



ECE 271 Introduction to Telecommunication Networks

Class: Tuesday 12:20 M102

Thursday 11:20 M102

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COURSE CONTENTS

1. Telecommunications Fundamentals
2. Changes in Telecommunications
3. The New Public Network
4. Basic elements of Telecommunications
5. Transmission Lines
6. Network Connection Types
7. Electromagnetic Spectrum
8. Analog and Digital Transmission
9. Multiplexing
10. Transmission Media
11. Twisted-Pair Copper Cable
12. Coaxial Cable
13. Microwave
14. Satellite
15. Fiber Optics
16. Establishing Communications Channels, Switching and Networking Modes
17. Public Switched Telephone Network (PSTN) Infrastructure
18. Plesiochronous Digital Hierarchy (PDH) Transport Network Infrastructure
19. Synchronous Digital Hierarchy (SDH) Transport Network Infrastructure

REFERENCE BOOKS:

1. NAME : Communication Networks-
Fundamental Concepts and Key Architectures
AUTHORS : Alberto Leon-Garcia, Indra Widjaja
PUBLISHER : McGraw-Hill
ISBN : 0-07-123026-2
EDITION : 2003 (International Edition)

2. NAME : Essential Guide to Telecommunications
AUTHORS : Annabel Z. Dodd
PUBLISHER : Prentice-Hall, Inc.
ISBN : 0-13-064907-4
EDITION : 2002 (Third Edition)

3. NAME : Communication Systems Engineering
AUTHORS : John Proakis, Masoud Salehi

PUBLISHER : Prentice-Hall, Inc.
ISBN : 0-13-061793-8
EDITION : 2002 (Second Edition)

4. NAME : Optical Fiber Communications
AUTHOR : Gerd Keiser
PUBLISHER : McGraw-Hill
ISBN : 0-07-116468-5
EDITION : 2000

5. NAME : Data Communications and Networking
AUTHOR : Behrouz A. Forouzan
PUBLISHER : McGraw-Hill
ISBN : 0-201-63442-2
EDITION : 2001 (Second Edition)

6. NAME : Telecommunications Essentials
AUTHOR : Lillian Goleniewski
PUBLISHER : Addison-Wesley
ISBN : 0-201-76032-0
EDITION : 2002

7. NAME : Communication Sysytems
AUTHOR : Simon Haykin
PUBLISHER : John Wiley&Sons
ISBN : 0-471-17869-1
EDITION : 2001 (Fourth Edition)

8. NAME : Modern Digital and Analog
Communication Systems
AUTHOR : B. P. Lathi
PUBLISHER : Oxford Univ. Press, Inc
ISBN : 0-19-511009-9
EDITION : 1998

9. NAME : Next generation intelligent optical
networks
AUTHOR : Kartalopoulos, Stamatios
CODE : TK5103.59 K37
EDITION : 2008

10. NAME : Data communications and networks
AUTHOR : Miller, Dave
CODE : TK5105 M55
EDITION : 2006

11. NAME : Digital communications
AUTHOR : Proakis, John G
CODE : TK5103.7 P76
EDITION : 2008

12. NAME : Introduction to digital
communications
AUTHOR : Pursley, Michael B.

CODE : TK5103.7 P87
EDITION : 2005

13. NAME : Advanced free-space optical
communications
AUTHOR : Ross, Monte
CODE : TA1677 A38
EDITION : 2004

14. NAME : Advanced free-space optical
communications
AUTHOR : Ross, Monte
CODE : TA1677 A38
EDITION : 2004

15. NAME : Mobile wireless communications
AUTHOR : Schwartz, Mischa
CODE : TK5103.2 S39
EDITION : 2005

16. NAME : Communication systems: analysis and
design
AUTHOR : Stern, Harold P.E.
CODE : TK5101 S74
EDITION : 2004

17. NAME : Electronic communications systems
and design
AUTHOR : Tomasi, Wayne
CODE : TK5101 T66
EDITION : 2004

18. NAME : Principles of communication systems
simulation
AUTHOR : Tranter, William H.
CODE : TK5102.5 P75
EDITION : 2004

GRADING:	1 MID TERM EXAM (IN CLASS) :	%40
	1 FINAL EXAM (IN CLASS) :	%50
	PERFORMANCE IN CLASS :	%10
	TOTAL :	%100

NOTE: Performance in class covers attendance in lectures, performing the homework assignments, obeying rules and discipline, good conduct of communication, etc.

It is essential that students show at least 70 % attendance in lectures.