NATIONAL UNIVERSITY OF ENGINEERING
COLLEGE OF SCIENCES
COMPUTER SCIENCE PROGRAM

CC401 – NETWORK APPLICATIONS PROGRAMMING

I. GENERAL INFORMATION

CODE	: CC401 – Programming of applications in networks
SEMESTER	: 7
CREDITS	: 4
HOURS PER WEEK	: 6 (Theory – Laboratory)
PREREQUISITES	: CC302 Distributed Parallel Language Oriented to Objects CC362 Network-centered computing
CONDITION	: Mandatory

II. COURSE DESCRIPTION

It shows that a computer network is a system for communication between them. It describes the IP, TCP, and UDP protocols and the design and implementation of some of the protocols to have a vision of their qualities and disadvantages.

III. LEARNING UNITS

1. Computer networks

I: Networks

2. Categorization

I: Functional Relationship.
II: Network Topology.
III: Specialization by Functionality

3. Stacks of protocols

I: ARCNET, AppleTalk, ATM, Bluetooth, DECnet, Ethernet, FDDI, Frame relay, HIPPI, IEEE 1394 aka FireWire, iLink, IEEE 802.11., IEEE-488, IP, IPX, Myrinet, QsNet, RS-232, SPX, System Network Architecture, Token Ring, TCP, USB, UDP, X.25.

4. Special Topics

I: Internet. a) Backbone. b) SITA and eQuant. c) Transit d) Stub.
II: Layers. a) Data transmission. b) Cable transmission. c) Wireless transmission.
III: Network Monitoring.

IV. BIBLIOGRAPHY

- Richard Stevens. UNIX Network Programming: Networking APIs: Sockets and XTI. Vol.I. Publisher: Upper Saddle River, NJ: Prentice Hall PTR, 1998.

- Bill Rieken and Lyle Weiman. Adventures in UNIX Network Applications Programming. John Wiley & Sons, Inc. .. 2005.

- Tzu-Chi Huang, Ce-Kuen Shieh, Bo-Yang Lai and Yu-Ben Miao. Network Application Programming Interface over Session Initiation Protocol, a novel approach to the global roaming environment. Elsevier Science Publishers B. V, 1999.

- Andrew S. Tanenbaum. Computer Networks. Prentice Hall.

- http://en.wikipedia.org/wiki/Computer_networking

- http://en.wikipedia.org/wiki/Protocol_stack