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PH2501 -- Photonics
term B, 2010
Oct. 26, 2010

Syllabus

Time: M Tu Th F 1:00-1:50

Room: Olin 223

Text: Quimby, *Photonics and Lasers, an Introduction* (Wiley, 2006)

Evaluations: 2 exams (one take-home, one in-class) (70%)
weekly homework (20%)
class participation (10%)

Exam dates: 11/22-11/23 (take-home) and 12/16 (in-class)

Homework: Problems will be assigned weekly, with homework due as specified in the study guides (generally on Fridays). After the due date, solutions will be made available on the web (for this reason, late homework cannot be accepted). It is important to attempt all the homework problems in order to master the material and help prepare you for the exams. Students are permitted (even encouraged) to discuss and work on homework problems together. However, each student should write out the solutions individually in his or her own style. No "copying" of homework solutions is allowed. See "Operational guidelines" handout for more details on this.

On Reserve: 1. Wilson and Hawkes, *Optoelectronics* (3rd edition)
2. Kasap, *Optoelectronics and Photonics*
3. Palais, *Fiber Optic Communications* (2nd edition)
4. Saleh and Teich, *Fundamentals of Photonics*

week	dates	Topics	Chapters	Study guide
1	10/26-10/29	Introduction; review optics	1, 2	1
2	11/1-11/5	Optical waveguides and fibers; modes	3, 4	2
3	11/8-11/12	Attenuation and dispersion in fibers	5, 6	3
4	11/15-11/19	Fiber coupling, source coupling, diagnostics	7, 12	4
5	11/22-11/23	Review of semiconductor physics	10	5
6	11/29-12/3	Light sources	11	5
7	12/6-12/10	Light detectors	13, 14	6
8	12/13-12/14	Optical communications systems	24	6