University of California, Santa Barbara Spring 2008
Department of ECE

ECE228C

Optical Networks

Instructor: Prof. Daniel J. Blumenthal
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Lecture: TR 12:00pm – 1:50pm
Classroom: Phelps 1437
Office Hours: TBD

Texts: Class Notes

Reserve Books: Optical Networks, Second Edition, R. Ramaswami and K. N. Sivarajan, *Morgan Kaufmann Publishers* (2001).

Prerequisites: ECE 228A and ECE 228B or equivalent or consent of instructor

Scope:

Basic optical networks concepts and techniques. Introduction to network architectures including long-haul, wide-area, metro and access networks. First generation optical networks including SONET and Gigabit Ethernet. Second generation optical networks including optical circuit switched network concepts, control plane, protection switching, routing wavelength assignment, performance and network management and control. Advanced optical network concepts including optical TDM (OTDM) networks, optical burst switching and optical packet switching.

Grading:

Homework: 30%
Midterm Exam: 30%
Final Exam: 40%

Planned Curriculum*:

Introduction to Optical Networks	Chapter 1
Optical Layers	Chapter 6
WDM Network Elements	Chapter 7
WDM Network Design	Chapter 8
Control and Management	Chapter 9
Networks and Survivability	Chapter 10
Access Networks	Chapter 11
Photonic Packet Switching	Chapter 12
Deployment Considerations	Chapter 13

* Subject to modification at instructors discretion