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Computer Networks

Short Course Offered by:

Department of Computer Engineering

King Fahd University of Petroleum and Minerals

Dhahran, Saudi Arabia

Course Objectives

- To cover the most important and recent topics in the area of Computer Networks. Topics covered include:
 - . Principles and Organization
 - . Applications Areas
 - . LANs, Standardization Effort, and, Protocols
 - . Structuring Enterprise Networks & RFP development
 - . Contemporary technologies
 - . Security
 - . etc..

Course Material

- A folder containing all slides and more is provided to each participants. Some sections contain more slides than will be presented, and must be treated as additional reading material.
- Softcopies of presentation slides, demos, laboratory experiments, etc., may be copied after requesting permission from individual instructors

Course Content

- Day: 1
 - » Introduction to Networking (2 sessions)
 - » Interconnection Requirements (2 sessions)
 - » NOS configuration---Lab + Demo (2 sessions)
- Day: 2
 - » Network Standards
 - » Network Layer (2 sessions)
 - » Interconnection of Networks (2 sessions)
 - » Transport Layer

Course Content

- Day: 3
 - » TCP/IP (3 sessions)
 - » Common NW IP problems
 - » Components of TCP/IP Networks
 - » Building your own IP Network
 - » (The last 3 sessions will include a lab/demo)

Course Content

- Day: 4
 - » Network Services & WWW (3 sessions)
 - . (will include a lab/demo)
 - » Installations of Network Operating Systems
 - » Remote NW Interconnection---Lab (2 sessions)
- Day: 5
 - » Network Security
 - » Network Planning (3 sessions)
 - » Conclusions

Logistics

- Refreshments
- Restaurants (entry passes provided)
- Rest rooms
- Prayer facilities
- Parking (pass provided)
- Messages/Phone
- Security
- Other items

Computer Engineering

- » Computer Engineering (COE) is the discipline concerned with the design, analysis, modeling and implementation of **Computers and Networks systems**. Both the software and the hardware aspects of these systems are studied in a balanced and coherent manner. The COE program at KFUPM provides a comprehensive coverage of a wide range of COE subjects including hardware design, computer networks and data communications, computer architecture and operating systems, microprocessor-based systems, computer programming languages and software.

Goals

- Graduate students in Computer Engineering.
- Provide engineers who are capable of coping with a rapidly growing computer technology.
- Conduct research activities that will enhance the country's industry, and broaden the scope and ability of faculty members.
- Provide necessary channels for transferring computer engineering technology into country.
- Adapt new and appropriate technologies for the country's need.

COE Disciplines

- **Computer Networks** and Data Communications
- Computer Architecture and Design
- Digital Design Automation and VLSI
- Computer Based Systems
- Testability and Fault Tolerance

COE Tracks

- The new curriculum has three tracks for students to concentrate. The tracks are:
 - » Software
 - » **Computer Networks**
 - » Computer Systems

Research in COE

- Software/Hardware interdependencies
- Computer Networks and Data Communications
- Design, Implementation and Testing of Digital Systems
- Various Techniques for the Automation and the Design of VLSI Systems

Laboratory Facilities

- » Computer Networking and Data Communications Laboratory
- » Logic Design Laboratory
- » Microprocessors Laboratory
- » Design Automation Research Laboratory
- » Printed Circuit Boards Manufacturing Center
- » Data Acquisition Laboratory
- » PC Laboratory
- » Computer Graphics Center
- » Digital Systems Design Laboratory
- » Transputer Laboratory
- » And Others...

Community Services

- Seminars
- Computer Exhibition
- **Short Courses**
 - » Personal Computers
 - » **Computer Networks**
 - » Internet services and applications
 - » Mobile Networks
 - » PC Hardware and Maintenance
 - » WWW Development
 - » etc..

Instructors

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