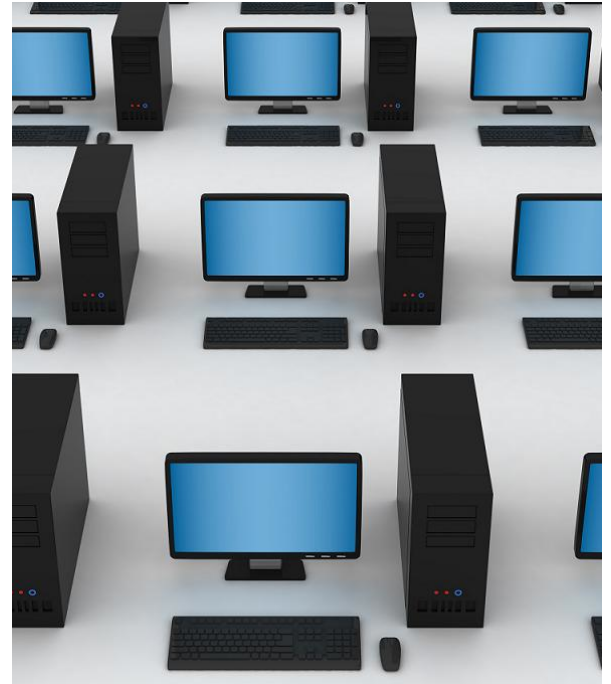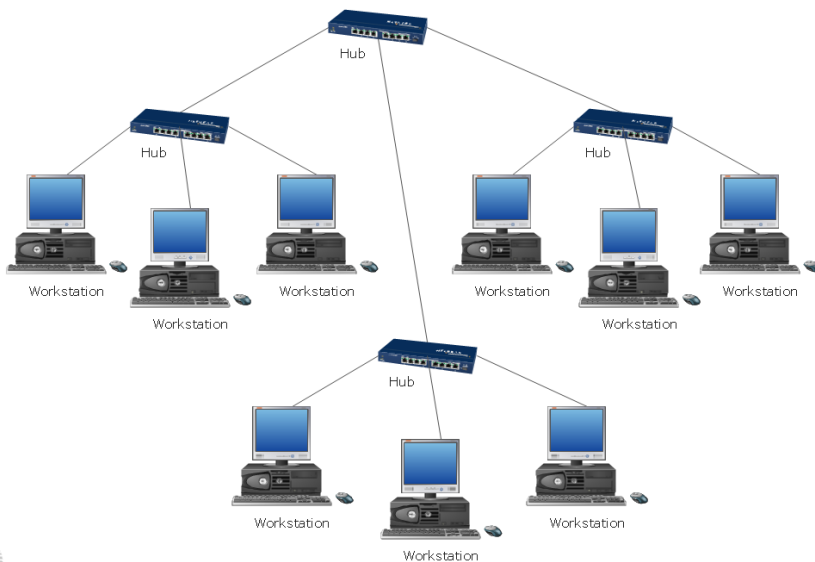# Course Syllabus
TK 34207 Computer Networks

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10Base-T Star Network Topology

Course Description

Layered network architectures and the TCP/IP model. Wired and Wireless local and Wide Area Networks. Medium access control procedures. Internetworking with switches, bridge and routers. Routing Algorithm.

Aims of the Course

- Student can identify different applications of computer communications network and understand the current state of the telecommunication industry
- Understand the concept and importance of TCP/IP layered architecture
- Understand how wired and wireless local networks such as Ethernet, Token Rings and Wifi operate and distinguish between different medium access control procedures.
- Understand the functions and operation of internetworking devices such as hubs, bridges, routers and gateways.
- Understand the hierarchy of IP Addressing and subnetting.
- Understand how routing is carried out in large open networking environment and the operation and major routing protocols such as RIP, OSPF and BGP.

Course Material

- Behrouz A. Forouzan, Data Communication and Networking, Mc Graw Hill, 4th edition
- Andrew S. Tannenbaum, Computer Networks, Prentice Hall, 4th edition
- William Stalling, Data and Computer Communication, 8th edition

Assessment

- Midterm Exam   : 30%
- Final Exam   : 40%
- Individual Assignment   : 10%
- Group Assignment   : 10%
- Class/Discussion Participation : 10%

COURSE OUTLINE

Year : 2014 / 2015

Introduction and Basic Concepts

- Basic concepts of networking
- Network Topologies
- Concept of layered architecture modelling including OSI and the TCP/IP Protocol suite
- Client Server communications

Local Area Network Technologies

- Ethernet
- Token Ring
- Multiple Access Scheme such as CSMA/SD, CSMA/CA and Token Pasing
- MAC Addressing

Internetworking Devices

- Repeaters
- Bridges
- Switches
- Routers and Gateways

Network Layer Protocol

- Internet Protocol (IP)
- Adress Resolution Protocol (ARP)
- Internet Control Message Protocol (ICMP)
- IP Adressing schemes
- Subnetting

Internet Routing

- Routing Protocols
- Routing Information Protocol (RIP)
- Open Shortest Path First (OSPF)
- Border Gateway Protocol (BGP)

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