Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Special Topic in English Literature I	Course Number	1001805001
Major / School Year	Dept. of English Language and Literature / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of English Language & Literature / 이용화	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[15-118A:목(7)(8)(9)]
Office hours			

[1] Outline / Purpose

Course Description and Objectives:

This course provides a unique introduction to philosophical (existentialist) thinking as they are reflected in the representative works of major existentialist writers and thinkers of Western tradition, by applying the methods of philosophical analysis and argumentation to questions and issues confronting all human beings: What is the meaning of a life with the distinctive characteristics of human life? What is the significance of morality in such a life? What do the need for love, or the susceptibility to shame, anxiety, or boredom, tell us about the human condition? What does it mean to be oneself?

The course aims to deepen the students' engagement with such questions by developing their capacity to analyze critically their initial views about them, formulating with clarity and sophistication the problems these views might pose, and progressively refining these views so as to resolve these problems. Readings will come from prominent authors including Sophocles, N. Hawthorne, Herman Melville, Dostoevsky, Eugene O'Neil, and John Williams, as well as from existentialist philosophers and thinkers, such as F. Nietzsche and A. Camus. In the process of examining such existential questions, the students should expect to develop their capacities for analysis, argumentation, and intellectual creativity, as well as their writing and debating skills.

[2] Course Learning Outcomes

The course also aims to develop conceptual literacy about matters of personal existential significance. Conceptual literacy is the capacity to analyze with depth and critical rigor inchoate ordinary beliefs and intuitions about a topic, to formulate with clarity and sophistication the problems they pose, and to develop well-argued responses to these problems.

[3] Class Delivery Method

The course requires no prior philosophical training.

Active participation in class is required. This means taking part in the discussion of the day's reading (the general class participation grade will be determined by your involvement in these discussions). I base my class largely on discussion, and if you do not participate, the entire class will suffer as a result.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Course Requirements:
1. Literary Analysis (20%):
2. Research Paper (40%): T
3. 2 response papers (20%):
4. Oral Presentation (10%):

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
0 %	20 %	80 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	Republic	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Course Introduction Kaffa, "The Helmsman"
Second week	Plato, “Allegory of the Cave"*
Third week	Sophocles, Oedipus the King
Fourth week	Plutarch, "Lycurgus"
Fifth week	Plato, Meno
Sixth week	Plato, "Apology"
Seventh week	Plato, "Symposium"
Eighth week	Oral Exam 1 (In-class writing)
Ninth week	Nathaniel Hawthorne “Wakefield”/
Tenth week	Herman Melville “Bartleby, the Scrivener”
Eleventh week	Dostoevsky “The Grand Inquisitor”
Twelfth week	Rousseau, The Social Contract 1
Thirteenth week	Descartes, "Meditation 4"
Fourteenth week	Bacon, “The Four Idols”*
Fifteenth week	Eugene O’Neill The Hairy Ape
Sixteenth week	Nietzsche, essays from On the Genealogy of Morals (First Essay: “Good and Evil,” “Good and Bad”) Thoreau, "Civil Disobedience" Oral Exam 2 (In-class writing)

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			

	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Pragamatics	Course Number	021824001
Major / School Year	Dept. of English Language and Literature / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of English Language & Literature / 윤소연	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[15-118B:월(2)(3)(4)]
Office hours			

[1] Outline / Purpose

This course deals with two subfields of linguistics: pragmatics and discourse analysis. The first half of the semester deals with pragmatics that studies how context contributes to meaning. The second half of the semester deals with discourse analysis.

[2] Course Learning Outcomes

Students will learn speech act theory, presupposition, implicature, cooperate principles, etc. They will also learn how to analyze linguistic texts of different genres from the perspective of linguistics and sociology.

[3] Class Delivery Method

lecture and discussion

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
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[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	TBA	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	TBA
Second week	TBA
Third week	TBA
Fourth week	TBA
Fifth week	TBA
Sixth week	TBA
Seventh week	TBA
Eighth week	TBA
Ninth week	TBA
Tenth week	TBA
Eleventh week	TBA
Twelfth week	TBA
Thirteenth week	TBA
Fourteenth week	TBA
Fifteenth week	TBA
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Studies in Drama	Course Number	020506001
Major / School Year	Dept. of English Language and Literature / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of English Language & Literature / 황승현	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[15-317:월(6)(7)(8)]
Office hours			

[1] Outline / Purpose

This graduate seminar studies drama as a form that is always moving across media, institutions, and technologies. Our central lens is remediation: how new media refashion older media (and vice versa), and how theatre continually absorbs, resists, or retools the logics of print, photography, film, television, audio, digital interfaces, archives, and platforms.

Rather than treating "the play" as a stable literary object, we read dramatic works alongside their mediations: stage conventions, scenography, actor–audience interfaces, adaptation chains, recording and archival practices, and platform circulation. Students will develop a research-ready method for analyzing drama as text, performance, and media event, culminating in a seminar paper (or thesis/dissertation chapter draft).

[2] Course Learning Outcomes

-Define and operationalize remediation (including immediacy and hypermediacy) for drama/performance analysis.
-Analyze how specific plays refashion prior media (myth, print, film/TV, documentary, audio, digital interfaces) at the level of dramaturgy, staging, and reception.
-Compare how the same narrative/problem changes when the dominant medium logic changes (stage vs. broadcast vs. platform archive).
-Produce a coherent scholarly argument using remediation/intermediality frameworks and performance evidence.

[3] Class Delivery Method

Discussion/ Lecture

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Written Assignments: 40% (Proposal 10%, Paper 30%)
Class presentation: 20%
Attendance: 20%
Participation: 20%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
40 %	20 %	40 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Week 1 Introduction -Introduction to the Course -remediation map exercise
Second week	Week 2 Theory I: remediation, immediacy, hypermediacy Reading: Bolter & Grusin (selected)
Third week	Week 3 Theory II: liveness, documentation, and the archive Reading: Auslander (selected), Schneider, or archive-focused article
Fourth week	Week 4 Remediating myth and ritual for modern publics Oedipus Rex by Sophocles
Fifth week	Week 5 theatre as media laboratory Macbeth by Shakespeare
Sixth week	Week 6 Modernity, Publicity, and the Remediation of "the social" -Pygmalion by William Shakespeare
Seventh week	Week 7 Publicness and social scripting Pygmalion by Bernard Shaw
Eighth week	Week 8 Research clinic I: turning theory into a method -Detailed explanation of research paper specifics -Brainstorming topics
Ninth week	Week 9 Christie module 1: short story to courtroom theatre Witness for the Prosecution (short story)
Tenth week	Week 10 Christie module 2: adaptation as remediation chain Witness for the Prosecution (short story)
Eleventh week	Week 11 Research Proposal presentation -Research proposal due
Twelfth week	Week 12 Aging, care, and the mediation of personhood Half Life by John Mighton
Thirteenth week	Week 13 Neurodiversity, diagrams, and stage as interface
Fourteenth week	Week 14 Mini-conference
Fifteenth week	Week 15 Final paper
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Research Methods for Social Sciences	Course Number	230501001
Major / School Year	Dept. of Public Administration / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Public Administration / 타오	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number	8358337	A weekday / class / lecture room	[13-404:목(야1)(야2)(야3)]
Office hours			

[1] Outline / Purpose

This course will cover the process of conducting research in the social sciences, with a special emphasis on the fields of public administration and policy.
The course objective is for each student to produce a near final version of a research paper to submit to an academic journal.

[2] Course Learning Outcomes

By the end of the course, students should have a roadmap that they can use to construct their own research agendas as they move through their graduate
coursework and on to their theses.

[3] Class Delivery Method

The course will use the metaphor of a map quite literally: we will "go to where the action is" to explain not just the how but the why of academic research.
This may mean that on occasion we will deviate from the syllabus and head out to investigate potential areas for research.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	21 %	65 %	7 %	0 %	0 %	7 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
20 %	75 %	0 %	0 %	0 %	0 %	5 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

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[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Anol Battacherjee	Publisher	University of South Florida: Scholar Commons	Textbook	Social Science Research: Principles, Methods, and Practices	Issued year	2012
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	Camilla Stivers, editor	Publisher	Westview	Textbook	Democracy, Bureaucracy, and the Study of Administration	Issued year	2001
(2)	Author	Im Tobin	Publisher	Routledge	Textbook	Public Organizations in Asia	Issued year	2017
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction to the course and outline of the course map.
Second week	First stop: Haksan Library. Admit it. You've never actually been inside (Cafe Dream doesn't count). This is where knowledge is stored. You'll feel smarter just standing in the atrium, but there's more.
Third week	What makes a good research proposal? This week we will cover the essentials for sharing your ideas with others. If you're doing research, be it for academics or for practitioners, there are certain expectations for what should be included. Here we'll map them out.
Fourth week	Let's see if you were paying attention. Your research proposal and the identification of the conference where you plan to present this work are DUE.
Fifth week	Your proposal has been accepted! You will now experience the five stages of research intiation: 1) Euphoria (Hooray! Someone thinks I'm smart!); 2) Panic (OMG! Someone thinks I'm smart!); 3) Insomnia (How can I sleep with so much to do? Why did I think I could possibly do what I proposed?); 4) Dread (I will never see my family or friends again); and finally, 5) Acceptance (I can do this).
Sixth week	The literature review--multiple methods with a singular purpose; make sure you're not reinventing the wheel.
Seventh week	Choosing a method--So many choices, so little time. And what will my data look like?
Eighth week	First draft DUE--This is a seven-to-ten page paper (more is fine, but less is not) where you explain what you have found others to say about your topic, and identified how your research question adds to that conversation, and then laid out your plan for how you will answer your research question. This includes what kind of data you will need, and where you plan to get it.
Ninth week	Collecting, cleaning, and codifying data--Some how-to's. If you are collecting your own data for the first time, there are certain practices you should follow. Documenting what you do and where you get your information from is just as important as the information itself.
Tenth week	Special circumstances for qualitative data sources: interviews, surveys, and focus groups. What kind of issues might arise with respect to data reliability, observation errors, credibility of your sources? These are all things to consider if you are engaging in qualitative research.
Eleventh week	Troubleshooting--when things go wrong (and they always will) in your research plan, what can you do? This week, we will cover some tried and true ways to make the best of data that doesn't appear to have your best interests at heart.
Twelfth week	Bringing it all together--you have your data, you've run your analyses, and now you need to interpret your results. What if you've got nothing? All your hypotheses have gone out the window. What now? Or worse, you have something, but you're not sure what it is. It's important to be able to recognize when you are sitting on a royal flush and not a pair of twos.
Thirteenth week	This is the week that you pair up with a classmate and swap your paper with theirs. This accomplishes two goals: first, it forces you to let go of your work--research is always a work in progress, so it will never quite be complete. There will always be pieces missing. So you need to learn how to show people what you have done even when you are not comfortable with sharing. Second, it forces you to finish the most important pieces of your paper before the final version is due. In class, we will go over what may still be missing from your papers, and how you might go about filling in those gaps.
Fourteenth week	Final research papers due if you want the rewrite option-- You should also prepare a BRIEF summary of your paper, and your preliminary findings, to share with the class.
Fifteenth week	This is the final date for paper submission.
Sixteenth week	

