University of California, Santa Barbara Spring 2011
Department of ECE

# ECE228B
# Fiber Optic Components and Systems

**Instructor:** Prof. Daniel J. Blumenthal
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**Lecture:** Tues/Thur 12:00pm – 1:50am
**Makeup Class:** TBD
**Classroom:** Phelps 1431
**Office Hours:** TBD

**Text:** Instructors Notes

**Reserve Books (Will be available in suite 2221 ESB)**

1. Optical Communication Receiver Design, Stephen B. Alexander, SPIE Tutorial Texts in Optical Engineering Vol. TT22, January, 1997, ISBN:0819420239.
2. Tunable Laser Diodes and Related Optical Sources, Jens Buus, Markus-Christian Amann, Daniel J. Blumenthal, Wiley-IEEE Press; 2 edition, February 7, 2005, ISBN:0471208167.
3. Optical Fiber Telecommunications IV-A: Components, Ivan P. Kaminow and Tingye Li, Academic Press; 4th Edition, April 15, 2002, ISBN: 0123951720.

**Scope:** Photodetector design and receiver characteristics. Optical transmitters, optical amplifiers, optical isolators, optical circulators, optical switches, wavelength converters, regenerators, optical multiplexers and demultiplexers. Advanced transmission link design and performance including bit error rate and signal to noise ratio and fiber transmission impairments.

**Grading:**
Homework: 20%
Midterm Exam: 30%
Final Exam: 30%
Term Project: 20%

**Prerequisites:** ECE 228A or equivalent

**Exam Schedule:**
Midterm Exam - TBD
Final Exam – TBD