



**Faculty of Computer Studies (FoCS)  
Sub Committee for Curriculum Development**

**Format to submit syllabus**

**Course Name:** Network Programming

**(UG/PG):** PG

**Number of Credits:** 3

**Level:** 4

**Learning Objective(s):** This course is designed to provide students with the in-depth knowledge of socket programming. On completion of this course students will be able to develop application layer protocols using TCP/UDP as transport. The course aims at understanding RFC and their implementation.

**Pedagogy:**

Lectures  
Hands On Lab Sessions  
Case study

**Pre-learning:** Students are expected to have a good understanding of networking and programming. In particular following areas are important:  
Network Fundamentals: OSI model, TCP/IP,  
Programming: Sound knowledge and experience in programming using any of the following languages: C (preferred), C++, Java, Python, PHP, Perl etc. Student should be able to write programmes involving: File handling, exception handling, and Threading.

**Course Outline:**

Sr. No	Topic	Hours
1	Introduction to Network Programming	5
2	Review of TCP/IP, C API, Java API for networking	7
3	Network Layer - Internet Protocol IP Address - C API, Java API	12
4	Transport Layer – TCP and UDP Implementation using C API and Java API	15
5	Application Layer Protocols	6
	<b>Total</b>	<b>45</b>

**Books Recommended:**

1. Beej's Guide to Network Programming
2. TCP/IP Illustrated, Volume 1: The Protocols, W. Richard Stevens, Addison-Wesley
3. Unix Network Programming, Vol. 1: The Sockets Networking API, W. Richard Stevens, Prentice Hall
4. Java Network Programming, Elliotte Rusty Harold, O'Reilly

**Suggested Evaluation Methods:****Parallel/Similar courses the existing curriculum:**

S.No.	Name of the course	Institute where it was offered

Name of Member				
Designation				
Org. / Inst.				
Signature				

Name of the Expert:

Signature:

Date: