

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI**

COURSE PLAN – PART I			
Course Title	Operating Systems		
Course Code	CSLR24	No. of Credits	3
Course Code of Pre-requisite subject(s)	CSPC26		
Session	Jan – May 2020	Section	A
Name of Faculty	Dr. S. Jaya Nirmala	Department	CSE
Email	<a href="mailto:sjaya@nitt.edu">sjaya@nitt.edu</a>		
Course Type	Core course		
<b>COURSE OBJECTIVES</b>			
<ul style="list-style-type: none"> <li>To understand the concept of Operating System</li> <li>To experience the practical side of the functioning of various blocks in OS</li> </ul>			
<b>COURSE OUTCOMES (CO)</b>			
<ul style="list-style-type: none"> <li>Ability to make use of tools for solving synchronization problems</li> <li>Ability to compare and contrast various CPU scheduling algorithms</li> <li>Ability to understand the differences between segmented and paged memories</li> </ul>			

Course Outcome (CO)	Aligned Programme Outcome							
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8
Ability to make use of tools for solving synchronization problems	S	M	S	S	S	S	B	M
Ability to compare and contrast various CPU scheduling algorithms	S	S	S	S	S	M	B	M
Ability to understand the differences between segmented and paged memories	M	M	S	M	S	M	B	M

COURSE PLAN – PART II								
<b>COURSE OVERVIEW</b>								
The goal of this course is to have students understand and appreciate the principles in the design and implementation of operating systems software.								
<b>COURSE TEACHING AND LEARNING ACTIVITIES</b>								
S.No.	Week	Topic	Type		Mode of Delivery			
			L	T	C&T	PPT	VL/VC	DEMO
1	1	Hands on Unix Commands						√
2	2	Shell programming						√
3	3	Shell Script programming using the commands grep, awk, and sed						√
4	4	Implementation of CPU scheduling algorithms						√
5	5	PThread Programming						√

6	6	Implementation of Synchronization problems using Semaphores					√
7	7	Implementation of Synchronization problems using Message Queues and Shared Memory					√
8	8	Implementation of Banker's Algorithm					√
9	9	Implementation of Memory Management-paging and segmentation					√
10	10	Implementation of Memory Management-Page Placement and Replacement					√
11	11	Disk Scheduling Algorithms					√

### ESSENTIAL READINGS

#### Text Book

1. Silberschatz, Galvin, Gagne, "Operating System Concepts", John Wiley and Sons, 8/E, 2013
2. William Stallings, "Operating Systems – Internals and Design Principles", 8/E, Pearson Publications, 2014
3. Andrew S. Tanenbaum, "Modern Operating Systems", 4/E, Pearson Publications, 2014
4. Remzi H. Arpaci-Dusseau and Andrea C. Arpaci-Dusseau, "Operating Systems: Three Easy Pieces", Version 0.91, freely downloadable from <http://pages.cs.wisc.edu/~remzi/OSTEP/>

### COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week	Duration	% Weightage
1	Continuous Assessment	Every Lab session	3 Hours	40
2	Record	Every Lab session	–	10
3	End Semester Exam	13 <sup>th</sup> week	2 Hours	50
Total				100

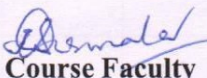
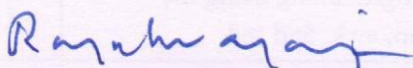
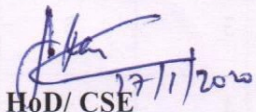
### COURSE EXIT SURVEY

1. Students' feedback through class committee meetings
2. Feedback questionnaire collected from students through MIS before end semester examination

### COURSE POLICY

1. All the students are expected to attend all the contact hours. Anyhow students who fall short of 75% attendance to the contact hours are not eligible to appear for the final written examination
2. If a student is found using mobile phones or any other gadgets during the tests/ exams, the answer sheet of the student will not be evaluated and he/ she will be awarded ZERO marks for that test/ exam.
3. The Course Coordinator is available for consultation during the time intimated to the students then and there.

### FOR APPROVAL

 <b>Course Faculty</b> <b>(Dr. S. JAYA NIRMALA)</b>	 <b>Class Committee Chairperson</b> <b>(Dr. N. RAMASUBRAMANIAN)</b>	 <b>HOD/ CSE</b> <b>(Dr. RAJESWARI SRIDHAR)</b>
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