 학교교육의 사회적 현상을 체계적으로 인식할 수 있는 안목을 형성하는 데 그 목적이 있다.

This course introduces sociology of education for prospective teachers and it is part of teacher certificate program. It focuses on the relation between school education and social structure.

700.006 교육행정 및 교육경영 2-2-0
Educational Administration and Department Management

현장 교사가 되기 위하여 필요한 교육행정 및 교육경영 등에 필요한 기초적인 이론 및 실제를 소개하는 과목이다. 교사가 되기 위한 학생들에게 실질적인 도움이 될 수 있도록, 교육행정에 관한 양익뿐만 아니라, 학교 및 학급경영에도 많은 시간을 할애한다.

This course will cover basic theories and practices in ad-
ministration and management for future teachers. Compared to “Introduction to Educational Administration” course, this course will focus on school and class management as well as the classical educational administration theories.

**700.007  **
Educational Administration and Department Management

This course targets pre-service teacher students and is an introduction to educational technology. Course topics include a brief introduction, domains as well as trends and issues of educational technology; teaching and learning methods; instructional technology use and development in school settings.

**700.022  **
Curriculum

This course covers the concepts and purposes of educational evaluation and to understand current educational evaluation in the context of school learning. The goal of this course is to allow students to have a perspective on educational evaluation and the appropriate types of evaluation emphasized in national curriculum.

**700.023  **
Educational Evaluation

The main objective of this course is to provide pre-service teachers with an opportunity to obtain speciality in instruction as well as an interest in the students of the local community. Furthermore, it aims to develop a sense of community as a practitioner that have a well-balanced character with a sense of purpose and a love for humanity. To compete course requirements, students can work as an assistant teacher in elementary and secondary schools and as an after-school teacher for students with learning difficulties or students with multi-cultural backgrounds. They can also work for child-caring programs in elementary schools, educational activities in relation to the free-semest system, educational activities of talent donations, and so on.

**701.101A  **
Introduction to the Study of Education

This course discusses the concepts and purposes of education. It also covers current status of educational systems.

**T2184.001200  **
School Teaching Practicum

This course provides comprehensive understanding of foundational and principles of curriculum, and deals with issues that could be raised when teachers develop and practice curriculum at school level. The course also includes understanding of creative experiential activities and career education emphasized in national curriculum.

**T2184.001300  **
Educational Volunteer Program 1

This course provides practical and pedagogical skills of students through actual teaching in school. Through this field-based experience, students will be able to understand teaching principles and develop a variety of learning strategies.

This course covers class observations on teaching and creative experiential activities, practices of teaching subjects, and evaluation of students’ learning in school. Students will be evaluated on the basis of the 1 week of practicum in elementary schools and the 4 weeks of practicum in secondary schools.

**T2184.001400  **
Educational Volunteer Program 2

This course will focus on school and class management as well as an interest in the students of the local community. Furthermore, it aims to develop a sense of community as a practitioner that have a well-balanced character with a sense of purpose and a love for humanity. To compete course requirements, students can work as an assistant teacher in elementary and secondary schools and as an after-school teacher for students with learning difficulties or students with multi-cultural backgrounds. They can also work for child-caring programs in elementary schools, educational activities in relation to the free-semest system, educational activities of talent donations, and so on.
The main objective of this course is to provide pre-service teachers with an opportunity to obtain specialty in curriculum and instruction as well as a sense of purpose as a teacher through educational volunteering program. Furthermore, it aims to develop a sense of community as a practitioner and a researcher working with a variety of students and teachers. This course is composed of educational volunteer activities and a final evaluation on the activities. To compete course requirements, students can work as an assistant teacher in elementary and secondary schools and as an after-school teacher for students with learning difficulties or students with special talents donations, and so on.

### 500.E400 教育봉사활동 2-0-6

#### Educational Volunteer Service

This course provides experiences participating in volunteer educational programs for future teachers in the field of Plant Resources & Landscaping, Animal Resources, Agricultural Engineering, Agricultural Products Distribution, or Food Processing.

Furthermore, it aims to develop a sense of community as a practitioner and a researcher that have well-balanced characters with a sense of purpose and the love for humanity.

The course requirements are as follows: basic education, educational volunteer activities and final assessment.