[7] Assignments

The first assignment	assignment	Research Proposal	submission date	2026-03-26 Thu
	purpose	Create a viable proposal for a conference presentation		
	procedure & notice	A research proposal for an academic conference needs to contain several things in order to be successful. We will cover these things in class and you will choose a conference that you would like to attend (it should be a public administration related conference). Your proposal should meet the requirements of the conference you have chosen.		

	references	Turn in to the professor duing class (or via email before)		
The second assignment	assignment	First draft of your research project	submission date	2026-04-23 Thu
	purpose	Finalize literature review and outlined methods		
	procedure & notice	This will be your first full draft of your paper. At this point, you may not yet have completed collecting your data, but you should have a plan for what kind of data you will need to answer your research question, and where you might find it. You should also outline how your data analysis will be conducted, and what your expectations of your future findings might be.		
	references	Email to the professor prior to class		
The third assignment	assignment	Final Research Paper	submission date	2026-06-11 Thu
	purpose	A paper including a data analysis		
	procedure & notice	If you would like early feedback on your final paper, you need to submit it a week earlier (June 4th) when you present your summary. Otherwise, this is the final submission date.		
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Personnel Administration	Course Number	230503001
Major / School Year	Dept. of Public Administration / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Public Administration / 김동원	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[13-404:수(야1)(야2)(야3)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Seminars on Information Administration	Course Number	230641001
Major / School Year	Dept. of Public Administration / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Public Administration / 이신우	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[13-404:화(야1)(야2)(야3)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
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[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Thesis Research(Business Administration)	Course Number	1002230001
Major / School Year	Dept. of Business Administration / 전학년	completion division /Grade evaluation	/
Department/Professor	Division of Business Administration / 김태훈	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[29-103:월(4)(5)(6)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Consumer Behavior	Course Number	510808001
Major / School Year	Dept. of Business Administration / 전학년	completion division /Grade evaluation	/
Department/Professor	Division of Business Administration / 김영균	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[14-102:수(7)(8)(9)]
Office hours			

[1] Outline / Purpose

Last semester, we learned the fundamentals of consumer behavior.
This semester, our goal is to deepen our understanding of various consumer behavior theories by integrating emotional factors and behavioral economics to better analyze consumer behavior.

[2] Course Learning Outcomes

This semester, students will select a topic they are personally interested in and develop a comprehensive presentation.
The presentation should include the topic they wish to research as well as real-world marketing application cases.
While presentation skills are important, the actual content will be especially emphasized this semester.

[3] Class Delivery Method

The course will be evaluated based on lecture participation, student presentations, and the tests.

Furthermore, students' grades this semester will be awarded accurately according to their actual performance.

The exam questions will be based on the comments I made on each presentation.

Every student's presentation will be an important topic for the exam.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
20 %	60 %	20 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
50 %	0 %	50 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	any textbook or thesis	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Orientation
Second week	First Lecture
Third week	Second Lecture
Fourth week	Presentation 1
Fifth week	Presentation 2
Sixth week	Presentation 3
Seventh week	Presentation 4
Eighth week	Presentation 5
Ninth week	Presentation 6
Tenth week	Mid term Exam
Eleventh week	Presentation 7
Twelfth week	Presentation 8
Thirteenth week	Presentation 9
Fourteenth week	Presentation 10
Fifteenth week	Final exam
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Statistical Methods	Course Number	510509001
Major / School Year	Dept. of Business Administration / 전학년	completion division /Grade evaluation	/
Department/Professor	Division of Business Administration / 김태호	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[14-507:화(2)(3)(4)]
Office hours			

[1] Outline / Purpose

1. Understanding the objective of Statistics
2. Understanding the fundamentals of Statistics
3. Understanding the various statistical methods which will be used for graduate research

[2] Course Learning Outcomes

Students can select and implement the appropriate statistical methods to their research problem.

[3] Class Delivery Method

1. Offline lecture of theory
2. Computer-aided statistical software lecture

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
60 %	0 %	0 %	40 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
60 %	0 %	0 %	0 %	0 %	0 %	40 %	0 %

[4] Grading Policies

20% of punctuality
60% of correctness
20% of sincerity

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Hogg, McKean, and Craig	Publisher	Pearson-Prentice Hall	Textbook	Introduction to Mathematical Statistics	Issued year	2005
(2)	Author	Lind, Marchal, and Wathen	Publisher	McGraw-Hill	Textbook	Statistical Techniques in Business and Economics	Issued year	2024
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction to statistics
Second week	Data collection
Third week	Visualization of collected data
Fourth week	Description of collected data
Fifth week	Random variable and PDF
Sixth week	Estimation and inference
Seventh week	One population estimation and inference
Eighth week	Two population estimation and Inference I
Ninth week	Two population estimation and Inference II
Tenth week	ANOVA
Eleventh week	Correlation analysis
Twelfth week	Regression analysis I
Thirteenth week	Regression analysis II
Fourteenth week	Non-parametrics
Fifteenth week	Bootstrapping
Sixteenth week	

[7] Assignments

The first assignment	assignment	Application of each statistical method to problem	submission date	
	purpose	To use statistical methods for research		
	procedure & notice	1. A statistical question is given to students after learning each statistical method 2. Students should solve the question by using a software 3. Submit a report to professor.		
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Special Topics in Photoelectronics Physics	Course Number	120610001
Major / School Year	Dept. of Physics / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Physics / 이진호	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[05-202:화(7-8A)(8B-9)]
Office hours			

[1] Outline / Purpose

This course aims to understand the electrical and optical characteristics in relation to the basic properties and electronic structures of hybrid materials including organic electronic materials, halide perovskites, and quantum dots, which are the main materials of next-generation electronics. Furthermore, it enhances the application ability to electronic device development by deeply covering various optical device applications and device physics through photoelectrical property control. This course requires basic knowledge of semiconductor materials, and can enhance the learning effect by linking with solid-state physics, electronic physics, etc.

[2] Course Learning Outcomes

The aim of this course is to provide undergraduate students in physics, materials engineering, and electronic engineering with basic theoretical background education for working as professional researchers in the optoelectronics industry and research institutes. It cultivates the ability to apply basic scientific and engineering knowledge and theories necessary for understanding optoelectronics, and the ability to investigate and analyze the latest technology trends related to optoelectronics. In particular, it is to conduct actual experiments.

[3] Class Delivery Method

The principle is to conduct face-to-face lectures based on the lecture plan. The teaching materials will be composed based on the main and supplementary textbooks, but various literature and papers will be additionally extracted to compose the teaching materials. In order to increase the participation rate in the study, the teaching materials will be distributed in advance and the classes will be conducted.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Georges Hadziioannou	Publisher	Wiley-VCH	Textbook	Semiconducting Polymers	Issued year	2007
(2)	Author	Nam-Gyu Park	Publisher	Springer	Textbook	Organic-Inorganic Halide Perovskite Photovoltaics	Issued year	2016
(3)	Author	GERASIMOS KONSTANTATOS	Publisher	Cambridge University Press	Textbook	Colloidal Quantum Dot Optoelectronics and Photovoltaics	Issued year	2013

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	Saturated polymer, Semiconducting/metallic polymer, Polyethylene vs. Polyacetylene
Third week	1Bonding, SP3 hybridization, Bandgap, Electronic structure, Conjugated polymer
Fourth week	Conducting polymer, Metallic transport in polyaniline, Photo-induced charge transfer,
Fifth week	Type of exciton, Stokes shift, Jablonski diagram, Franck and Condon effect, Polaron
Sixth week	Bulk heterojunction, Percolation threshold, Voltage losses, Excitonic processes, optical properties of solids, Kramers-Kronig relations
Seventh week	Paper review
Eighth week	Mid-term exam
Ninth week	Molecular orientation, GIWAXS, Molecular packing
Tenth week	Hybrid perovskite materials, Tolerance factor, Ion migration, defect, Defect diffusion, activation energy, defect migration, density of states
Eleventh week	Grain boundary, Electronic structure, Ferroelectric properties, Absorption coeeficient
Twelfth week	Perovskite-based electronics, Operational mechanism of perovskite solar cells
Thirteenth week	Quantum dot-based light emitting diodes, Exciton Bohr radius, Quantum confinement, Bandgap tuning, Energy transfer
Fourteenth week	Paper review
Fifteenth week	Final exam
Sixteenth week	Supplementary lectures if necessary

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Thesis Research(Physics)	Course Number	1002253001
Major / School Year	Dept. of Physics / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Physics / 엇후 도르츠	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[05-421:금(1)(2)(3)]
Office hours			

[1] Outline / Purpose

This course and its prerequisites are required for the graduate students in Ph.D. courses. The purpose of this course is to strengthen and complete ongoing research studies of the graduate students and culminating students; experience in their research fields.

[2] Course Learning Outcomes

During the course period, the graduate students learn the fundamental understanding how to conduct with scientific works and then capture more detailed research studies in interest. More specifically, the students perform the density functional calculations on specific magnetic materials.

