Code	Subject Title	Cr. Hrs	Semester
IT-306	Operating Systems (CMP)	3	V
Year	Discipline		
3	Information Technology		

Objectives

The objective of this course is to give students knowledge of construction and working of Operating systems, to enable them to understand management and sharing of computer resources, communication and concurrency and develop effective and efficient applications and also to appreciate the problems and issues regarding multi-user, multitasking, and distributed systems. The following topics will be covered in the course: Introduction to Main Frames System, multi programmed System, batch system, Time sharing system, Desktop System, Multiprocessor system, distributed system, client server, Real time system, Hand held System, Computer System Structure, Caching, Coherency and consistency, Operating System Structure, Process management, System calls, Process control, Communication, micro-kernels, Virtual machines, Processes, Threads, multithreading models, CPU Scheduling, Process Synchronization, Critical section problem, Semaphores, Deadlock, Memory Management, Memory allocation, Fragmentation, Paging, Segmentation, Virtual Memory, Demand paging, Page replacement, Allocation of frames, Thrashing, File System Interface, Directory structure, File system mounting, File System Implementation, NFS, Protection.

Prerequisites

Data Structures and Algorithms

Text Book

Silberschatz A., Galvin P.C., and Gagne G., *Operating Systems Concepts,* 8th Edition, 2008

Reference Material

- Tanenmaum A.S., *Modern Operating Systems,* 2nd Edition, 2001. ISBN-10: 0130313580