ENEE 691 - Optical Communication Systems

Spring 2001: TuTh 2:00-3:15pm

Chemical Engineering (CHE) 2110

Instructor: Professor Christopher C. Davis

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Method of Grading:

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<tr>
<th>Percentage</th>
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<tr>
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<td>Homeworks and Projects</td>
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<td>Final Project</td>
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All examinations are closed book/closed notes.

If you miss an examination for documented medical or other documented convincing reason you will be permitted to take an additional comprehensive examination near the time of the final exam.

Students with special needs or documented disabilities should contact me to discuss accommodations.

Examination Dates:

1st Exam, 2:00-3:15, date to be decided
2nd Exam, 2:00-3:15, date to be decided
Final Exam, Friday, May 18, 10:30 am-12:30 pm

Course Synopsis

I hope to cover most of the following topics:

1. Overview
2. Basic optical principles, optical fibers and waveguides, practical issues of fiber design and fabrication
3. Attenuation and dispersion in fibers
4. Optical sources, lasers and LEDs
5. Coupling to fibers, connectors
6. Photodetectors
7. Optical receivers, noise, errors
8. Digital optical communication links, coding
9. Analog systems, coherent detection
10. WDM, DWDM, multiplexers, filters
11. Optical amplifiers
12. Optical Networks, SONET/SDH, nonlinear effects
Text
http://www.mhhe.com/engcs/electrical/keiser/

Other Optical Communications Texts
Fiber Optic Networks, Paul Green, Prentice-Hall, 1993

Other Useful Texts
Optical Waveguide Theory, A.W. Snyder and J.D. Love, Chapman and Hall, 1983
Optical Communications, R.M. Gagliardi and S. Karp, Wiley, 1976
Fields and Waves in Optoelectronics, H.A. Haus, Prentice-Hall, 1984