[3] Class Delivery Method

오프라인

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	David S. Sholl Janice A. Steckel	Publisher	John Wiley & Sons, Inc.	Textbook	Density Functional Theory: A Practical Introduction	Issued year	2009
(2)	Author	Richard M. Martin	Publisher	Cambridge University Press	Textbook	Electronic Structure: Basic Theory and Practical Methods	Issued year	2008
(3)	Author	Stephen Blundell	Publisher	Oxford University Press	Textbook	Magnetism in Condensed Matter	Issued year	2007

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	Basic theory: Density functional theory
Third week	Basic theory: Density functional theory
Fourth week	Basic theory: Electronic structure of a solid
Fifth week	Basic theory: Electronic structure of a solid
Sixth week	Basic theory: Magnetism and Permanent Magnetic Materials
Seventh week	Basic theory: Magnetism and Permanent Magnetic Materials
Eighth week	Exam
Ninth week	Practical course: DFT implementation in Electronic Structure and Data Analyses
Tenth week	Practical course: DFT implementation in Electronic Structure and Data Analyses
Eleventh week	Practical course: DFT implementation in Magnetic Materials and Data Analyses
Twelfth week	Practical course: DFT implementation in Magnetic Materials and Data Analyses
Thirteenth week	Thesis writing
Fourteenth week	Thesis writing
Fifteenth week	Thesis writing
Sixteenth week	Thesis writing

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Polymer Chemistry	Course Number	130604001
Major / School Year	Dept. of Chemistry / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Chemistry / 그레고리 아이작 피터슨	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[05-525:수(2)(3)(4)]
Office hours			

[1] Outline / Purpose

This course is designed to introduce topics covering polymerization processes, characterization of polymers, relationship between molecular structure and physical properties, and polymer related technologies, with an emphasis on advanced polymer synthesis techniques. The aim of the course is to instruct students for their professional achievement and provide deep insight into macromolecular materials. The course participants are able to decide a synthetic method adaptable for a specific polymer, and to understand the relation between molecular structure and physical properties by the end of the course.

[2] Course Learning Outcomes

The aim of the course is to instruct students for their professional achievement and provide deep insight into macromolecular materials. The course participants are able to decide a synthetic method adaptable for a specific polymer, and to understand the relation between molecular structure and physical properties by the end of the course.

[3] Class Delivery Method

The lecture is held offline (face-to-face).

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Mid-term test: 40%
Final test: 40%
attendance: 20%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
80 %	20 %	0 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	George Odian	Publisher	Wiley-Interscience	Textbook	Principles of Polymerization	Issued year	2004
(2)	Author	L. H. Sperling	Publisher	Wiley-Interscience	Textbook	Introduction to Physical Polymer Science	Issued year	2006
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	1.Introduction 1. 1. Historic background 1. 2. Size and distribution of polymer molecular weight
Second week	1. 3. Structure and properties of macromolecules 1. 4. Classification of polymerizations
Third week	2. Step-Growth Polymerizations 2. 1. Process Conditions 2. 2. Characterization of Polymers
Fourth week	3. Chain-Growth Polymerizations 3. 1. Experimental evidences for monomer arrangement
Fifth week	3. 2. Controlled/Living Radical Polymerization
Sixth week	3. 2. Controlled/Living Radical Polymerization
Seventh week	3. 3. Ionic Polymerization 3. 4. Stereochemistry of polymerization
Eighth week	Mid-term Test
Ninth week	3. 5. Copolymers 3. 6. Polymer Architecture
Tenth week	4. Ring-Opening Polymerization
Eleventh week	4. Ring-Opening Polymerization
Twelfth week	5. Metathesis Polymerizations
Thirteenth week	5. Metathesis Polymerizations
Fourteenth week	6. Other Advanced Polymerization Techniques 6. 1. Cascade Polymerizations
Fifteenth week	Final Exam
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Writing Biology Papers in English for Beginners	Course Number	1002670001
Major / School Year	Dept. of Life Science / 전학년	completion division /Grade evaluation	/
Department/Professor	Division of Life Sciences / 박준태	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[41-507:수(6)(7)(8)]
Office hours			

[1] Outline / Purpose

"This course focuses on writing a thesis in English.
Student will write a thesis in English based on their own data.
****Limitations: Only students with some experimental data can take this course.
If students do not have their own experimental data, they should not take this course.****
****Limited number of people: One-to-one correctional instruction is provided, so the maximum number of students is 10. ****
**** It takes a lot of time to do the homework in this class.. Therefore, students who are not prepared should not take this course.****"

[2] Course Learning Outcomes

"The goal of this class is to serve as an assistant in writing a thesis in English.
At the end of semester, you will complete a thesis writing in English.The goal is to complete a thesis in English at the "

[3] Class Delivery Method

"A certain thesis writing task is given every week, and the progress of the task is checked the following week.
****Please bring your personal laptop to class****"

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	

(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	Write Abstract
Third week	Write Introduction I
Fourth week	Write Introduction II
Fifth week	Write Material & Method I
Sixth week	Write Material & Method II
Seventh week	Write Figure legend
Eighth week	No class
Ninth week	Write Result I
Tenth week	Write Result II
Eleventh week	Write Discussion I
Twelfth week	Write Discussion II
Thirteenth week	Write Discussion III
Fourteenth week	Paper Review I
Fifteenth week	Paper Review II
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
			submission	

The second assignment	assignment		date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Seminar in Textile Material	Course Number	1000590001
Major / School Year	Dept. of Clothing & Textiles / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Fashion Industry / 조윤경	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[05-406:화(4-5A)(5B-6)]
Office hours			

[1] Outline / Purpose

This seminar course explores textile and apparel materials from both scientific and industrial perspectives, with an emphasis on recent research trends and emerging issues in the fashion and textile industries. Students will critically review academic papers, technical reports, and industry case studies to develop a comprehensive understanding of material properties, functionality, sustainability, and digital evaluation approaches. The course is conducted in a discussion-oriented seminar format to enhance analytical thinking and communication skills.

[2] Course Learning Outcomes

By the end of this course, students will be able to:
- Understand recent research trends and technological developments in textile and apparel materials
- Analyze the physical, functional, and aesthetic performance of textile materials
- Critically review and present academic literature and technical resources
- Develop logical arguments and research ideas related to textile material evaluation and planning

[3] Class Delivery Method

Seminar-based lectures and discussions
Student-led presentations and group discussions
Individual or team-based projects

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
40 %	20 %	40 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Course orientation and overview of textile materials research
Second week	Structure and properties of textile and apparel materials
Third week	Functional textile materials (moisture management, water repellency, stretch, etc.)
Fourth week	Smart textiles and wearable materials
Fifth week	Sustainable and eco-friendly textile materials
Sixth week	Digital imaging and data-driven evaluation of textile materials
Seventh week	Student presentations: literature review I
Eighth week	Mid-term report submission and discussion
Ninth week	Textile materials and user experience (comfort, wearability, aesthetics)
Tenth week	Industry case studies (sportswear, outdoor apparel, denim, etc.)
Eleventh week	Performance requirements in textile material planning
Twelfth week	Student presentations: recent research trends II
Thirteenth week	Final project presentations I
Fourteenth week	Final project presentations II
Fifteenth week	Wrap-up discussion and final project submission
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Theory CAD/CAM System	Course Number	310877001
Major / School Year	Dept. of Mechanical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Mechanical Engineering / 이강주	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number	8046	A weekday / class / lecture room	[08-203:목(5)(6)(7)]
Office hours			

[1] Outline / Purpose

본 과목은 바이오메디컬 분야 특화된 CAD/CAM 시스템을 다룬다.
주로 생체재료, 줄기세포 등 의공학 기본 지식과 함께 이를 활용한 3D 프린팅과 같은 적층제조기술에 대한 원리와 이론, 최신 연구 동향을 알아본다.

[2] Course Learning Outcomes

- 기계공학이 의공학 분야에 기여할 수 있음을 이해함
- 다루는 재료를 생체재료로 확장하여 연구 및 공학적 인식 저변을 확대함

[3] Class Delivery Method

수업 및 발표 프로젝트 진행

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	W. Mark Saltzman	Publisher	Cambridge	Textbook	Biomedical Engineering	Issued year	
(2)	Author		Publisher		Textbook	자제 제작 강의슬라이드	Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	바이오메디컬개론
Second week	3D 프린팅 개요
Third week	3D 프린팅 최신 기술
Fourth week	생체재료 3D 프린팅 개요
Fifth week	생체재료 3D 프린팅 이론
Sixth week	생체재료 3D 프린팅 이론 2
Seventh week	중간고사
Eighth week	생체재료 물성 1
Ninth week	생체재료 물성 2
Tenth week	의공학 3D 프린팅 기술 1
Eleventh week	의공학 3D 프린팅 기술 2
Twelfth week	프로젝트 발표 1
Thirteenth week	프로젝트 발표 2
Fourteenth week	프로젝트 발표 3
Fifteenth week	기말고사
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Theory and applications of high temperature fuel cells	Course Number	1003080001
Major / School Year	Dept. of Mechanical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Mechanical Engineering / 신성수	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-203:금(7)(8)(9)]
Office hours			

[1] Outline / Purpose

This course provides an integrated introduction to ceramic-based energy devices with a focus on solid oxide fuel cells. Students will learn key processing routes, materials design principles, mass transport phenomena, and characterization approaches, including advanced electrochemical impedance spectroscopy.

[2] Course Learning Outcomes

- Explain core concepts in ceramic processing and SOFC materials
- Understand mass transport theory and fundamental modelling
- Interpret characterization data and relate results to performance.

[3] Class Delivery Method

Lecture will be delivered primarily through tablet-based handwriting to illustrate concepts, equations, and problem-solving steps.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Ceramic processing 1
Second week	Ceramic processing 2
Third week	Ceramic processing 3
Fourth week	Overview of fuel cell types
Fifth week	SOFC materials
Sixth week	SOFC mass transport
Seventh week	Mid-term presentation
Eighth week	Mid-term presentation
Ninth week	SOCF modelling
Tenth week	SOFC characterization
Eleventh week	Advanced electrochemical impedance spectroscopy 1
Twelfth week	Advanced electrochemical impedance spectroscopy 2
Thirteenth week	Advanced electrochemical impedance spectroscopy 3
Fourteenth week	Advanced electrochemical impedance spectroscopy 4
Fifteenth week	Final exam
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Thesis Research(Mechanical Engineering)	Course Number	1002234001
Major / School Year	Dept. of Mechanical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Mechanical Engineering / 권재성	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-203:금(1)(2)(3)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Semiconductor Materials and Properties	Course Number	1003194001
Major / School Year	Dept. of Mechanical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Mechanical Engineering / 김정호	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-203:목(2)(3)(4)]
Office hours			

[1] Outline / Purpose

This course explores the fundamental physics and material properties of semiconductors, establishing a strong theoretical foundation for electronic device applications. It also integrates a research seminar where students actively analyze and discuss recent academic advancements in the field.

