INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
भारतीय प्रौद्योगिकी संस्थान तिरुपति
Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517 619

1.	Title of the course	Operating Systems Laboratory
2.	Course number	CS314P
3.	Structure of credits (L-T-P-C)	0-0-3-2
4.	New course/modification to	Modified with CS305P/OPERATING SYSTEMS LABORATORY
5.	To be offered by	Computer Science and Engineering
6.	Proposed by	V Mahendran
7.	Prerequisite	None
8.	**Course Objective(s):** To practice implementing key operating system concepts by designing and developing a custom operating system from scratch.	
9.	**Course Content:** Operating system creation: designing and developing a working operating system with key management primitives involving process, memory and storage; Process management: implementation of process management features of process scheduling, synchronization, inter-process characterization and deadlock management; Memory management: designing low-level memory management primitives such as buffer pool design and developing virtual memory management functionalities; Storage management: programmatically implementing file systems implementation and practice file management techniques; Operating system interface: develop custom shell program to interface with the operating system.	
10.	**Textbook(s):** 1. Kerrisk M, The Linux Programming Interface, No Starch Press (2010). 2. Bach M J, The Design of UNIX Operating System, Pearson (1986).	
11.	**Reference(s):** 1. Robbins K A and Robbins S, UNIX Systems Programming: Communication, Concurrency and Threads, 2nd Edition, Pearson (2008). 2. Silberschatz A, Galvin P B and Gagne G, Operating System Concepts, 9th Edition, Wiley (2012). 3. Arpaci-Dusseau R and Arpaci-Dusseau A, Operating Systems: Three Easy Pieces, Arpaci-Dusseau Books LLC (2014).	