EE 4395/5390 --- Selected Areas in Communication Networks
Fall 2017

Instructor: Dr. Michael McGarry
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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:
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