### 500.E402 教育실습 2-0-6

#### Teaching Practicum

This course provides some of the most comprehensive coverage of the characteristics of learners with special needs, as well as some of the latest assistive technologies. This is a course that is comprehensive but deliberately concise so that the learners can quickly translate the theories of effective teaching and special education into practical inclusive classroom strategies.

### 700.020A 특수교육학 개론 2-2-0

#### Education for students with special needs

This course requires utilization of the law in terms of school affairs.
The main objective of this course is to help the prospective teachers to adapt themselves to the secondary school setting as well as to understand the role and their administrative work. This course provides comprehensive topics needed for student management such as ‘teachers’ ethics,’ ‘social changes and education,’ ‘career education,’ ‘school and classroom management,’ ‘academic affairs, administrative management and general administrations.’

Main focus of this course is on grasping the practical knowledges and skills needed for teachers to do the practical job at the school setting.

Understanding Multicultural Education

In this course, not only conceptual understanding on school violence and children/adolescents’ development characteristics, but also practical knowledges that are required for pre-service teachers to prevent and solve school violence and other problems in school will be dealt intensively with various cases. This course also help pre-service teachers to understand the actions to prevent and report sexual violence against children/adolescents.

The main objective of this course is to help the prospective teachers to adapt themselves to the secondary school setting as well as to understand the role and their administrative work. This course provides comprehensive topics needed for student management such as ‘teachers’ ethics,’ ‘social changes and education,’ ‘career education,’ ‘school and classroom management,’ ‘academic affairs, administrative management and general administrations.’

Main focus of this course is on grasping the practical knowledges and skills needed for teachers to do the practical job at the school setting.
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<td><strong>Teaching of Chinese</strong></td>
<td><strong>Materials Evaluation and Development in Teaching English as a Foreign Language</strong></td>
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<tr>
<td>이 과목은 교직에 진출할 전공자들을 위해 개설되는 교직 과목으로 중국어 교육과 관련된 제반 문제를 학습하는 데 그 목적이 있다. 특히 한국인의 중국어 학습이 일반적으로 범하는 여러 가지 오류와 그 문제를 효과적으로 극복할 수 있는 방법 등이 구체적인 사례를 중심으로 고찰될 것이다. The course, designed especially for students preparing for a profession in education, aims both to develop research capabilities and to discuss specific problems in teaching the Chinese language to Korean students.</td>
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<td><strong>102.008 中國어교재연구 및 지도법 2-2-0</strong></td>
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<td><strong>Materials and Methods in Chinese Language Education</strong></td>
<td><strong>Logic and Writing in Teaching English as a Foreign Language</strong></td>
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<td><strong>102.010 中國어교과 논리 및 논술 3-3-0</strong></td>
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<td><strong>Logic and Essay Writing in Chinese Curriculum</strong></td>
<td><strong>Theories in Teaching French as a Foreign Language 1</strong></td>
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<td>이 과목은 교직에 진출할 전공자들을 위해 개설되는 교직 과목으로, 중국어 과목의 논리 및 논술 교육을 위해 개설된 과목이다. 이 과목은 19세기 초 직점교법이 시도된 이래 현재 가장 널리 사용되고 있는 의사소통 접근법에 이르기까지, 프랑스어 교과법은 꾸준한 변화를 거듭해 왔다. 본 강의에서는 프랑스어 교과법의 변환과정을, 주요 학문들의 발전, 기술의 발전, 통신 수단의 발달, 등 교과법 변화에 영향을 미친 요인들의 이해의 기반에, 각 교과법들이 언어의 네 가지 교육을 위해 어떤 실천법을 탐색하고 있는지 비교・ 분석한다. From teaching the grammar and the translation to teaching the conversation, the teaching method has constantly changed since the 19th century. In this course, we will look at the causes of the changes of the teaching method based on the development of related studies, the communication system and technology. We will also compare and analyze what each didactics practice for 4 types of language education.</td>
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<tr>
<td><strong>영어영문학과(Dept. of Korean Language &amp; Literature)</strong></td>
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<td><strong>Theories in Teaching English as a Foreign Language</strong></td>
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<td>이 강좌는 영어교육과의 기본개념과 영어 학습 및 교수에 대한 기초적인 이해와 실험에 관한 주요 학문들의 발전, 기술의 발전, 통신 수단의 발달, 등 교과법 변화에 영향을 미친 요인들의 의의를 다루며, 각 교과법들이 언어의 네 기능 교육을 위해 어떤 실천법을 탐색하고 있는지 비교・ 분석한다. From teaching the grammar and the translation to teaching the conversation, the teaching method has constantly changed since the 19th century. In this course, we will look at the causes of the changes of the teaching method based on the development of related studies, the communication system and technology. We will also compare and analyze what each didactics practice for 4 types of language education.</td>
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In this course, we will look at various classroom activities to improve communication skills. Also, the effective ways to learn listening, speaking, reading and writing will be introduced.

