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Code	Subject Title	Cr. Hrs	Semester
IT-309	Computer Networks (CMP)	3	VI
Year	Discipline		
3	Information Technology		

**Objectives**

The aim of this course is to introduce students to the basic concept of computer networks and communication. It will provide a detailed overview of the Network models (OSI, TCP/IP) and Protocol Standards. Emphasis will be given on the understanding of modern network concepts. The following topics will be covered in the course: Analogue and digital Transmission, Noise, Media, Encoding, Asynchronous and Synchronous transmission, Protocol design issues, Network system architectures (OSI, TCP/IP), Error Control, Flow Control, Data Link Protocols (HDLC, PPP), Local Area Networks and MAC Layer protocols (Ethernet, Token ring), Multiplexing, Switched and IP Networks, Internetworking, Routing, Bridging, Transport layer protocols TCP/IP, UDP, Network security issues, Programming exercises or projects involving implementation of protocols at different layers.

**Prerequisites**

Operating Systems

**Text Book**

Tanenbaum, *Introduction to Computer Networks*, ISBN-10: 0-13-066102-3

**Reference Material**

- Richard Stevens, *Unix Network Programming*, ISBN-10: 013490012X
  - Larry Peterson, Bruce Davie, *Computer networks: a systems approach*, Princeton Univ., Princeton. ISBN-10: 1558605142
  - James F Kurose, Keith W Ross, *Computer Networking: A Top-Down Approach Featuring the Internet*, 2/e, Addison Wesley 2003. ISBN: 0-201-97699-4.
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