

# MASE 502 – Electrical and Optical Properties of Materials

**Semester:** Fall 2008  
**Instructor:** Alper Kiraz  
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**Office Hours:** We, B1 9:30 – 10:45 or by appointment  
**Lecture Hours:** Tu, Th B3 – 12:30 – 13:45  
**Room:** Eng. 129

**Course Description:** Electronic conduction in semiconducting materials, band theory, mobility and conductivity, semiconductor devices, dielectric properties of solids, diamagnetism, paramagnetism, ferromagnetism, ferrimagnetism, superconducting materials, interaction of light with matter, dispersion, refraction, absorption.

**Textbook:** Principles of Electronic Materials and Devices, Third Edition, Safa O. Kasap, 2001 McGraw-Hill. ISBN: 0-07-245636-1

**Grading:** Homework 10 %  
MT1 30 % (18 Dec. 2008)  
Quizzes 30 %  
Final 30 % (to be announced)

## Lecture Schedule:

Week		Subject
1	Nov. 17	Semiconductors (Ch. 5)
2	Nov. 24	Semiconductors (Ch. 5)
3	Dec. 1	Semiconductor Devices (Ch. 6)
4	Dec. 15	Semiconductor Devices (Ch. 6), MT1
5	Dec. 22	Dielectric Materials (Ch. 7)
6	Dec. 29	Magnetic Materials (Ch. 8)
7	Jan. 4	Optical Properties (Ch.9)