708.338A 프랑스어교과 논리 및 논술 3-3-0
Logic and Writing in Teaching French as a Foreign Language

This course is proceeded by students’ spontaneous participation over various kinds of subjects such as the French education and the comparison between the culture of Korea and that of France. It aims at fostering students to seek out general problems found in the foreign language education and then demonstrate them in words.

M1851.000400* 프랑스어 교재 분석 및 지도법 3-3-0
Analysis of French Textbooks and Teaching Methods

This course examines the issues and problems in German language education in Korea by researching diverse topics. Students will then try find alternative solution to these issues and demonstrate them in writing.

M1853.000400 독어교재연구 및 지도법 3-3-0
Materials Research and Didactics in Teaching German Language

This course analyzes and compares Korean high school textbooks. It focuses on finding and studying data applying them real class room situations.

노어노문학과(Dept. of Russian Language & Literature)

106.336A 러시아어교육론 3-3-0
Teaching Russian

This course is designed for future teachers of the Russian Language. The purpose of the course is to familiarize students with general problems related to the teaching of Russian. Various kinds of common linguistic errors will be presented and discussed along with concrete examples and related solutions.

106.337A 러시아어교재연구 및 지도법 3-3-0
Materials & Methods in Russian Language Education

This course is designed for future teachers of the Russian Language. The purpose of the course is to enhance teaching skills through the examination of Russian texts. Students are required to present their teaching plans for the purpose of learning how to utilize audio-visual media.

106.442 러시아어교과 논리 및 논술 3-3-0
Logic and Writing in Teaching Russian as a Foreign Language

This course examines the issues and problems in German language education in Korea by researching diverse topics. Students will then try find alternative solution to these issues and demonstrate them in writing.
로 생각하는 능력과 논술을 효과적으로 지도할 수 있도록 하는 것 을 목표로 문화적 차이에 따른 논리적 사고의 차이와 글쓰기에 나타나는 양상을 다각적으로 검토하여 러시아어 학생들에게 역할러시아어사고자 러시아어와 한국어의 사고의 차이를 잘 설명하고 지도할 수 있도록 할 것이다.

This pedagogy course offers prospective Russian teachers an effective methodology of teaching thinking, reasoning and writing techniques in Russian. Differences in logical thinking between Korean and Russian cultural contexts will be thoroughly examined so that future Russian instructors can adequately explain and teach students those differences in thought and language between two languages.

서서문학과 (Dept. of Hispanic Language and Literature)

107.330A 스페인어 교육론 3-3-0

Teaching of Spanish

이 과목은 교직에 진출할 전공자들을 위해 개설되는 교직 과목으로 스페인어 교육과 관련된 제반 문제를 학습한다. 특히 한국인 이 스페인어를 학습하는 과정에서 일반적으로 범하는 여러 가지 오류와 그 문제를 효과적으로 극복할 수 있는 방법 등을 구체적인 사례 중심으로 고찰할 것이다.

가 과목은 교직에 진출할 전공자들을 위해 개설되는 교직 과목으로 스페인어 학습과 필수적이라 할 수 있는 교재 개발과 교재에 대한 심층적 이해, 효율적인 지도 방법 등을 토론하기 위해 개설되었다. 다양한 방법론을 바탕으로 수업 지도안을 작성하고 시청각 매체를 활용하는 방법을 다룹니다.

가 과목은 교직에 진출할 전공자들을 위해 개설되는 교직 과목으로, 스페인어 과목의 논리 및 논술 교육을 위해 개설된 과목이다. 특히 교육 및 학습에 관한 현대사학과 교육사조의 흐름에 바탕을 둔 역사교육을 담당할 역사교사의 역사교육관을 정립하기 위해 교과별 수업의 실제와 과정 중심의 평가 등 중등 교육과정에 대한 내용에 중점을 두고 교과교육학적 기초이론과 교수학습방법의 이론 및 기능을 다루어 역 시교육에 임할 전문직사로서의 기초를 다진다.

