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Department of Computer Engineering	
Advanced Operating Systems (66551)	
Total Credits	**3**
major compulsory	
Prerequisites	P1 : Operating Systems (66451)

Course Contents

The content of the course is an introductory to distributed operating system design and implementation

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	Demonstrate knowledge basic characteristics, and structure of distributed operating system and it main component related to process communication, scheduling and migration.	C K	50 %
2	Demonstrate knowledge in the design and implementation of a traditional, and distributed file systems.	C	20 %
3	Demonstrate understanding of fundamental problems in distributed operating system which includes: Clock synchronization, Data Replication, Data Consistency, Distributed synchronization and Fault Tolerance.	E J K	30 %

Textbook and/ or Refrences

Text Book: Distributed Systems: Principles and Paradigms Andrew Tannenbaum and Maarten van Steen, Prentice Hall, Latest edition

Assessment Criteria	Percent (%)
First Exam	20 %
Second Exam	20 %
Homeworks	10 %
Final Exam	50 %

Course Plan

Week	Topic
1	File System
2	File System
3	Introduction to network and distributed operating systems
4	Communication Protocols in distributed system
5	Communication Protocols in distributed system continue
6	Remote procedure calls
7	Exam I
8	Processes and threads: process scheduling, process migration.
9	Clock synchronization
10	Data Replication and Data Consistency
11	Leader election
12	Distributed synchronization and mutual exclusion
12	Exam 2
13	Fault Tolerant
15	Overview of Distributed file system
16	Final exam