

Lecture Syllabus for Fall Semester of 2008

Course title : Electronic Properties of Materials

Course Number : 445.312(002), **Credits :** 3

Instructor : Prof. Sang-Im Yoo (Rm 33-224, siyoo@snu.ac.kr, Tel : 880-5720)

Prerequisite: Modern Physics of Materials or Introduction to Quantum Mechanics

Class time & room : Mon, Wed – 16:00 ~ 17:15, Rm 30-401

Teaching Assistant : Jung-Woo Lee (Rm 131-407, dvdj07@snu.ac.kr, Tel : 880-7443)

Homepage : sm2l.snu.ac.kr

Office hour : Mon, Wed – 17:30 ~ 18:30

Course Objectives

- Understanding the basic concepts of electrical, optical, magnetic, and thermal properties of materials and their applications.

Text : R.E. Hummel, Electronic properties of Materials. 3rd ed. Springer

References : R.H. Bube, Electrons in solids. 3rd ed. Academic press and many related books

Grading : Midterm exam (30%), Final exam (40%), Homework & Attendance (30%)

(# absence more than 4 lectures = F)

Lecture Contents

Part I. Fundamentals of electron theory

Part II. Electrical properties of materials

- Midterm Exam

Part III. Optical properties of materials

Part IV. Magnetic properties of materials

Part V. Thermal properties of materials

- Final Exam