가 과목은 교직에 진출할 전공자들을 위해 개설되는 교직 과목으로, 스페인어 과학적 사고와 논술을 효과적으로 지도할 수 있도록 하는 것 을 목표로 문화적 차이에 따른 논리적 사고의 차이와 글쓰기에 나타나는 양상을 다각적으로 검토하여 러시아어 학생들에게 역할러시아어사고자 러시아어와 한국어의 사고의 차이를 잘 설명하고 지도할 수 있도록 할 것이다.

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### Historical Thinking and Essay Writing

**712.303**

**Historical Thinking and Essay Writing**

This course tries to enhance historical thinking which enables students to understand the nature of historical events contextually through time and space and to deal with historical issues and documents with a critical eye. It also encourages students to express their opinion by their essay writing.

### Materials and Methods in Teaching of Korean History

**712.402**

**Materials and Methods in Teaching of Korean History**

This course investigates basic theories about teaching materials and texts in Korean history. It also offers theories on teaching and learning Korean history for prospective teachers.

### Materials and Methods in Teaching of World History

**712.401**

**Materials and Methods in Teaching of World History**

This course deals with the meaning of world history, the organization of teaching materials for secondary level world history, and effective teaching methods. By investigating these issues, this course covers practical matters concerning the teaching and learning of world history.

### Theories of Teaching Philosophy

**113.318**

**Theories of Teaching Philosophy**

This course investigates various ways to achieve this aim through the use of formal and informal logic in teaching philosophy. The first part of the course is devoted to a survey of formal and informal logic. The second part focuses on the discussion of how to apply logical knowledge to the actual analysis and evaluation of the materials in high school philosophy textbooks and related literature.
and morality.

113.319  
Materials and Methods in Teaching Philosophy

This course, students will analyze junior and high school philosophy and logic textbooks, and will research, develop, and discuss methods to utilize best these texts.

114.326  
Materials and Methods in Religious Education

The purpose of religious education in middle and high schools is to convey knowledge about various religious traditions and phenomena in order to cultivate able students who are capable of tactful social communication in multiracial and multireligious societies. This course explores proper contents and efficient ways of teaching such educational programs.

114.327  
Materials and Methods in Religious Education

This course focuses on figuring out efficient ways of teaching and utilizing teaching materials for religious education in diverse situations.

114.328A  
Logic and Essay Writing in Religious Education

This course is a study of teaching materials and methods used in secondary school social studies. The purpose of the course is to help students prepare the curriculum and expose them to teaching methods in social studies in secondary schools. The emphasis is on curriculum construction, and various methods of teaching such as concept teaching, decision making, inquiry, value clarification, moral reasoning and value analysis.
Teaching Essay Writing in Social Studies

This course focuses on teaching essay writing as a tool in improving students' skill in logical thinking. Especially, it is designed to investigate the role and methods of essay writing to promote higher-order thinking skills in taking one's stand regarding many controversial issues.

Teaching of Social Studies

In this basic course, students will learn how to analyzes current issues of society and main topics of geography systematically and scientifically using geographic methodology and to cultivate the result logically.

This course deals with practical issues in teaching and learning geography. Students can learn the scope and sequence of the secondary school curricula, especially focusing on the position and importance of geography in social studies education.

Teaching of Geography

This course is designed for investigating the problems in teaching geography and to propose alternatives, so that students can develop professionalism as a teacher. Teaching and learning strategies appropriate to student cognitive development are also covered.

Logic and Essay Writing in Geography

This course will help students prepare the curriculum and expose them to teaching methods in social studies in secondary schools. The emphasis is on curriculum construction, and various methods of teaching such as concept teaching, decision making, inquiry, value clarification, moral reasoning and value analysis.

Materials and Methods in Teaching Social Studies

This course is a study of teaching materials and methods used in secondary school social studies. The purpose of the course is to help students prepare the curriculum and expose them to teaching methods in social studies in secondary schools. The emphasis is on curriculum construction, and various methods of teaching such as concept teaching, decision making, inquiry, value clarification, moral reasoning and value analysis.
713,428 지리교육평가론 3-3-0

Evaluation in Secondary School Geography

지리교육 목표와 지리교육과정에 따라 지리교육이 효율적으로 진행되었는지를 평가하는 방법과 기본적인 교육평가이론 등을 학습한다. 학생들의 주요 개념과 논리에 대한 이해도를 평가하는 다양한 방법, 지리교육의 학문개발방법, 수행평가방법 등을 탐색하고 학생의 탐구력을 높일 수 있는 문항을 개발하고 이를 비판적으로 검토해 보는 연습을 통하여 평가의 실제를 익힌다.

