King Saud University
College of Engineering
Department of Electrical Engineering
Course Description

Title	**Communication Networks**
Code	**EE 462**
Credit	**3 Credit Hours**
Prerequisite	**Digital Communications: EE 322.**
Goals	Understanding the architecture and operation of communication networks; and learning their design principles with illustrative applications.
Textbook	*Communication Networks*, by: A. Leon-Garcia and I. Widjaja, published by: Mc-Graw-Hill, 2004.
Instructor	Prof. Saad Haj Bakry Office: 2 C 21 Phone: 467-6808 E-Mail: shb@ksu.edu.sa
Course Description	Introduction to networking; Multiplexing and switching principles; Tele-traffic analysis of circuit switching; Tele-traffic analysis of packet switching; The ISO-OSI protocols; WANs and LANs; Internet and Intranet principles and TCP/IP protocols; network flow; High speed networks.
Course Schedule	Three lectures and one tutorial of "50 minutes each" are held weekly for 15 weeks.
Enhancements	The course is enhanced with projects assigned to students, with two students per projects. Projects may involve critical reviews of practical networks, newly emerging networks, and network standards. The projects are also open to other ideas originated by students. Every team of

two students submits a project report and an oral presentation.

Weekly Teaching Plan

1	Introduction to networks: objectives, development, and future trends.
2	Introduction to networks: ITU and ISO-IEC-JTC-1 standards:
3	Sharing communications channels: multiplexing and switching principles.
4	Circuit switching networks: tele-traffic analysis.
5	Circuit switching networks : capacity design with applications.
6	Circuit switching: cellular networks performance and cell splitting with applications.
7	Store-and-forward networks: tele-traffic analysis.
8	Store-and-forward networks: traffic flow through network links with applications.
9	Store-and-forward networks: capacity design of with applications.
10	Network protocols: the ISO-OSI reference model.
11	Network protocols: TCP-IP.
12	Local area networks.
13	High speed networks and ATM protocols.
14	Multimedia applications.
15	Discussion of projects.

Evaluations

40 %	Final exam.
30 %	Two midterm exams.
20 %	Attendance, course work and quizzes
10 %	Project