[2] Course Learning Outcomes

Students will acquire a comprehensive understanding of semiconductor material characteristics and their practical implications in device engineering. Additionally, participants will develop critical thinking and presentation skills by reviewing state-of-the-art research papers.

[3] Class Delivery Method

The instructor provides concise lectures on essential theories to ensure students understand the core concepts of semiconductor physics. The majority of the course operates as a seminar, where students take turns presenting and reviewing selected academic papers.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

- Points will be awarded based on attendance records and the level of active class participation.
- Failure to take either the midterm or the final exam will fail the course
- Students absent for more than 1/3 of total class hours will receive no credit regardless of exam scores

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
80 %	20 %	0 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Donald. A. Neamen	Publisher	Mc-Graw Hill	Textbook	Semiconductor Physics and Devices	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	Donald. A. Neamen	Publisher	McGraw-Hill	Textbook	반도체 물성과 소자	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	Paper presentation and analysis 1
Third week	Paper presentation and analysis 2
Fourth week	Paper presentation and analysis 3
Fifth week	Paper presentation and analysis 4
Sixth week	Paper presentation and analysis 5
Seventh week	Paper presentation and analysis 6
Eighth week	Mid-term discussion
Ninth week	Paper presentation and analysis 7
Tenth week	Paper presentation and analysis 8
Eleventh week	Paper presentation and analysis 9
Twelfth week	Paper presentation and analysis 10
Thirteenth week	Paper presentation and analysis 11
Fourteenth week	Paper presentation and analysis 12
Fifteenth week	Final-discussion
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Applied Mathematics		Course Number	310501001
Major / School Year	Dept. of Mechanical Engineering / 전학년		completion division /Grade evaluation	/
Department/Professor	Dept. of Mechanical Engineering / 권재성		Grades/Lecture/ Practice	3 / 3 / 0
Phone Number			A weekday / class / lecture room	[08-203:수(6)(7)(8)]
Office hours				

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Material Science	Course Number	310647001
Major / School Year	Dept. of Mechanical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Mechanical Engineering / 전태성	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-203:수(2)(3)(4)]
Office hours			

[1] Outline / Purpose

This course aims to provide an advanced understanding of the fundamental principles of materials behaviour, and experimental knowledge (together with case studies) of material characterisation methodologies, which are of significant importance for most industrial applications including mechanical, civil, construction, aeronautical, chemical or biomedical engineering.

[2] Course Learning Outcomes

1. To understand the fundamental principle of materials behaviour
2. To convey an experimental background to characterise material properties
3. To discuss the importance of characterising material properties

[3] Class Delivery Method

Lecture: 40%
Discussion: 40%
Seminar: 20%

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
40 %	40 %	20 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
40 %	0 %	60 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Midterm Exam: 30%
Final Exam: 30%
Report: 20%
Attendance: 20%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	W.D. Callister, D.G.Rethwisch	Publisher	Wiley	Textbook	Materials Science & Engineering 9/E	Issued year	2014
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	Metallurgy I
Third week	Metallurgy II
Fourth week	Metallurgy III
Fifth week	SEM, EBSD and FIB
Sixth week	X-ray and Neutron Diffraction
Seventh week	Nanoindentation
Eighth week	Midterm Exam
Ninth week	Student's presentation
Tenth week	Student's presentation
Eleventh week	Student's presentation
Twelfth week	Student's presentation
Thirteenth week	Student's presentation
Fourteenth week	Student's presentation
Fifteenth week	Final Exam
Sixteenth week	.

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Machine Learning	Course Number	1002443001
Major / School Year	Dept. of Biomedical & Robotics Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	/ 정현두	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[09-224:목(2)(3)(4)]
Office hours			

[1] Outline / Purpose

This course provides a foundational overview of machine learning for students with no prior experience in the field. It introduces core concepts, learning paradigms, major algorithms, and evaluation techniques commonly used in supervised and unsupervised learning. The course emphasizes conceptual understanding over implementation, enabling students to critically understand and evaluate machine learning models. A key goal of the course is to equip students with the ability to apply machine learning models in their own academic or research projects.

[2] Course Learning Outcomes

By the end of this course, students will be able to:
1. Explain the fundamental concepts and goals of machine learning.
2. Distinguish between different types of learning: supervised, unsupervised, and reinforcement learning.
3. Describe key machine learning models
4. Understand and interpret model evaluation metrics
5. Identify appropriate machine learning methods for specific research problems and evaluate their potential application.

[3] Class Delivery Method

The course will primarily consist of theoretical lectures using presentation slides (PPT).

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Midterm Exam: 30%
Final Exam: 35%
Assignments and Mini Projects: 15%
Attendance: 20%
Note: The weekly topics and schedule may be adjusted depending on the pace of the class.

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	Yaser S. Abu-MostMalik Magdon-Ismail, and Hsuan-Tien Lin	Publisher		Textbook	Learning from data	Issued year	
(2)	Author	Zhi-Hua Zhou	Publisher		Textbook	Machine Learning	Issued year	
(3)	Author	Simon J. D. Prince	Publisher		Textbook	Understanding Deep Learning	Issued year	
(4)	Author	François	Publisher		Textbook	Deep learning with python	Issued year	

		Chollet						
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

Main Textbook: This course does not follow one specific textbook. Instead, lecture content will be synthesized from multiple sources, including textbooks, research articles, and lecture slides curated by the instructor.

[6] Weekly lesson plans

First week	Orientation
Second week	Model Evaluation
Third week	Regression I
Fourth week	Regression II
Fifth week	Decision Trees & Ensemble Methods
Sixth week	Support Vector Machines
Seventh week	Dimensionality Reduction & Visualization
Eighth week	Midterm Exam
Ninth week	Neural Networks (NN)
Tenth week	History of AI
Eleventh week	CNN & GCN
Twelfth week	RNN
Thirteenth week	Attention & Transformers
Fourteenth week	Unsupervised Learnig
Fifteenth week	Final Exam
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Research & Writing Skills for Articles	Course Number	1003198001
Major / School Year	Dept. of Biomedical & Robotics Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	/ 김우용	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-529:금(3)(4)(5)]
Office hours			

[1] Outline / Purpose

This course is designed for master's and doctoral students and focuses on the methodology and practical guidance for writing graduate-level theses and dissertations.

[2] Course Learning Outcomes

Upon completion of this course, students will be able to:
- Clearly and logically describe the necessity of a research problem.
- Propose research hypotheses and provide supporting theoretical foundations.
- Present research contents in a structured and theoretically sound manner.
- Design and analyze experiments required for academic research.
- Compile these elements into a complete master's thesis or doctoral dissertation.

[3] Class Delivery Method

This course is conducted through weekly discussions between students and the instructor on pre-assigned topics.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
0 %	20 %	80 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Orientation
Second week	Necessity of the Research Problem
Third week	Necessity of the Research Problem
Fourth week	Research Hypotheses
Fifth week	Research Hypotheses
Sixth week	Research Contents
Seventh week	Research Contents
Eighth week	Research Contents
Ninth week	Research Contents
Tenth week	Experimental planning
Eleventh week	Experimental results analysis
Twelfth week	Experimental results analysis
Thirteenth week	Thesis writing
Fourteenth week	Thesis writing
Fifteenth week	Thesis writing
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Mechanics and Control of Robots	Course Number	1001930001
Major / School Year	Dept. of Biomedical & Robotics Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	/ 김우용	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[09-224:수(4-5A),목(5B-6)]
Office hours			

[1] Outline / Purpose

This course focuses on the kinematic and dynamic analysis of serial robotic manipulators and on the control methodologies required to achieve accurate and stable motion control.
Students will study mathematical modeling techniques for robotic systems, including forward and inverse kinematics, velocity and acceleration analysis, and dynamic modeling based on classical mechanics.
Building upon these models, the course introduces fundamental and advanced control strategies that enable precise trajectory tracking and robust manipulation performance in serial robot arms.
Through this course, students are expected to develop a solid theoretical foundation that bridges robotic system modeling and control design, which is essential for advanced robotics research and industrial applications.

[2] Course Learning Outcomes

Upon successful completion of this course, students will be able to:
Perform kinematic analysis of serial robotic manipulators, including forward and inverse kinematics, and analyze position, velocity, and workspace characteristics.
Conduct dynamic analysis of serial robotic manipulators by deriving equations of motion using appropriate modeling frameworks and interpreting their physical implications.
Design and analyze control systems for serial robotic manipulators, including feedback controllers for motion and trajectory control, based on the derived kinematic and dynamic models.

[3] Class Delivery Method

The course will be delivered primarily through lecture-based instruction using slide materials, with systematic explanations of theoretical concepts, mathematical derivations, and illustrative examples.
Emphasis will be placed on developing analytical skills necessary to model and control robotic manipulators, with clear connections between theoretical formulations and practical robotic systems.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Midterm Exam: 30 %
Final Project: 50 %
Attendance: 20 %

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
30 %	20 %	50 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	John Craig	Publisher	Pearson	Textbook	Introduction to Robotics Mechanics and Control, 4th Ed.	Issued year	
(2)	Author	Mark W. Spong	Publisher	WILEY	Textbook	Robot Modeling and Control, 2nd Ed.	Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction and Course Overview
Second week	Coordinate Transformation
Third week	Forward/Inverse Kinematics
Fourth week	Forward/Inverse Kinematics
Fifth week	Velocity Analysis
Sixth week	Velocity Analysis
Seventh week	Robot Dynamics
Eighth week	Robot Dynamics
Ninth week	Robot Dynamics
Tenth week	Midterm
Eleventh week	Robot Control
Twelfth week	Robot Control
Thirteenth week	Robot Control
Fourteenth week	Robot Control
Fifteenth week	Robot Control
Sixteenth week	Project Presentation

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Lumped parameter system	Course Number	1003154001
Major / School Year	Dept. of Biomedical & Robotics Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	/ 윤종윤	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[09-224:화(2)(3)(4)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Semiconductor Engineering	Course Number	320621001
Major / School Year	Dept. of Electrical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Electrical Engineering /	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-112:화(7)(8)(9)]
Office hours			

[1] Outline / Purpose

This course develops a deep understanding of the physical principles governing electronic devices made from solid materials, primarily semiconductors.
It focuses on:
Charge carrier physics
Junction electrostatics
Carrier transport
Device modeling

[2] Course Learning Outcomes

Students will understand semiconductor band theory, carrier statistics, transport mechanisms, and generation–recombination processes that govern charge behavior in solid materials. They will analyze the operation of p–n junctions, metal–semiconductor contacts, diodes, transistors, and optoelectronic devices, and relate material properties to electronic device performance.

