NCEAC.FORM.001-C

COURSE DESCRITPTION FORM

INSTITUTION **PAF-KIET**

PROGRAM (S) TO BE EVALUATED BACHELORS OF SCIENCE IN COMPUTER SCIENCE
BS (CS) FOUR YEAR DEGREE

A. Course Description

Course Code	**NW411**			
Course Title	Network Programming			
Credit Hours	3 + 0			
Prerequisites by Course(s) and Topics	Object-Oriented Programming Data Communication and Computer Networks			
Assessment Instruments with Weights (homework, quizzes, midterms, final, programming assignments, lab work, etc.)	5 Quizzes 10% Midterm 30% Assignment 10% Final Exam 40% + (Lab 10%)			
Course Coordinator	Mohammad Ayub Latif			
URL (if any)	-			
Current Catalog Description	This course aims to provide students with the knowledge of internet based application. The language choice can vary. Socket programming will be thoroughly covered in this course to create different applications for LAN and WAN.			
Textbook (or **Laboratory Manual** for Laboratory Courses)	C# Network Programming By Richard Blum			
Reference Material	TCP/IP Illustrated, RFC 1180			
Course Goals	Students should be able to understand network programming based applications and create computer software that uses socket programming as the core of its functional requirements.			
Topics Covered in the Course, with Number of Lectures on Each Topic (assume 15-week instruction and one-hour lectures)	Extra sheet attached			
Laboratory Projects/Experiments Done in the Course	The practical portion of the course includes: Code implementations of sockets Code implementations of client and server applications. Software applications that uses sockets.			
Programming Assignments Done in the Course	2-3 assignment on simple network applications			
Class Time Spent on (in credit hours)	**Theory**	**Problem Analysis**	**Solution Design**	**Social and Ethical Issues**
	3	Covered in theory	Covered in theory	Covered in theory
Oral and Written Communications	Every student is required to submit at least 1 written report of 5-6 pages and to make 1 oral presentations of 10-15 minutes duration.			

Instructor Name _____ **Instructor Signature** _____

Date _____

Session No.	Book Ch.	Topics to be Covered	Date	Signature
1	Revision concepts of DCN	Introduction to TCP/IP Model		
2		Protocols of different layers Concept of encapsulation		
3	Chapter 2	Using of different network devices		
4		Details of Network header fields Details of data link header fields		
5	Chapter 3	C# basics, Built in Class for Networking Programming and Introduction to Socket Programming		
6		Socket Programming - TCP (continue) Socket Programming - UDP		
7	Chapter 4	Creating the first server using sockets		
8		Creating the first client Sending messages between client and server.		
9	Chapter 4 and 5	Multi threaded applications		
10		How to create server that can communicated with multiple clients Using delegates in visual studio		
11	Chapter 5 and 6	Using delegates for multi threaded server		
12		How to prevent packet loss in socket programming Using socket timeout		
13	Chapter 8	Details about asynchronous sockets		
14		Using asynchronous sockets in programming How are they different		
15	-	MID TERM Examination		
16	-	MID TERM Examination		
17	Chapter 4	What is DNS The architecture of DNS		
18		Simple example programs for DNS		
19	Chapter 8 and 9	Using events and GUI is network applications		
20		How to program GUI components Simple examples of form and components		

21	Chapter 9	Creating GUI based chat server		
22		Creating client that communicates with the graphical server Running them on real network environment		
23	Examples	Concepts and advantages of DLL		
24		Using DLLs in network applications Creating a simple DLL and calling it		
25	Chapter 13	The concept behind sending and receiving emails		
26		Using SMTP in visual studio to send mails Using POP to receive emails in Visual Studio		
27	Chapter 13	Complete mail sending and receiving application		
28		Using FTP		
29	-	Revision		
30	-	Final Assessment Projects		