Instructor: Dr. Ye Zhu
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TA: TBD (Will be announced in Blackboard)
Class Hours: Monday/Wednesday 4:00pm -5:50pm (Section 50)
Office Hours: Monday/Wednesday 1pm-3pm or by appointment
Class Room: SH348
Lab Room: SH348
Class Website: http://academic.csuohio.edu/webct/
Prerequisite: EEC584

This course is a continuation of the undergraduate/graduate level computer network course (EEC584). In comparison with EEC 584, the course focuses on quantative analysis and performance modeling. The topics covered in this course include traffic characterization, admission and access control, performance analysis of network protocols, network congestion control, network/socket programming, and QoS. If time permits, we will explore advanced topics in computer networks such as peer-to-peer networking and multimedia networking.

No textbook is required. Instead, we will select proper materials from several reference books for the first half of the course. A set of research papers will be assigned for the second half of the course. There will be five homework assignments and a term project. The assignments are due on the designated due dates at midnight. No late submissions will be accepted. Please discuss unusual circumstances in advance with the instructor.

A midterm examination will be scheduled in the middle of semester. There is no final examination.

Textbook:
No textbook is required.

Reference book:
Computer Networking: A Top-Down Approach Featuring the Internet by James F. Kurose and Keith W. Ross, Addison-Wesley
Data Networks by Bertsekas and Gallager, Prentice Hall Publishers

Grading:
30% Homework, 30% Midterm, 40% class project (10% for presentation)

Scholastic Dishonesty: Scholastic dishonesty will not be tolerated. Examinations are meant to measure the knowledge or skill of each individual, so giving or receiving unauthorized assistance during tests and quizzes is cheating. It is assumed that college students know what is honest and what is not. Any identified instances of scholastic dishonesty will be dealt with in accordance with the procedures outlined in the university student rules.

Students with Disabilities: The Americans with Disabilities Act is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life or call 687-2048.
What am I supposed to know before taking this course

EEC 484/584 Computer Networks or equivalent. I will be assuming that you have knowledge on the following subjects. If you feel unfamiliar with the following topics, please refresh your memory. Some of the following topics will be briefly reviewed in class.

- Protocol layers and service models
- MAC protocols (Aloha, Ethernet, FDDI, …)
- TCP/IP (TCP, UDP, IP, …)
- Routing Protocols (RIP, OSPF)
- Application layer protocols (HTTP, SMTP, …)
Course Goals

By the end of this course, students will be able to

• Understand the principles behind the Internet protocols
• Understand the limitations of the current Internet and its service model
• Understand the main ideas behind some of the current innovations in networking including, p2p protocols, wireless access systems, and network security
• Design, implement, and test substantial parts of network protocols.
• Evaluate network protocols using network simulator (NS2)
• Understand and analyze multiaccess network protocols
• Understand and analyze variations of the TCP and UDP protocols