[3] Class Delivery Method

Blackboard+ Slides

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
50 %	0 %	50 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
50 %	0 %	50 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Ben G. Streetman; Sanjay Kumar Banerjee	Publisher	PEARSON	Textbook	Solid State Electronic Devices: Global Edition	Issued year	2016
(2)	Author	Robert F. Pierret	Publisher	Addison Wesley	Textbook	Semiconductor Device Fundamentals	Issued year	1996
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	Donald A. Neamen	Publisher	McGraw-Hill higher education	Textbook	Semiconductor Physics and Devices: Basic Principles; Fouth Edition	Issued year	
(2)	Author	Yaduvir Singh	Publisher	IK International Pvt.Ltd.	Textbook	Semiconductor Devices	Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	1) Introduction to the class 2) CRYSTAL PROPERTIES AND GROWTH OF SEMICONDUCTORS
Second week	1) ATOMS AND ELECTRONS
Third week	2) ENERGY BANDS AND CHARGE CARRIERS IN SEMICONDUCTORS
Fourth week	EXCESS CARRIERS IN SEMICONDUCTORS
Fifth week	JUNCTIONS
Sixth week	FIELD-EFFECT TRANSISTORS
Seventh week	BIPOLAR JUNCTION TRANSISTORS
Eighth week	중간고사
Ninth week	BIPOLAR JUNCTION TRANSISTORS
Tenth week	OPTOELECTRONIC DEVICES Photodiodes & Light emitting diodes
Eleventh week	OPTOELECTRONIC DEVICES Semiconductor Lasers
Twelfth week	INTEGRATED CIRCUITS
Thirteenth week	HIGH-FREQUENCY AND HIGH-POWER DEVICES I Tunnel diode IMPATT Diode
Fourteenth week	HIGH-FREQUENCY AND HIGH-POWER DEVICES II Gunn Diode p-n-p-n Diode
Fifteenth week	기말고사
Sixteenth week	보강주간

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Smart Grid Seminar	Course Number	1002620001
Major / School Year	Dept. of Electrical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Electrical Engineering / 김학만	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-117:화(0f1)(0f2)(0f3)]
Office hours			

[1] Outline / Purpose

The purpose is to acquire a fundamental understanding and in-depth knowledge of smart grids through seminars

[2] Course Learning Outcomes

Participants will acquire knowledge of the fundamentals, key technologies, and major issues related to Smart Grids, and share relevant information through seminars

[3] Class Delivery Method

Offline and Online Classes

Updates should be presented in English during the seminar sessions every two weeks, with each presentation lasting 20 minutes.
If participation on the day of the class is not possible, a 20-minute video must be prepared and submitted to the professor in advance.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	80 %	0 %	0 %	0 %	0 %	20 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	80 %	0 %	20 %	0 %	0 %	0 %

[4] Grading Policies

Presentation: 60%
Attendance: 20%
Term Projects: 20:%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	Week 2 seminar
Third week	Week 3 seminar
Fourth week	Week 4 seminar
Fifth week	Week 5 seminar
Sixth week	Week 6 seminar
Seventh week	Week 7 seminar
Eighth week	Midterm project
Ninth week	Week 9 seminar
Tenth week	Week 10 seminar
Eleventh week	Week 11 seminar
Twelfth week	Week 12 seminar
Thirteenth week	Week 13 seminar
Fourteenth week	Week 14 seminar
Fifteenth week	Final project
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Seminar for Emerging Energies	Course Number	1001907001
Major / School Year	Dept. of Electrical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Electrical Engineering / 우정민	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-117:화(2)(3)(4)]
Office hours			

[1] Outline / Purpose

Study for the emerging energy schemes and technologies.
- Understanding of current streams

[2] Course Learning Outcomes

This seminar course will focus on novel materials that have attracted the focus of the scientific community in the vast field of energy materials. The applications of such materials will be having a broad view in the area of solar cell,wind farm, grounding system, lightning, hydrogen storage and fuel cells.

[3] Class Delivery Method

- Journal study and presentation
- Data acqusition and analyses

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
40 %	30 %	30 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
50 %	0 %	0 %	0 %	0 %	0 %	0 %	50 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	To be assigned (Research papers)	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction of energy and devices
Second week	Current stream-1: Solar cell
Third week	Current stream-2: Solar cell
Fourth week	Current stream-3: Semiconductor Fabrication Process
Fifth week	Current stream-3: Wind Farm
Sixth week	Grounding System
Seventh week	Discussion and short presentation for researches - 1
Eighth week	Discussion and short presentation for researches - 2
Ninth week	lightning and discharge
Tenth week	Emerging technology-1
Eleventh week	Emerging technology-2
Twelfth week	Emerging technology-3
Thirteenth week	Sensor applicaiton-1
Fourteenth week	Sensor applicaiton-2
Fifteenth week	Discussion
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Semiconductor materials for electrical engineering	Course Number	1002612001
Major / School Year	Dept. of Electrical Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Electrical Engineering / 김준동	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-117:월(1)(2)(3)]
Office hours			

[1] Outline / Purpose

In almost every case, the work of engineers finds application through materials. For example, developments in the understanding of the structure of materials and the engineering of their properties directly led to solid state devices, Moore's Law scaling of transistors, and the resulting revolutionary growth in all aspects of electrical engineering.

[2] Course Learning Outcomes

The future of Electrical Engineering itself is squarely dependent upon the ability to understand, exploit and apply ever-new electronic, photonic and magnetic properties of materials and with the advent of "nanotechnology" the richness of new properties and the impact of materials on electrical engineers has, arguably, never been more significant.
With a greater understanding of materials, electrical engineers are already leaders in the most pressing societal issues, from renewable energy and environmental sustainability to ultra-portable communication and biocompatible medical devices. The primary purpose of this course is to provide an introduction to the interrelation of the structure, properties and processing of materials, with an emphasis on the first two. While the course covers a broad range of materials and properties, special treatment is given to those of particular interest for electrical engineers.

[3] Class Delivery Method

Lecture+Discussion+Presentation (Lecture) + Presentation (Report: Students)

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Rober Pierret	Publisher		Textbook	Semiconductor device fundamentals	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Course introduction; materials in electrical engineering
Second week	Atomic structure, bonding, single/poly-crystals, amorphous
Third week	Crystal structure; atomic density and packing
Fourth week	Crystallographic, directions, density, planes
Fifth week	Crystal planes, examples of semiconductor crystals; defects
Sixth week	Metal-semiconductor properties
Seventh week	Phase diagrams; binary systems; lever rule
Eighth week	Introduction to quantum mechanics; wave-particle duality;
Ninth week	Effective mass, intrinsic and extrinsic semiconductors
Tenth week	Midterm exam
Eleventh week	Electrons and holes, density of states, Fermi level, occupancy Probabilities
Twelfth week	Semiconductors
Thirteenth week	Metal and Schottky devices
Fourteenth week	Photoelectric devices
Fifteenth week	Nanotechnology and Energy devices
Sixteenth week	Final Exam

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Thesis Research(Electronics Engineering)	Course Number	1002237001
Major / School Year	Dept. of Electronics Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	/ 조환호	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-413:월(7-8A)(8B-9)]
Office hours			

[1] Outline / Purpose

This course guides students through the systematic planning, execution, and documentation of an independent research project in electronics engineering culminating in a thesis.

[2] Course Learning Outcomes

Students will be able to formulate a research problem, conduct a technical literature review, design and implement a research methodology, and present research outcomes in written and oral forms.

[3] Class Delivery Method

Individual research under faculty supervision through regular meetings, progress presentations, and written submissions.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Literature review and research topic refinement
Second week	Literature review and research topic refinement
Third week	Literature review and research topic refinement
Fourth week	Study design and methodology planning
Fifth week	Study design and methodology planning
Sixth week	Pilot study and feasibility verification
Seventh week	Pilot study and feasibility verification
Eighth week	Midterm evaluation (research proposal presentation)
Ninth week	Main research implementation and data collection
Tenth week	Main research implementation and data collection
Eleventh week	Main research implementation and data collection
Twelfth week	Data analysis, validation, and result interpretation
Thirteenth week	Data analysis, validation, and result interpretation
Fourteenth week	Thesis writing and presentation preparation
Fifteenth week	Final evaluation (thesis presentation and report submission)
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Microwave Applications	Course Number	1001354001
Major / School Year	Dept. of Electronics Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	/ 윤영노	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-413:화(야1-2A)(야2B-3)]
Office hours			

[1] Outline / Purpose

본 과목은 전자기이론, 전송선로, S-parameter, Smith Chart, 임피던스 매칭, 노이즈/비선형성, 안테나, 무선통신, 레이더 등의 마이크로파공학의 핵심 개념을 학습한다.

마이크로파 수동회로를 S-parameter 기반으로 해석하고, RF 시스템 관점에서 잡음지수, 선형성 등의 의미를 이해하며, 안테나 및 안테나 측정에 대해 학습하고 무선통신과 레이더 응용분야로 실제 RF 시스템 설계, 해석에 필요한 문제 해결 역량을 기르는 것을 목표로 한다.

[2] Course Learning Outcomes

1. 전자기 이론과 전송선 이론을 바탕으로 마이크로파 회로의 물리적 의미를 이해

2. S-parameter, Smith Chart, 임피던스 매칭 방법을 습득

3. RF 시스템의 잡음, 비선형성을 이해하고 성능을 계산하는 능력 습득

4. 안테나, 무선통신 및 레이다 응용 관점에서 시스템 레벨의 성능 지표와 설계 흐름 이해

[3] Class Delivery Method

각 주제에 대한 강의 위주로 진행되며 문제 풀이에 대한 참여를 통해 해결능력을 배양한다.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	Electromagnetic Theory
Third week	Transmission Line
Fourth week	Waveguide
Fifth week	Smith Chart
Sixth week	Microwave Network Analysis
Seventh week	Impedance Matching and Tuning
Eighth week	Midterm
Ninth week	Basic RF Systems
Tenth week	Wireless Communication
Eleventh week	Noise and Nonlinear Distortion
Twelfth week	Antenna
Thirteenth week	Antenna Measurement
Fourteenth week	Radar
Fifteenth week	Final Exam
Sixteenth week	보강 주강

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Understanding artificial intelligence	Course Number	1003102001
Major / School Year	Dept. of Electronics Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	/ 조환호	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-325:수(5)(6)(7)]
Office hours			

[1] Outline / Purpose

This course aims to provide a foundational understanding of artificial intelligence (AI) model design, including core concepts, terminology, and theory.

