

CSC 433 Computer Networks

CATALOG DESCRIPTION:

CSC 433 Computer Networks (3,0,3) Direct link networks, packet switching networks, internet working (IP), end-to-end protocols (TCP), socket programming. PREREQ: C or better in CSC 362 and INF 284.

LAST TAUGHT: Spring 2009 (W. Hao)

SCHEDULED LAB USAGE: None

STUDENT BACKGROUND EXPECTATIONS:

1. Programming knowledge in C/C++/Java. (from CSC 362: Computer Systems).
2. Basic understanding of computer networking (from INF 284: Introduction to Networks and Data Communication).

CORE TOPICS COVERED:

1. An introduction to Computer Networks and The Internet
2. Wireshark Network Protocol Analyzer
3. The Application Layer and Network Applications
4. The Transport Layer
5. The Network Layer and Routing
6. The Link Layer and Local Area Networks
7. Wireless and Mobile Networks
8. Multimedia Networks
9. Security in Computer Networks
10. Network Management

MOST RECENT TEXTBOOK USED :

Computer Networking: A Top Down Approach, 4th edition, James Kurose and Keith Ross, Addison-Wesley, 2007.
Chapters covered: 1-9, and supplemental material for Wireshark network protocol analyzer.

SOFTWARE REQUIRED:

Wireshark
C/C++/Java compiler

STUDENT WORK

Homework assignments, programming projects, quizzes, two midterm exams, and one final exam.

LEARNER OUTCOMES

Students will be able to...

1. Understand concepts of computer networking, including protocol layering, algorithm design, performance, and security implications.
2. Understand network protocols covering the application layer, the transport layer, the network layer, and the link layer of the TCP/IP stack.
3. Understand local area networks, wide area networks, wireless networks, and multimedia networks.
4. Write network applications using sockets.
5. Analyze network protocols with Wireshark.

CROSS-LISTINGS

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