

**SWARNANDHRA
COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)**

SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP

DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS(Honours)

TEACHING PLAN

Course Code	Course Title	Year / Sem.	Branch	Contact Hr/ week	Academic Year
24BC3L01	OPERATING SYSTEMS LAB	II/III	BCA	3	2026-27

Course Objectives:

- To implement the scheduling algorithms, page replacement algorithms, file allocation methods, understand and implement IPC mechanism using named and unnamed pipes.

Course Outcomes (Cos): At the end of the course, student will able to

CO No	Course Outcome	Knowledge Level (K)
CO1	Understand the fundamental concepts of Operating Systems by implementing CPU scheduling algorithms and analyzing their performance.	K2
CO2	Apply Operating System concepts to implement file organization techniques, file allocation methods, and file handling using system calls in C.	K3
CO3	Analyze resource allocation and deadlock handling techniques by implementing Banker's Algorithm for deadlock avoidance and prevention.	K4
CO4	Develop C programs to simulate memory management techniques such as FIFO, LRU, and LFU page replacement algorithms and evaluate their performance.	K3
CO5	Analyze and compare various Operating System algorithms for process scheduling, memory management, file management, and deadlock handling to solve system-level problems efficiently.	K4

S.No	Program	Proposed Number of Labs
1	Experiment 1: Write C programs to simulate the following CPU scheduling algorithms: a) Round Robin b) SJF	1
2	Experiment 2: Write C programs to simulate the following CPU scheduling algorithms: a) FCFS b) Priority	1
3	Experiment 3: Write C programs to simulate the following File organization techniques: a) Single level directory b) Two level	1
4	Experiment 3: Write C programs to simulate the Hierarchical File organization technique.	1
5	Experiment 4: Write C programs to simulate the following File allocation methods: a) Contiguous b) Linked c) Indexed	1
6	Experiment 5: Write a C program to copy the contents of one file to another using system calls.	1
7	Experiment 6: Write a C program to simulate Bankers Algorithm for Dead Lock Avoidance	1
8	Experiment 7: Write a C program to simulate Bankers Algorithm for Dead Lock Prevention	1
9	Experiment 8: Write C programs to simulate the following page replacement algorithms: a) FIFO b) LRU	1
10	Experiment 8: Write C programs to simulate LFU page replacement algorithm	1

R. Suresh
Faculty


Head of the Department


Principal