[2] Course Learning Outcomes

Students will develop an intuition for AI development that can be applied in research contexts.

[3] Class Delivery Method

Topics covered include supervised and unsupervised learning, data collection and preprocessing, and optimization methods. Students will also explore fundamental classifiers and regression models. Additionally, the course covers the basic structure and training mechanisms of neural networks and convolutional neural networks, which form the basis of deep learning.
Theory (75 min) + Lab session (75min)

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
60 %	0 %	0 %	40 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
20 %	0 %	0 %	0 %	0 %	0 %	80 %	0 %

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook	Lecture note (CS231n - Stanford Univ)	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Course introduction AI field overview
Second week	Environment setup Python overview
Third week	Image classification - Nearest Neighbor Classifier - k-Nearest Neighbor Classifier - Validation sets for Hyperparameter tuning
Fourth week	Linear classifiers - Parameterized mapping from images to label scores - Interpreting a linear classifier - Loss function Multiclass Support Vector Machine loss - Practical Considerations
Fifth week	Linear classifiers - Softmax classifier - SVM vs. Softmax
Sixth week	Optimization - Strategy #1: Random Search - Strategy #2: Random Local Search - Strategy #3: Following the gradient Computing the gradient Gradient descent
Seventh week	Backpropagation - Simple expressions, interpreting the gradient - Compound expressions, chain rule, backpropagation - Intuitive understanding of backpropagation
Eighth week	Midterm
Ninth week	Neural Networks Part 1: Setting up the Architecture - Modeling one neuron - Biological motivation and connections - Single neuron as a linear classifier - Commonly used activation functions
Tenth week	Neural Networks Part 1: Setting up the Architecture - Neural Network architectures - Layer-wise organization - Example feed-forward computation - Representational power - Setting number of layers and their sizes
Eleventh week	Neural Networks Part 2: Setting up the Data and the Loss - Setting up the data and the model Data Preprocessing Weight Initialization Batch Normalization Regularization (L2/L1/Maxnorm/Dropout) -Loss functions
Twelfth week	Neural Networks Part 3: Learning and Evaluation - Loss function - Train/val accuracy - Weights:Updates ratio - Activation/Gradient distributions per layer - Visualization
Thirteenth week	Neural Networks Part 3: Learning and Evaluation - Parameter updates - First-order (SGD), momentum, Nesterov momentum - Annealing the learning rate - Second-order methods - Per-parameter adaptive learning rates (Adagrad, RMSProp)
Fourteenth week	Convolutional Neural Networks: Architectures, Convolution / Pooling Layers
Fifteenth week	Final exam
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
	assignment		submission date	

The second assignment	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Optoelectronics	Course Number	LDO034001
Major / School Year	Dept. of Materials Science and Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Materials Science and Engineering / 김다빈	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number	8444	A weekday / class / lecture room	[08-385:화(1)(2)(3)]
Office hours	Tues 12:00-15:00		

[1] Outline / Purpose

This course is intended to help graduate students of materials science and engineering understand the concepts of basic optoelectronics, in which the following topics are covered.

[2] Course Learning Outcomes

Understanding of theories and models for optoelectronic materials

[3] Class Delivery Method

PPT slides and hand writing

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Exams (mid-term 35% and final 35%) - 70%
Attendance - 20%
Assignments - 10%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
70 %	20 %	10 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	Handout	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Course overview
Second week	Fundamental electromagnetic theory
Third week	Maxwell's equations and electromagnetic wave
Fourth week	Wave and particle nature of lights
Fifth week	Semiconductor concepts and energy bands
Sixth week	pn junctions
Seventh week	Light emitting diodes (LED)
Eighth week	Mid-term exam
Ninth week	Spontaneous and stimulated emissions
Tenth week	Principles of lasers and laser diodes 1
Eleventh week	Principles of lasers and laser diodes 2
Twelfth week	Quantum devices
Thirteenth week	Photovoltaic devices
Fourteenth week	Research presentation
Fifteenth week	Final exam
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Thin Film Process	Course Number	LDO015001
Major / School Year	Dept. of Materials Science and Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Materials Science and Engineering / Patil Teja Madhukar	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-385:금(5)(6)(7)]
Office hours			

[1] Outline / Purpose

This course introduces core concepts of Solid State Physics that are essential for understanding modern functional materials and thin film processing. Starting from crystal structure and lattice dynamics, the course develops electronic band theory, transport, and functional properties, with emphasis on materials used in microelectronics, energy devices, and oxide thin films.

[2] Course Learning Outcomes

Students will acquire a fundamental understanding of the physics of solids and the atomic scale processes that govern their structural, electronic, thermal, and magnetic properties.

[3] Class Delivery Method

Class delivery: Lecture with board work and slides, in-class problem solving, and discussions
Method of teaching:

- Lecture 70 %, Discussion 20 %, Seminar / student presentations 10 %

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

- Exam 60 %
- Attendance 20 %
- Assignment / homework 20 %

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	N. W. Ashcroft and N. D. Mermin	Publisher		Textbook	Solid State Physics	Issued year	
(2)	Author	C. Kittel	Publisher		Textbook	Introduction to Solid State Physics	Issued year	
(3)	Author	Cullity, B. D	Publisher		Textbook	Elements of X-Ray Diffraction	Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction to Solid State Physics and Crystal Structure Introduction to solid state physics, Classification of solids, Concept of crystal lattice and basis, Unit cell and lattice parameters. Primitive and non-primitive unit cells, Crystal systems, and Bravais lattices, Coordination number, and atomic packing fraction.
Second week	Crystal Planes, Miller Indices, and Crystal Structures Crystal directions and crystal planes, Miller indices for planes and directions, intercept method, Interplanar spacing, Important crystal structures used in metals, semiconductors (NaCl, Diamond, Hexagonal Close-Packed (HCP) Structure, Zinc Blende (ZnS) Structure, Cesium Chloride Structure (CsCl))
Third week	X-Ray Diffraction from Crystals X-ray diffraction from crystals, diffraction condition, and Bragg's law, X-ray diffraction methods: Laue method for X-ray diffraction, Rotating crystal method, Powder Method in X Ray diffraction.
Fourth week	Reciprocal Lattice Reciprocal lattice, Relationship between real lattice vectors and reciprocal lattice vectors, reciprocal lattice for simple cubic, BCC and FCC lattices, Brillouin zones: definition, construction, and physical significance
Fifth week	Lattice Vibrations, and Phonons Lattice vibrations in one dimension; monatomic and diatomic chains, dispersion relations, acoustic and optical branches, Phonon density of states, Heat capacity, Einstein model, Optical vs acoustic mode energy distribution at different temperatures.
Sixth week	Thermal Properties, and Introduction to Free Electron Theory Debye model of specific heat, Phonon contribution to heat capacity, Free electron model of metals, Sommerfeld model (quantum free electron model), Electrical conductivity: Electron scattering and relaxation time, relationship between conductivity, charge, and electron motion
Seventh week	XRD and TEM interpretation Hands on interpretation: XRD peak shift and lattice parameter, strain and broadening (concept), d spacing calculations, indexing idea, TEM basics (SAED patterns), linking SAED d spacings to phases.
Eighth week	Midterm exam
Ninth week	Introduction to energy bands in solids, Periodic potential and electron waves in a crystal, Kronig-Penney model, Energy bands from Kronig-Penney model, Effective mass concept.
Tenth week	Semiconductors Semiconductors, Intrinsic and extrinsic semiconductors, carrier concentration, Fermi level position, transport, mobility, Hall effect, Hall voltage and Hall coefficient. Derivation of Hall coefficient for n-type and p-type semiconductors, Examples from Si, GaAs, and oxide semiconductors; link to device structures.
Eleventh week	Magnetic Properties of Solids Origin of magnetism in solids, Magnetic moment due to orbital and spin motion of electrons, Bohr magneton, Magnetic field vectors B, H, and magnetization M and their relations, Magnetic susceptibility and permeability, Classification of magnetic materials: diamagnetic, paramagnetic, ferromagnetic, antiferromagnetic, and ferrimagnetic materials.
Twelfth week	Dielectric Properties of Solids Dielectric and optical properties. Polarization mechanisms, dielectric constant, ferroelectrics, optical absorption, excitons, plasmons. Applications of dielectric materials in capacitors and electronic devices.
Thirteenth week	Superconductivity. Introduction to superconductivity, Meissner effect, Critical temperature, critical magnetic field, and critical current, London equations, Type I vs Type II superconductors, Brief introduction to BCS concept, Applications of superconductors in magnets, sensors, and electronics.
Fourteenth week	Rietveld Refinement Peak fitting, background, peak shape, instrument broadening, crystallite size/strain (concept level), Rietveld workflow, goodness of fit, typical pitfalls and reporting.
Fifteenth week	Final exam
Sixteenth week	

[7] Assignments

The first assignment	assignment	Problem set 1: Crystal structure and reciprocal space	submission date	
	purpose	Practice description of three dimensional crystal structures, reciprocal lattice construction, and basic diffraction conditions for materials		
	procedure & notice	Students solve a set of analytical problems on Bravais lattices, Miller indices, reciprocal vectors, and simple structure factor calculations. One problem includes indexing of an XRD pattern for a cubic material using provided data. Solutions must show all steps and brief physical interpretation.		
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Electrochemistry	Course Number	1002342001
Major / School Year	Dept. of Materials Science and Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Materials Science and Engineering / 명재하	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-385:목(7)(8)(9)]
Office hours			

[1] Outline / Purpose

- Prerequisite: Materials thermodynamics and fundamental electrochemistry
- Encourage self-study and self-research
- Deep-learning Electrochemistry in your research area or your life.

