

CSC-I4300: Computer Communications (42 hrs total)

The focus of the course is the **study of the architectural and protocol aspects of computer networking and data communications**. Students get exposure to the technical aspects of networking and network administration/management. Following are the topics:

Introductory portion (4hrs)

- Computer networking technology, system components, applications, administration/management, security.

System Components (22hrs)

- Circuit, message and packet switching, architectures (OSI 7-layer model)
- Protocols for error/flow control: window protocols (e.g., HDLC)
- Protocols for distributed channel access: CSMA/CD (Ethernet), token bus, CSMA/CA (802.11: wireless network)
- Datagrams and virtual circuits (IP, X.25), routing
- Reliable transport service (e.g., TCP, ISO Class 0-4)

Applications (8hrs)

- Electronic mail, Electronic document interchange (EDI)
- Multimedia communications (e.g., teleconferencing) and groupware
- Network file systems, distributed computing

Network administration (8hrs)

- OSI Network Management Framework
- Management Information Base (MIB), SNMP Network Management Protocols

Text book

Computer Networks by **A. S. Tanenbaum**, Prentice-Hall Publ., 4th edition, 2003.