

EE 4395/5390 --- Selected Areas in Communication Networks

Fall 2017

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Texts: Computer Networking: A Top-Down Approach, 5th Edition
James Kurose and Keith Ross
Automated Network Management Systems
Douglas Comer
Data Mining: Concepts and Techniques, 3rd Edition
Jiawei Han, Micheline Kamber, and Jian Pei

Extensive use of the research literature

Course Description: This course provides a survey of contemporary topics in communication networks. In Fall 2017, these topics will include multimedia networks, network management (and its automation), software defined networking, and network data analytics.

Prerequisite: An introductory course in communication networks.

Class Hours: Tuesdays and Thursdays 1:30PM to 2:50PM (CRBL C203)

Office Hours: Tuesdays 4:30PM to 6PM and Thursdays 12PM to 1:30PM (Eng. A340)

Course Outline:

Week 1: Introduction and Course Overview
Week 2: Human Visual Perception and Video Coding
Week 3: Protocols for Delivering Video over Packet Switched Networks
Week 3: Providing Delay and Bandwidth Guarantees
Week 4: Rate Limiting Devices, Link Sharing Packet Schedulers
Week 5: Network Management: FCAPS model
Weeks 6-7: Network Fault Detection and Correction
Week 8: Midterm Exam
Weeks 8-9: Network Configuration (including SDN)
Weeks 10-11: Network Performance and Capacity Planning
Weeks 12-13: Data Analytics
Week 14: Collecting Network Data (Packet, Flow, Interface Stats)
Week 15: Network Data Analytics

Grading:

Course Portfolio/Participation	15%
Assignments/Quizzes	35%
Project	20%
Midterm	15%
Final	15%

Academic Dishonesty:

As an entity of The University of Texas at El Paso, the Department of Electrical and Computer Engineering is committed to the development of its students and to the promotion of personal integrity and self responsibility. The assumption that a student's work is a fair representation of the student's ability to perform forms the basis for departmental and institutional quality. All students within the Department are expected to observe appropriate standards of conduct. Acts of scholastic dishonesty such as cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in the whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts will not be tolerated. Any case involving academic dishonesty will be referred to the Office of the Dean of Students. The Dean will assign a Student Judicial Affairs Coordinator who will investigate the charge and alert the student as to its disposition. Consequences of academic dishonesty may be as severe as dismissal from the University. See the Office of the Dean of Students' homepage (Office of Student Life) at <http://studentaffairs.utep.edu/dos> for more information.

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