[2] Course Learning Outcomes

- Understanding of electrochemical reactions on view of thermodynamics

[3] Class Delivery Method

- All in English (2 student presentations, 1 report, Exams)
- Presentation in English (20 min-talk)
- One-page report in English

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

- Student presentation 40 %
- Exams 40%
- Attandance 20%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Jae-ha Myung	Publisher		Textbook	lecture slides	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Lecture overview & introduction 1
Second week	-Thermodynamics? -Kinetics? -Electrochmistry?
Third week	-Basic Terminologies
Fourth week	- Electrochemical thermodynamics 1
Fifth week	- Electrochemical thermodynamics 2
Sixth week	- Electrochemical thermodynamics 3
Seventh week	- Student presentation 1
Eighth week	- mid-term
Ninth week	- Electrode/Electrolyte mechanism 1
Tenth week	- Electrode/Electrolyte mechanism 2
Eleventh week	- Fuel cell VS Battery
Twelfth week	- ex-situ analysis methods
Thirteenth week	- in-situ analysis methods
Fourteenth week	- Student presentation 2
Fifteenth week	-final
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Construction Safety	Course Number	400520001
Major / School Year	Dept. of Safety Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Safety Engineering / 오태근	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-534:수(야1)(야2)(야3)]
Office hours			

[1] Outline / Purpose

The goal of this course presents how to establish the prevention and countermeasures by the analysis of safety issues in the construction field.

[2] Course Learning Outcomes

The overall comprehension of the construction safety, corrective measures, the analysis of structure stability

[3] Class Delivery Method

This course focuses on the lecture in class with the intermittent field application.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
50 %	%	50 %	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	70 %	%	30 %	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Song Kisang, Lee song,	Publisher	kimoondang	Textbook	the construction safety engineering	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	the causes of construction accidents the occupational safety and health expenses
Second week	construction material parent metal, stone, synthetic polymer
Third week	basic properties of soil the permeability, compaction, strength of soil
Fourth week	the consolidation, stability of soil the foundation
Fifth week	soft ground
Sixth week	excavation equipment earth moving machinery
Seventh week	mid-term exam
Eighth week	dredging machinery conveying machinery
Ninth week	protective kit soil supports (timbering)
Tenth week	reinforcement work concreting work
Eleventh week	steel frame work crane
Twelfth week	excavation work landslide
Thirteenth week	prevention work electric shock accident
Fourteenth week	demolition(dismantling) work high-place work
Fifteenth week	harbor construction work tunnel work & final exam
Sixteenth week	

[7] Assignments

The first assignment	assignment	solving the problems in each chapter	submission date	
	purpose			
	procedure & notice	Each homework will be assigned in class once per week, on average. Selected problems will be graded and full solutions provided the following week		
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Combustion Engineering	Course Number	1001588001
Major / School Year	Dept. of Safety Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	Dept. of Safety Engineering / 이민철	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-534:월(야1)(야2)(야3)]
Office hours			

[1] Outline / Purpose

This lecture is aiming to understand fundamental and advanced theory on combustion which is required for the safety engineers.
This lecture provides also profound knowledge on combustion including ignition, thermochemistry, chemical kinetics, combustion emissions, laminar/turbulent flames and thermal engines.

[2] Course Learning Outcomes

To understand the concept of chemical reactions, basic theory of combustion and working principle of combustion application systems such as a gas turbine for power generation.
To build up the ability for calculating the adiabatic flame temperature, equilibrium equation and using computer program (TPEquil etc.) as well as analytical derivation.

[3] Class Delivery Method

Most lecture will be given in the class room by utilizing PPT files which will be uploaded in e-learning website.
To increase understanding and to enhance interest, educational movies and calculation programs will also be utilized.

Pre-requisite : Thermodynamics (Basic Thermodynamics will be reviewed in the former part of this lecture. Thereby, it is recommended, not mandatory)

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
70 %	20 %	%	%	%	%	%	10 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
30 %	%	%	%	%	%	70 %	%

[4] Grading Policies

Exam(Term Project) : 60%
Attendance : 20%
Assignment : 20%
Other score rating directions regarding early leaving, lateness and etc. will be followed by rules and codes of University.

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Stephen R. Turns	Publisher	McGraw-Hill Korea,Inc.	Textbook	An Introduction to Combustion, 3rd Edition	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Lecture Outline, Introduction to combustion engineering
Second week	World Energy Usage and Global Warming
Third week	Combustion Definition and Applications
Fourth week	Invited Lecture – Combustion Application (1)
Fifth week	Thermochemistry (1)
Sixth week	Thermochemistry (2)
Seventh week	Chemical Equilibrium
Eighth week	Chemical Kinetics (1)
Ninth week	Chemical Kinetics (1)
Tenth week	Emissions (NOx, CO, SOx, and PM) – Production Mechanism, Regulation and Reduction
Eleventh week	Invited Lecture – Combustion Application (2)
Twelfth week	Laminar Premixed Flames
Thirteenth week	Combustion Instability
Fourteenth week	Final Term Project and Discussion (1)
Fifteenth week	Final Term Project and Discussion (2)
Sixteenth week	Lecture Feedback and Evaluation

[7] Assignments

The first assignment	assignment	An Introduction to Combustion, Chap. 2~7 Excercise	submission date	
	purpose	To understand fundamental combustion theory; Build up the ability to calculate the adiabatic flame temperature and to obtain equilibrium equations.		
	procedure & notice	Submit the solution of the given problems.		
	references	An Introduction to Combustion, 3rd Edition		
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Process Control Technology		Course Number	1002982001
Major / School Year	Dept. of Energy and Chemical Engineering / 전학년		completion division /Grade evaluation	/
Department/Professor	Dept. of Energy and Chemical Engineering / 김종우		Grades/Lecture/ Practice	3 / 3 / 0
Phone Number			A weekday / class / lecture room	[08-535:금(1)(2)(3)]
Office hours				

[1] Outline / Purpose

본 수업에서는 화학공정 제어의 핵심 기법인 모델예측제어기의 이론, 계산법 및 설계에 대해 다룬다. 최적화 이론, 최적 제어, 선형 시스템에 대해 학습하고 모델예측제어에 대해 학습한다.

[2] Course Learning Outcomes

- 최적화 이론 및 기법에 대한 이해
- 선형시스템의 최적 제어에 대한 이해
- 모델예측제어의 이론 및 설계법에 대한 이해

[3] Class Delivery Method

강의 형식으로 진행

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	F. Borrelli, A. Bemporad, M. Morari	Publisher	Cambridge University Press	Textbook	Predictive Control for Linear and Hybrid Systems	Issued year	2017
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	James B. Rawlings, David Q. Mayne, Moritz M. Diehl	Publisher	Nob Hill Publishing	Textbook	Model Predictive Control: Theory, Computation, and Design, 2nd Edition	Issued year	2017
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Ch. 1 Optimization Basics
Second week	Ch. 1 Optimization Basics
Third week	Ch. 2 Linear and Quadratic Optimization
Fourth week	Ch. 2 Linear and Quadratic Optimization
Fifth week	Ch. 3 Numerical Methods for Optimization
Sixth week	Ch. 3 Numerical Methods for Optimization
Seventh week	Ch. 5 Multiparametric Programming
Eighth week	Ch. 5 Multiparametric Programming
Ninth week	Ch 7. Optimal Control
Tenth week	Ch 8. Linear Quadratic Optimal Control
Eleventh week	Ch 11. Constrained Optimal Control
Twelfth week	Ch 11. Constrained Optimal Control
Thirteenth week	Ch 12. Receding Horizon Control
Fourteenth week	Ch 12. Receding Horizon Control
Fifteenth week	Ch 14. Online Control Computation
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Analysis and Design of Bridges	Course Number	410606001
Major / School Year	Dept. of Civil & Environmental Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	School of Urban and Environmental Engineering / 심형보	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-434:월(8)(9)(야1)]
Office hours			

[1] Outline / Purpose

- To learn about the topics of advanced structural analysis and mechanics
- Various topics to be covered in class

[2] Course Learning Outcomes

- To be able to analyze the structures with advances techniques
- To understand the stress and strain, failure theories, and flexure and torsion theorioes, etc.

[3] Class Delivery Method

Mostly blackboard to be used for class

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	To be announced in class	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction
Second week	stress and strain (1)
Third week	stress and strain (2)
Fourth week	structural mechanics of beams (1)
Fifth week	structural mechanics of beams (2)
Sixth week	flexure ans torsion (1)
Seventh week	flexure ans torsion (2)
Eighth week	Midterm exam
Ninth week	material models, failure theories (1)
Tenth week	failure theories (2)
Eleventh week	yield criteria (1)
Twelfth week	yield criteria (2)
Thirteenth week	to be announced
Fourteenth week	to be announced
Fifteenth week	to be announced
Sixteenth week	Final exam

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Hydraulic Engineering	Course Number	411754001
Major / School Year	Dept. of Civil & Environmental Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	School of Urban and Environmental Engineering / 변성준	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-434:목(야1)(야2)(야3)]
Office hours	09:00~18:00		

[1] Outline / Purpose

To understand the general concepts of hydraulics, hydrology, water resources engineering and water supply and sewerage engineering, and to combine them to promote understanding of water engineering to reflect in real life.
1. Understand the general academic background and applications of water engineering.
2. Discuss the unsteady flow of streams, sewers.
3. Understand the numerical methods for water engineering and the different types of differential methods, and apply them to actual structures and streams.

