

# ECE 683 Computer Network Design and Analysis

Instructor: Dr. Abdallah Khreishah, 349 ECEC.

Contact Info: (973) 596-3528; Fax. (973) 596-5680; Email: [abdallah@njit.edu](mailto:abdallah@njit.edu)

Office Hours: Friday 5-6pm or by appointment via email/phone call

Meeting times: Friday 6-9 pm

Meeting place: CULMLECT 2

TA: Zuochao Dou, Email: [zd36@njit.edu](mailto:zd36@njit.edu)

Co-requisite: [ECE 673](#) RANDOM SIGNAL ANALYSIS I

Required background: Basic knowledge of communications and probability.

## Textbook and References

- Textbook: Communications Networks: Fundamental Concepts and Key Architectures, 2nd Edition, A. Leon-Garcia and I. Widjaja, McGraw-Hill, 2003.
- References (not required)
  - 1) Computer Networks, A. Tanenbaum, 4th Edition, Prentice-Hall, 2002;
  - 2) Data & Computer Communications, 8th Edition, William Stallings, Prentice-Hall, 2006;
  - 3) Data Networks, 2nd Edition, D. Bertsekas and R. Gallager, Prentice-Hall, 1991.

Topics to be covered (subject to modification by the instructor)

- Overview of Communication Networks and Services
- Layered Architectures
- Digital Transmission Fundamentals
- Multiplexing and Switching
- Peer-to-Peer Protocols and Data Link Layer
- Medium Access Control Protocols
- Local Area Networks
- Network Layer Protocols
- TCP/IP Protocols
- Network Security

## Grading

- Homework will be assigned but not graded and solutions will be posted.
- Mid-term and final exams will have the difficulty level similar to homework's.
- A small quiz is given during every other class, unless otherwise specified.
- Grades are based 20% on quizzes, 40% on midterm, and 40% on final.
- No make-up.

## Honor Code

The NJIT Honor Code will be upheld, and any violations will be brought to the immediate attention of the Dean of Students.

Course webpage: <http://web.njit.edu/~abdallah/ECE683.htm>