IS 450 / IS 650:
Data Communications and Networks
Spring 2015

Times: Tuesday 4:30pm – 7:00pm
Location: Math & Psychology 106
Instructor: [Nirmalya Roy](#)
Instructor's Office Location and Hours: ITE 421 Thursday 1:00 – 2:30pm, or by appointment
Instructor's Email: nroy at umbc dot edu

Course Webpage: http://userpages.umbc.edu/~nroy/courses/spring2015/dcn/

Course Descriptions: This is an upper undergraduate and first graduate-level course in computer networks for students in Information Systems. This course will introduce students to the key concepts of underlying wired, and wireless networking. The layered architecture of the network protocol stack will be the focus of discussion. Alongside, a variety of case studies will be drawn from the Internet, combined with practical programming exercises. At the end of the semester, students will well understand several concepts, including the Internet architecture, HTTP, DNS, P2P, Sockets, TCP/IP, Routing protocols, IEEE 802.11, wireless and sensor networking, mobile computing, cellular and satellite networks, security, etc.

Course Objectives: This course aims at introducing the students to modern computer networks, in particular the Internet. We will discuss basic network architecture, design principles, different protocols, and applications. We will study the application, transport, networking, and link layers. We will also cover basic topics of network security and management. Students are expected to perform various projects and homework assignments to obtain hands on knowledge.

Course Topics:

- Introduction to Networks
- Application Layer
- Transport Layer
- Network Layer
- Link Layer
- Wireless and Mobile Networks
- Network Security

Course Prerequisites: MATH 215 or MATH 221 or equivalent or consent of the instructor

Attendance: Students are expected to attend all lectures.

Quiz and Exam Makeup: There will be no exam or quiz makeup. Missed exam/quiz will result in zero mark.

Recommended Textbook:

- [Computer Networking: A Top-Down Approach](), 6th Ed., by James F. Kurose and Keith W. Ross. Addison-Wesley, 2012

Course Requirements and Grading:

Homework, Quizzes & Class Participation	30%
Hands-on Data Communications Research & Development Project	20%
1 mid-term exam	20%
Final exam	30%

Student Support Services: UMBC is committed to eliminating discriminatory obstacles that disadvantage students based on disability. Student Support Services (SSS) is the UMBC department designated to receive and maintain confidential files of disability-related documentation, certify eligibility for services, determine reasonable accommodations, develop with each student plans for the provision of such accommodations, and serve as a liaison between faculty members and students regarding disability-related issues. If you have a disability and want to request accommodations, contact SSS in the Math/Psych Bldg., room 213 or at 410-455-2459. SSS will require you to provide appropriate documentation of disability. If you require accommodations for this class, make an appointment to meet with me to discuss your SSS-approved accommodations.

Academic Integrity: Cheating in any form, will be subject to discipline according to university regulations. Projects that contain plagiarized materials will receive an automatic letter grade of 'F'. Multiple violations will be handled according to university regulation. Please refer to Academic Integrity for more information.