This course will study the theory and methodology of geographical assessment and evaluation for improving the efficiency of teaching and learning. Main purposes are to develop the strategies to provoke geographical questions and to learn practical skills through critical review.

수리과학부(Dept. of Mathematical Sciences)

715.218B 수학교육과 교육공학 2-2-0

Educational Technology in Mathematics Education

컴퓨터와 인터넷은 어떤 수학을 가르쳐야 하는가와 어떻게 수학을 가르쳐야 하는가를 기르는 문제와 관련되어 있다. 이 교과에서는 이러한 문제들을 학습한다. 특히 LOGO 마이크로 월드와 움직이는 기하환경을 통한 대수-기하 학습 및 인터넷기반 창의력 수학을 수학사와 연계하여 학습한다.

In this course, students will study mathematics education in terms of the related topics of computers and the Internet. Algebra-geometry education employing logo micro-world and DGS and web-based creative math will be discussed in connection with the history of mathematics.

715.313A 수학교재연구 및 지도법 3-3-0

Materials and Methods in Teaching of Mathematics

중고등학교 수학 교과목 교육과정에서 분석하고 이를 바탕으로 교수학습 과정을 개발하고 수업 실연을 경험한다.

This course will cover an analysis of middle and high school mathematics teaching materials, development of a lesson plan and performance of simulated instruction.

715.315* 수학교육론 3-3-0

Teaching of Mathematics

중고등학교 수학교육의 목표 및 교육과정을 이해하고, 각 내용 영역과 관련된 수학 학습-지도 틀리어 방법을 검토한다.

This course will cover an understanding of aims of middle and high school mathematics education and its curriculum and an examination of the principles and methods of learning and teaching mathematics relevant to each content area.

715.413B 수학사와 수학교육 3-3-0

History of Mathematics and Mathematics Education

중고등학교 수학교육 과정과 수학교육을 기반으로 수학 교육-학습 이론과 그 적용을 다룬다.

This course will cover the mathematics teaching-learning theory and its implications in connection with mathematics curriculums and history of mathematics.

물리학부(Dept. of Physics)

717.329* 물리교육론 3-3-0

Introduction to Physics Education

물리교육에 관한 전반적인 주제들을 학습하는 과목으로서 물리학사, 물리교육의 역사, 물리교육철학, 물리교육과정, 물리교육평가, 물리교육시설 등 중학교 및 고등학교에서 필요한 물리교육 내용을 전반적으로 다루며 물리교육에 관한 기초적인 지식을 습득하게 한다.

As a basic course on general topics in physics education, this course will cover the history and philosophy of physics and physics education, curricula, assessment, and facilities. Through the course, students will acquire general knowledge of physics education.

700.401A 과학논리 및 논술 2-2-0

Logic and Writing in Science

이 강좌에서는 과학적 사고와 이해의 특징 그리고 이를 언어적 방식을 통해 의사소통하는 활동에 대한 이론적 실천적 학습을 하고자 한다. 특히 중등학교 교사로서 학생들에게 과학적으로 사고하고 표현하는 능력을 함양하고 이를 위한 효과적인 지도방법을 실천하는 방법을 학습하고자 한다. 이를 통해 과학을 지도함에 있어서 학생들의 독서 및 토론 활동이 활발해질 수 있는 실질적 방법들을 탐색한다.

This course aims to teach practical as well as theoretical knowledges of the features of the thinking and understanding in science and of the linguistic ways to communicate them. Special focus will be given to the ability of secondary teachers to improve students’ thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students’ reading and discussion in teaching them science will be explored.
This course addresses the development of practices and analysis in teaching physics in our secondary school science curriculum. We will conduct the important issues such as the nature of Physics knowledge, the foundation of Physics education, theory and practices of 'good' teaching in detail. We expect students become a pre-service teacher who is able to do reflective practice.

