

Syllabus

Advanced Inorganic Materials Science & Engineering

Course Name	Course type (credit/hours)	전선(3/3)		Course code		
	Target students Division/major/grade	화학공학과/		Opening semester	2017년 2학기	
	Class time and classroom	화6(서334) 화7(서334) 화8(서334)(서334)				
Reference to this course	Related basic courses					
	Recommended concurrent courses					
	Related advanced courses					
Instructor	Name (title/division)	김창구 (교수/ 대학원에너지시스템 학부)				
	Office Room Number		Office phone Number	2389	e-mail	changkoo@ajou.ac.kr
	Office hours		Homepage address			
Teaching Assistant	Name (title/division)					
	Office Room Number		Office phone Number		e-mail	

1. Introduction

The course examines electrical, optical, and mechanical properties of semiconducting materials (especially silicon), and plasma processing for etching and deposition of the semiconductors. Knowledge on basic chemical engineering courses such as physical chemistry, thermodynamics, reaction engineering, transport phenomena is strongly required because various processes for etching and deposition of thin films will be covered in chemical engineer's point of view.

2. Course Objectives

The course examines electrical, optical, and mechanical properties of semiconducting materials (especially silicon), and plasma processing for etching and deposition of the semiconductors. Knowledge on basic chemical engineering courses such as physical chemistry, thermodynamics, reaction engineering, transport phenomena is strongly required because various processes for etching and deposition of thin films will be covered in chemical engineer's point of view.

3. Class types and activities

4. Teaching Method

Lecture and term project

5. Knowledge and ability required for taking this course

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6. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance			
midterm exam			
final exam			
quiz			
presentation			
discussion			
homework			
etc			

Mid-term30% Final30% Presentation and report30% Miscellaneous10%

7. Textbooks

Main/Sub	Title	Writer	Publisher	Publication year
주교재	Lecture note			

8. Lecture Schedule

Week	Lecture contents	Lesson type	Remark
1	Semiconductor fundamentals	강의	
2	Vacuum Science and Technology	강의	
3	Fundamentals of Plasmas I	강의	
4	Fundamentals of Plasmas II	강의	
5	DC Glow Discharges	강의	
6	RF Discharges I	강의	
7	RF Discharges II	강의	
8	Mid-term		
9	Plasma Chemistry	강의	
10	plasma Reactors	강의	
11	Plasma Diagnostics	강의	
12	Plasma Processing I	강의	
13	Plasma Processing II	강의	
14	Research presentation	발표	
15	Research presentation	발표	
16	Final exam		

9. Others