

MASE 502 – Electrical and Optical Properties of Materials

Semester: Fall 2007
Instructor: Alper Kiraz
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Office Hours: Tu, B1 9:30 – 10:45 or by appointment
Lecture Hours: Tu, Th B5 – 15:30 – 16:45
Room: Eng. B21

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, Second Edition, Safa O. Kasap, 2001 McGraw-Hill. ISBN: 0-07-245636-1

Grading: Homework 10 %
MT1 30 %
Quizzes 30 %
Final 30 % (to be announced)

Lecture Schedule:

Week		Subject
8	Nov. 5	Semiconductors (Ch. 5)
9	Nov. 12	Semiconductors (Ch. 5)
10	Nov. 19	Semiconductor Devices (Ch. 6)
11	Nov. 26	Semiconductor Devices (Ch. 6)
12	Dec. 3	MT1, Dielectric Materials (Ch. 7)
13	Dec. 10	Magnetic Materials (Ch. 8)
14	Dec. 17	Optical Properties (Ch.9) (Kurban Bayrami)
15	Dec. 24	Optical Properties (Ch.9)