화학부 (Dept. of Chemistry)

718.316* 화학교육론 3-3-0
Theories of Chemistry Education

718.419* 화학교재연구 및 지도법 3-3-0
Materials and Methods in Teaching of Chemistry

700.401A 과학논리 및 논술 2-2-0
Logic and Writing in Science

This course aims to teach practical as well as theoretical knowledge of the features of the thinking and understanding in science and of the linguistic ways to communicate them. Special focus will be given to the ability of secondary teachers to improve students' thinking and expression in science and to develop effective teaching methods. Through the course, the ways to encourage students' reading and discussion in teaching them science will be explored.
500.E315 직업 및 진로지도 3-3-0

Vocation and Career Guidance

이 과목은 농업계 특성화에서 선택할 수 있는 직업과 직업 교과를 교육하는 데 요구되는 능력을 배양함에 주된 목적이 있다. 따라서 학생들은 농업계 특성화학교의 진로와 직업 교육의 역사와 배경, 농업계 특성화에 개설된 전문교과별 직업계의 변화, 농업계 특성화과 학생들의 해당 진로 설계 등을 학습한다.

The main purpose of this course is to nourish students' abilities required to teach the career and the occupation subject which can be selected by agricultural high schools. Students will study the history and the background of career and vocational education in agricultural high schools, the changes of the vocational world which is related to each vocational subject matter, the ways of career design by agricultural high schools, the project which can be selected by agricultural high schools. Students will study the history and the background of career and the occupation subject which can be selected by agricultural high schools.

500.E401 산업교육방법 및 실습 3-2-2

Teaching Methods and Practices in Vocational Education

이 과목은 학교에서 가르치고 있는 산업 과목에 관한 종합적인 이해와 효과적인 지도를 위한 교수학습 방법을 탐구하고 현장적 능력을 기르는데 목표를 두었다. 교육실습에 나가기 전에, 학생들은 교수학습의 원리, 다양한 교수학습 방식, 교수능력, 교수설계, 지도안 개발, 수업 전개, 수업 평가 등을 다룬다. 특히 이 과목은 학생들에게 연구수업 기회를 제공하여 실제적인 수업 전개 능력을 기르 기도 한다.

This course is designed to develop basic and practical knowledge and competence of vocational subjects to teach students effectively. Before student teaching, students will learn principles of teaching and learning, various methods of teaching and learning, teaching skills, instructional design, developing lesson plans, instruction implementation and evaluation. This course will develop instruction implementation abilities of students by providing them with micro-teachings in the class.

미술대학(College of Fine Arts)

600.401A 미술교육론 3-3-0

Teaching of Fine Arts

미술교육의 원리, 내용, 방법, 교육에 관한 이론들을 폭넓게 살펴며, 미술교육의 새로운 모델로 제시된 다양한 프로그램과 방법에 대해 분석하고 미술교육에 미치는 영향을 교육현장을 중심으로 토론한다. 교성실습을 위한 미술지도법을 학습한다.

This course covers a wide range of theories on the principles, features, methods, and teaching materials of fine arts education. It also teaches Crafts & Design teaching methods by analyzing many programs provided as new models of Crafts & Design education.

600.404B 미술교과론리 및 논술에 관한교육 3-3-0

Taining in Art Education Theory and Essay

본 과목은 미술교육에 관한 비평적 토론과 글쓰기를 통해서 논술과 관련된 미술교육의 문제들을 연구한다. 전통과 현대미술, 미술교육에 관한 비평적 글쓰기를 다양한 관점에서 학생들이 실습하도록 한다.

This course explores the problems of essay-related Art Education through class discussion and writing. Students could practice critical writing in diverse viewpoints on traditional art, contemporary art and art education. This course is open to students who make their own career as art teachers in the art worlds.

600.E309A 디자인 · 공예교육론 3-3-0

Theories of Crafts and Design Education

디자인 · 공예교육의 원리, 내용, 방법, 교육에 관한 이론들을 폭넓게 살펴며, 디자인 · 공예교육에 미치는 영향을 교육현장을 중심으로 토론한다. 교성실습을 위한 디자인 · 공예지도법을 학습한다.

This course develops ideas for Crafts & Design education by comparing educational organization, activities and materials. The relationship between Crafts & Design education and Crafts & Design materials is studies with an emphasis on the actual Crafts & Design education in schools.

600.E310A 디자인 · 공예교육론 및 지도법 3-3-0

Materials & Methods in Crafts and Design Education

디자인 · 공예과학과 디자인 · 공예교육의 관계를 학교디자인 · 공예교육 현장을 중심으로 연구한다. 디자인 · 공예교육을 위한 아티지개발, 학습조직, 학습활동, 학습평가의 차원과 방법을 비교 분석하며, 디지털매체가 디자인 · 공예교육의 실천과 확대에 미치는 영향을 토론한다.

