

ECSE-6660 Broadband & Optical Networks
Spring 2003 Tentative Schedule:

Class hours are from 6:00-8:50 pm on Wednesdays. Each class is broken up into two 75 min lectures with a 10 min break.

Lecture from 6:00 to 7:15pm (75 min)

10 min break

Lecture from 7:25 to 8:50 pm (75 min)

Please feel free to bring refreshments for the break. But food/drink will not be allowed during the lecture.

Exam will be held during class hours, in lieu of one of the lectures (75 min slot). Class will continue for the second half (lecture) after the break.

Note: Exam dates: Feb 5th, March 5th, April 30th

Abbreviations: S. Keshav's book [SK], Ramaswami/Sivarajan book [RS]

JANUARY:

1/2 Wednesday, January 15, 2002

Lecture 1: Course Introduction, Review of Telephony/Cable/Internet

(SK, Chap 1,2,3,5,6; RS: Chap 1,11, 13)

Lecture 2: Review of Telephony/Cable/Internet (SK, Chap 1,2,3,5,6; RS: Chap 1,11, 13)

3/4 Wednesday, January 22, 2002

Lecture 3: Review of Telephony/Cable/Internet (SK, Chap 1,2,3,5,6; RS: Chap 1,11, 13)

Lecture 4: Integrated Architectures: ISDN, SONET, ATM

(SK, Chap 4, 15; RS: Chap 6, 13, Secs: 10.1/10.2)

Homework 1 assigned

5/6 Wednesday, January 29, 2002

Homework 1 due

Lecture 5: Integrated Network Architectures: SONET, ATM Networks

(SK, Chap 4, 15; RS: Chap 6, 13, Secs: 10.1/10.2)

Lecture 6: Integrated Network Architectures: SONET, ATM Networks

(SK, Chap 4, 15; RS: Chap 6, 13, Secs: 10.1/10.2)

FEBRUARY:

7/8 Wednesday, February 5, 2002

EXAM 1: 1st half of class:

Lecture 8: Label Switched Networks: ATM (contd), Frame Relay, MPLS
(SK, Chap 4, 15; RS: Chap 6, 13, Secs: 10.1/10.2)

9/10 Wednesday, February 12, 2002

Lecture 9: Label Switched Networks: ATM (contd), Frame Relay, MPLS
(SK, Chap 4, 15; RS: Chap 6, 13, Secs: 10.1/10.2)

Lecture 10: High-Speed Router & Switch Design
(SK, Chap 8, 9)

Homework 2 Assigned

11/12 Wednesday, February 19, 2002

Homework 2 Due

Lecture 11: High-Speed Router & Switch Design (SK, Chap 8, 9)

Lecture 12: High-Speed Router & Switch Design (SK, Chap 8, 9)

13/14 Wednesday, February 26, 2002

Lecture 13: Core Problems: Traffic Engineering & Survivability
(SK, Chap 14; RS: Chap 10)

Lecture 14: Core Problems: Traffic Engineering & Survivability
(SK, Chap 14; RS: Chap 10)

MARCH:

15/16 Wednesday, March 5, 2002

EXAM 2: 1st half of class

Lecture 16: Core Problems: Traffic Engineering & Survivability
(SK, Chap 14; RS: Chap 10)

Wednesday, March 12, 2002 - NO CLASSES - Spring Break

17/18 Wednesday, March 19, 2002

Homework 3 Assigned

Term Paper Choices Communicated to TA

Lecture 17: Core Problems: QoS, Congestion/Traffic Management
(SK, Chap 9, 13, 14)

Lecture 18: Core Problems: QoS, Congestion/Traffic Management
(SK, Chap 9, 13, 14)

19/20 Wednesday, March 28, 2002

Homework 3 Due

Lecture 19: Core Problems: QoS, Congestion/Traffic Management
(SK, Chap 9, 13, 14)

Lecture 20: Core Problems: QoS, Congestion/Traffic Management
(SK, Chap 9, 13, 14)

APRIL:

21/22 Wednesday, April 2, 2002

Lecture 21: Introduction to Optical Networking: Components & Transmission Issues
(RS: Chap 1,2,3,5)

Lecture 22: Introduction to Optical Networking: Components & Transmission Issues
(RS: Chap 1,2,3,5)

Homework 4 Assigned

23/24 Wednesday, April 9, 2002

Homework 4 Due

Lecture 23: (Dense) Wave-division Multiplexing (WDM & D-WDM)
(RS: Chap 7,8)

Lecture 24: Passive Optical Networks & Wavelength Routed Networks
(RS: Chap 11)

25/26 Wednesday, April 16, 2002

Lecture 25: Passive Optical Networks & Wavelength Routed Networks (RS: Chap 11)

Lecture 26: Metro Broadband: WDM, Gigabit Ethernet (RS: Chap 11, 13, 6.5)

27/28 Wednesday, April 23, 2002

Case Study Due

Lecture 25: Last-Mile Broadband: DSL, Cable, FTTC, FSO, Satellite, Wireless
(RS: Chap 11, 13)

Lecture 28: Last-Mile Broadband: DSL, Cable, FTTC, FSO, Satellite, Wireless
(RS: Chap 11, 13)

29/30 Wednesday, April 30, 2002

EXAM 3: Two Hour Comprehensive exam