[2] Course Learning Outcomes

To increase understanding of utilization in real life through basic concepts and applications of manual engineering, and to maximize practical use by analyzing water-related structures based on computers

[3] Class Delivery Method

The class begins with a description of the basic concept and also discusses computer-based practices and practical application examples

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
50 %	20 %	10 %	20 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
50 %	0 %	0 %	0 %	0 %	0 %	50 %	0 %

[4] Grading Policies

Attendance: 20%, Homework and assignment: 20%, Team Presentation: 10%, Midterm exam: 20%, Final exam: 30%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	전병호, 최계운, 정상만, 오경두 등	Publisher	양서각	Textbook	수리학	Issued year	2013
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction and Orientation Definition of Water Engineering
Second week	Principal Equations Introduction and derivation
Third week	Momentum and unsteady flow Numerical Methods(1)
Fourth week	Numerical Methods(2) (Assignment #1 with computer)
Fifth week	Hydroinformatics applications
Sixth week	Flood routing and GIS analysis with open source GIS tools
Seventh week	Mid-term exam (Open book)
Eighth week	Hydroinformatics applications (with GIS)
Ninth week	Application to the real flow (Assignment #2 with computer)
Tenth week	hydraulic structures (1)
Eleventh week	Hydraulic structures (2)
Twelfth week	Computer based analysis
Thirteenth week	Hydraulic structures (3) – application
Fourteenth week	Design of hydraulic engineering (Assignment #3)
Fifteenth week	Final exam (Open book)
Sixteenth week	

[7] Assignments

The first assignment	assignment	Non-uniform flow by computer softwares	submission date	
	purpose	Understanding of non-uniform flow		
	procedure & notice			
	references			
The second assignment	assignment	Hydroinformatics application	submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment	Hydraulic design	submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Rock Mechanics	Course Number	1000230001
Major / School Year	Dept. of Civil & Environmental Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	School of Urban and Environmental Engineering / 박정희	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-220:화(야1)(야2)(야3)]
Office hours	Any time after e-mail appoinment		

[1] Outline / Purpose

This course is designed to introduce the fundamentals of rock mechanics for civil engineers for the application in tunnel, underground, and rock slopes.

[2] Course Learning Outcomes

Students are able to attain ability to understand the basic concept of rock mechanics used in underground design.

[3] Class Delivery Method

Lecture: 60%
Hand-on practice in class: 30%
Relevant movie: 10%

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

[4] Grading Policies

Two exams will contribute equally to 30% of the final grade. These exams will be closed book and notes.
One group project will be assigned.

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	Class note prepared by instructor	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher	새론출판사	Textbook	암반역학의 원리	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Orientation and Introduction
Second week	Applied Geology
Third week	Initial stresses in rock
Fourth week	Strength and failure criteria (1)
Fifth week	Strength and failure criteria (2)
Sixth week	Discontinuity (1)
Seventh week	Discontinuity (2)
Eighth week	Mid-term exam (Ch. 1-5)
Ninth week	Deformation
Tenth week	Rock mass classification (1)
Eleventh week	Rock mass classification (2)
Twelfth week	Rock slope
Thirteenth week	Tunnel and underground excavation (1)
Fourteenth week	Tunnel and underground excavation (2)
Fifteenth week	Final exam (Ch. 6-9)
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Advanced Theory of Sedimentation	Course Number	411757001
Major / School Year	Dept. of Civil & Environmental Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	School of Urban and Environmental Engineering /	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[08-337:화(야1)(야2)(야3)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Theory on Reinforced Concrete Structures	Course Number	410604001
Major / School Year	Dept. of Civil & Environmental Engineering / 전학년	completion division /Grade evaluation	/
Department/Professor	School of Urban and Environmental Engineering / 이승정	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number	0328358467	A weekday / class / lecture room	[08-222:수(7)(8)(9)]
Office hours	email appointment at any time		

[1] Outline / Purpose

The primary objective of this course is to understand and design reinforced concrete structures and to help students create a baseline to become competent practical designers. The approach taken reflects the strong belief that the engineer needs to develop a solid understanding of fundamental principles rather than relying upon a large collection of restricted, empirical equations for design. The review of flexural behavior and design concepts and the design of flexural members, columns, and shear walls will be discussed in this course. We also discuss about prestressed concrete members and composite structures such as FRP reinforced concrete members and stee fiber reinforced concrete.

[2] Course Learning Outcomes

1. To understand and familiarize with the recently revised design codes
2. To learn how to design RC members for flexure, shear and torsion
3. To understand the behavior of prestressed concrete member
4. To learn how to design composite structures such as FRP or steel fiber reinforced concrete

[3] Class Delivery Method

Lectures will be given in this class using slides and blackboard.
Exercise problems are also considered in this class and chosen for homework assignment.
Recent articles and papers will be discussed and presented.

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
60 %	20 %	0 %	0 %	0 %	0 %	0 %	20 %

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
10 %	0 %	70 %	0 %	0 %	0 %	0 %	20 %

[4] Grading Policies

1. Assignment: About 3-4 assignments will be assigned during the term.
2. Presentation: About 1-2 presentations will be assigned during the term.

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook	lecture material	Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	J.K. Wight, J.G. Macgregor	Publisher	Pearson	Textbook	Reinforced concrete: mechanics and design (dont have to buy)	Issued year	2016
(2)	Author	Young Soo Yoon	Publisher	CIR	Textbook	Mechanics and Design of Reinforced Concrete [written in Korean]	Issued year	
(3)	Author		Publisher	American Concrete Institute	Textbook	Building Code Requirements for Structural Concrete(ACI 318-19)	Issued year	2019
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Introduction / What else can we do from Concrete? / Future concrete technology
Second week	Design method and strength requirements
Third week	Recent revision of design code update for ACI318 code / history of ACI318 code revision
Fourth week	Design for flexural and axial load
Fifth week	Design for flexural and axial load
Sixth week	Design for shear
Seventh week	Design for shear
Eighth week	Midterm
Ninth week	Design for torsion
Tenth week	Design for torsion
Eleventh week	Prestressed concrete introduction / response of members subjected to axial load
Twelfth week	response of members subjected to axial load and flexure load
Thirteenth week	Design for composite structures: FRP reinforced concrete member
Fourteenth week	Design for composite structures: steel fiber reinforced concrete
Fifteenth week	Fianl exam
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Climate Finance	Course Number	1001654001
Major / School Year	Dept. of International Climate Cooperation / 전학년	completion division /Grade evaluation	/
Department/Professor	School of Urban and Environmental Engineering / 김효선	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[28-418:월(5B-6)(7-8A)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Climate Change and Disaster Management	Course Number	1002726001
Major / School Year	Dept. of International Climate Cooperation / 전학년	completion division /Grade evaluation	/
Department/Professor	/	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[28-418:목(7)(8)(9)]
Office hours			

[1] Outline / Purpose

[2] Course Learning Outcomes

[3] Class Delivery Method

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
%	%	%	%	%	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
%	%	%	%	%	%	%	%

[4] Grading Policies

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
%	%	%

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author		Publisher		Textbook		Issued year	
(2)	Author		Publisher		Textbook		Issued year	
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	
Second week	
Third week	
Fourth week	
Fifth week	
Sixth week	
Seventh week	
Eighth week	
Ninth week	
Tenth week	
Eleventh week	
Twelfth week	
Thirteenth week	
Fourteenth week	
Fifteenth week	
Sixteenth week	

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			

Syllabus

2026 - 1학기

Date : 2026.02.02
Time : PM 4:41

CourseTitle	Introduction to Climate Change Study	Course Number	1001611001
Major / School Year	Dept. of International Climate Cooperation / 전학년	completion division /Grade evaluation	/
Department/Professor	School of Urban and Environmental Engineering / 이희관	Grades/Lecture/ Practice	3 / 3 / 0
Phone Number		A weekday / class / lecture room	[04-104:수(6)(7)(8)]
Office hours			

[1] Outline / Purpose

Unprecedented changes in climate has been observed since last decade, which subsequently effects on earth environment. The temperature of the earth atmosphere increases and it effects on global meteorology, lively hood, etc. It has been found that the major causes of the climate change are the GHGs in the atmosphere and excess use of fossil fuels for energy. For dealing this situation, students need to be aware of climate change pattern, its cause, effects and possible solutions.

[2] Course Learning Outcomes

The major purpose of this lecture is to educate students about the earth climate, trend of climate change, major causes, effects, and recent practices for adapting and mitigating the climate change effects.

[3] Class Delivery Method

Theoretical lecture, relevant seminar, report, project

ⓐ Method of Teaching

Lecture	Discussion	Seminar	Practice	Audiovisual	Material	Field trip	The others
50 %	20 %	10 %	10 %	5 %	%	%	%

ⓑ Using Tools

Blackboard	OHP	Slide	Chart	Video	Audio	Computer	The others
30 %	%	50 %	%	10 %	%	10 %	%

[4] Grading Policies

Exam / quiz 50%
Assignment 15%
Term project 15%
Attendance 20%

ⓐ Percentage of grade evaluation

Exam	Attendance	Assignment
60 %	20 %	20 %

· 출석성적 : 20점 만점 (학칙시행세칙 제56조 제2항) → 일반 과목(3학점) 1시간 결석시 1/3점 감 → 3시간 결석시 1점 감점
· 실제 수업시간수의 1/3 이상 결석한 자 및 부정행위자는 시험 등 성적에 불구 학점인정 불가 (학생시행세칙 제56조 제3항)

[5] Main teaching material & Reference books

[Main teaching material]

(1)	Author	Rob Roggema	Publisher	John Wiley & Sons Ltd	Textbook	Climate Change	Issued year	2003
(2)	Author	Donald Rapp	Publisher	Assessing Climate ChangeSpringer (Praxis Publishing)	Textbook	Assessing Climate Change	Issued year	2008
(3)	Author		Publisher		Textbook		Issued year	

[Reference books]

(1)	Author	Rob Roggema	Publisher	Springer	Textbook	Adaptation to Climate Change: A Spatial Challenge	Issued year	2009
(2)	Author	Editors - A. Sumi. K. Fukushi, A. Hiramatsu	Publisher	Springer	Textbook	Adaptation and Mitigation Strategies for Climate Change	Issued year	2009
(3)	Author		Publisher		Textbook		Issued year	
(4)	Author		Publisher		Textbook		Issued year	
(5)	Author		Publisher		Textbook		Issued year	

[Other books]

[6] Weekly lesson plans

First week	Earth and greenhouse effectsv
Second week	Climate change history and earth response
Third week	Future climate change and projections
Fourth week	Seminar (I)
Fifth week	Anthropogenic influence on climate change
Sixth week	Impact of climate change on earth environment
Seventh week	Impact of climate change on ecological
Eighth week	Mid term exam
Ninth week	Impact of climate change on agriculture
Tenth week	Climate change adaptation practices
Eleventh week	Climate change mitigation technique ? reducing the impacts
Twelfth week	Seminar (II)
Thirteenth week	Clean Development Mechanism (CDM) ? carbon trading
Fourteenth week	Politics, policy and economic of climate change
Fifteenth week	Seminar (III)
Sixteenth week	Final exam

[7] Assignments

The first assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The second assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			
The third assignment	assignment		submission date	
	purpose			
	procedure & notice			
	references			