

강의계획서

검색조건 :
교양/교직/군사학 <input type="button" value="v"/>
핵심교양(영역1) 글쓰기(1-①) <input type="button" value="v"/>
<input type="button" value="조회"/>
[수업시간][건물 및 교과구분 코드][검색]

[한글강의계획서보기]

Course Title	Electronic Properties of Materials
Course Code	ELEC781001
Credits	3.0
Department	전자공학부
Semester	20162
Course Categories	전공
Instructor	Lee Jung-Hee
Hours	화1A1B2A 화2B3A3B
Location	IT대 학3호관(공대11호관)104 IT대 학3호관(공대11호관)104
Phone/E-mail	** 통합정보시스템 로그인- 수업/성적- 수업- "강의담당교수조회"에서 확인 가능함.
Office Hours	
language	한국어

[Syllabus]

Course Goals and Objectives
The goal of this graduate-level class is to understand more advanced physics and electrical properties of semiconductors. <ul style="list-style-type: none"> - Introducing the classification of materials and basic properties of semiconductors - Discussing basics of quantum mechanics that are required to understand semiconductor properties - Discussing energy band theory and equilibrium carrier concentration in semiconductors - Discussing the charge transports in semiconductors
Textbook and other references
<ol style="list-style-type: none"> 1. [Textbook-1] R. F. Pierret, Advanced Semiconductor Fundamentals (2nd Ed) 2. [Reference-1] C. M. Wolfe, Physical Properties of Semiconductors 3. [Reference-2] J. H. Davies, The Physics of Low-dimensional Semiconductors

Course Description, Methods, and Materials
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Assignments, Grading Criteria, Prerequisite Subject
<p>* Assignments</p> <p>– Two or three homework assignments will be given.</p> <p>* Grading Criteria</p> <p>– Midterm exam (40%), final exam (40%), homework (10%), attendance (10%)</p> <p>– It can be adjust</p>
Notice To Students
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Notice To Students with Disabilities
<p>A. Hearing Impaired : first row priority seating, Class transcripts may also be provided.</p> <p>B. Developmentally Challenged : Extended Test Period.</p> <p>C. Brain lesions : Extended Test Period, Class transcripts may also be provided.</p> <p>D. Visually Impaired : Larger Font test will be provided.</p> <p>Other : Aid offered dependant on specific disabilities.</p>

[Course Lesson Plan]

no	Course Goals and Objectives	Assignment	Text & Materials	Etc.
1	Class overview and introduction to semiconductors		Textbook and handout	
2	The crystal structure of semiconductors		Textbook and handout	
3	Basics of quantum mechanics for semiconductors (1)		Textbook and handout	
4	Basics of quantum mechanics for semiconductors (2)		Textbook and handout	
5	Energy band theory (1) – Approximate one-dimensional analysis		Textbook and handout	
6	Energy band theory (2) – Extrapolation of concepts to three dimensions		Textbook and handout	
7	Equilibrium carrier statistics (1) – Density of states		Textbook and handout	
8	Midterm exam			

9	Equilibrium carrier statics (2) – Equilibrium carrier concentration		Textbook and handout	
10	Equilibrium carrier statics (3) – Concentration and Fermi level calculations – Determination of Fermi level		Textbook and handout	
11	Recombination–generation processes		Textbook and handout	
12	Carrier transport (1) – Drift		Textbook and handout	
13	Carrier transport (2) – Diffusion		Textbook and handout	
14	Carrier transport (3) – Continuity equations and diffusion equations		Textbook and handout	
15	Final exam			

Cheating, plagiarism, and other dishonest practices will be punished as harshly as Kyungpook National University policies allow. The University specifies that cheating is grounds for dismissal. Penalties less severe may be imposed instead. A list of possible disciplinary actions is given below. Actions by the university:

- Failure in course
- Suspension from university for a designated period
- Expulsion from university