This course covers a wide range of theories on the principles, features, methods, and teaching materials of fine arts education. It also teaches Crafts & Design teaching methods by analyzing many programs provided as new models of Crafts & Design education.

600.E311 디자인 · 공예논리 및 논술에 관한교육 3-3-0

Training in Design · Crafts Education Theory and Essay

본 과목은 디자인 공예 교육에 관한 비평적 토론과 글쓰기를 통해서 논술과 관련된 디자인 공예 교육의 문제들을 연구한다. 디자인 공예에 대한 문명적 이해를 바탕으로 디자인 공예 학습 현장에서 비평적인 시각을 견지할 수 있는 소양을 키우는 한편, 디자인 공예 교육에 관한 비평적 글쓰기를 다양한 관점에서 학생들이 실습하도록 한다.

This subject is about researching the problems for Design and Craft education through critical writing and debates. By
raising students’ knowledge to adhere their critical viewpoint and have fundamental background understanding in the field on one hand, and make students practice critical writing with various perspectives about Design and Craft education.

생활과학대학(College of Human Ecology)

350.301A 가정과교육론  3-3-0

Teaching of Home Economics

가정과 교육의 이론적 기초와 실제를 학습하는 것을 목표로 하며, 이러한 학습을 통해서 가정과 교육의 특성과 의의, 과목내용 체계 및 학습지도 원리를 익히고, 이를 바탕으로 가정과 교육을 보다 활성화시키기 위한 방안을 모색한다.

Based on the theory and practice of teaching home economics, the meaning, principles, and curriculum of teaching will be learned in this course.

350.302A 가정과교육연구 및 지도법  3-3-0

Materials and Methods in Home Economics Education

체 외국의 가정과 교육 개발 및 지도법, 우리나라의 중등학교 가정과 수업 실천사례의 비판적 분석・검토를 통해, 자주적이고 창의적인 교육 및 지도법을 개발하고자 한다.

This course is for students in the Divisions of Clothing and Textiles and the Division of Food and Nutrition who plan to obtain the home economics teaching license. The purpose of the course is to learn to develop and apply practical materials to home economics education.

350.309 가정과논술지도법  2-2-0

Logical Thinking and Writing in Home Economics Education

가정과 영역에 필요한 논리적인 사고와 글쓰기 능력을 개발하기 위해 필요한 이론을 학습하며, 이를 토대로 학생들의 창의성 발달을 도모할 수 있는 방안을 도출해보고자 한다.

This course is developed to educate how to teach logical thinking and writing in the field of home economics education. The theories and practical technics enhancing creativity through logical thinking and writing will be introduced.

음악대학(College of Music)

650.4328 음악교재연구 및 지도법  3-3-0

Materials and Methods in Music Education

1. 음악교육의 발달 과정을 살펴본다.
2. 현대 음악교육의 철학과 방법론을 학습한다.
3. 음악과 교육과정을 분석한다.
4. 초등 음악교재를 분석한다.
5. 음악과 교수・학습방법을 개발한다.

In this course, students will: study the developmental process of musical education; study the philosophy and methodology of modern musical education; analyze the process of music education; analyze elementary musical texts; and overview ways of teaching and learning.

650.4415 음악교육론  2-2-0

Teaching of Music

이 강좌는 실용학문인 음악교육에 대하여 개괄하고, 학교현장에서 음악교사로서 필요한 지식과 능력을 기르며 음악과목교육에 대한 기반을 다진다.

This course defines music education as a practical science. It will establish the foundation needed for music teachers, by covering subject matters, knowledge and skills necessary.

T2183.000100 음악과 글쓰기  3-3-0

Writing about Music

본 수업은 음악대학 교직과정 학생들을 위한 필수교과목으로, 음악에 대한 글쓰기 방법을 체계적으로 지도하여 학생들의 사고능력과 글쓰기 능력을 함양하는 것을 기본목적으로 한다. 이를 위해 음악 또는 음악비평에 관한 글들을 읽고, 나아가 학생 스스로 음악에 대한 에세이를 작성한다.

This course is intended to develop students' ability to think and write simple essays on music. Students will experience how to build logical thinking and put it into writing about music, by reading articles on music or music criticism, and also by writing their own essays.