

- Programming Assignments
- Final Exam

Mapping of COs to Assessment Rubrics :

	Internal Exam	Assignment	Lab Assessment	End Semester Examination
CO 1	✓	✓	✓	✓
CO 2	✓		✓	✓
CO 3	✓		✓	✓
CO 4	✓	✓	✓	✓

3. COMPUTER SYSTEM MANAGEMENT

Discipline	COMPUTER SCIENCE				
Course Code	UK2DSCCSC102				
Course Title	COMPUTER SYSTEM MANAGEMENT				
Type of Course	DSC				
Semester	II				
Academic Level	1				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours/Week
	4	3 hours	-	2 hours	5 hours
Pre-requisites	Nil				
Course Summary	This course is a fundamental course with the objective to impart basic skills necessary in using and managing computer systems for beginners.				

Detailed Syllabus:

Module	Unit	Content	Hrs (L+P)
I	Operating Systems Fundamentals		15
	1	Functions and Components of an Operating System	
	2	OS Boot Process and Boot Configuration	
	3	File Systems and Disk Management in Windows	
	4	User Management and Access Control	
	5	Introduction to Windows Registry	
	6	System Performance Monitoring in Windows	
II	Windows Desktop Management and Storage Management		15
	7	Desktop Customization and Personalization	
	8	Managing Applications and Processes	
	9	Managing User Accounts and Permissions	
	10	Troubleshooting Common Desktop Issues, Security Practices for Windows Desktops	
	11	Understanding Storage Devices (HDDs, SSDs, etc.)	
	12	Disk Partitioning and Formatting	

	13	File Systems Management (NTFS, FAT32, etc.)	
	14	Disk Quotas and File Compression	
	15	Disk Cleanup and Optimization Techniques	
III	Disk Defragmentation and Fragmentation		15
	16	Understanding Disk Fragmentation	
	17	Impact of Fragmentation on System Performance	
	18	Disk Defragmentation Techniques and Tools	
	19	Automated Defragmentation Settings in Windows	
	20	Monitoring Disk Fragmentation Levels	
IV	Operating System Security Fundamentals		15
	21	Introduction to OS Security Principles	
	22	User Authentication and Authorization	
	23	Access Control Lists (ACLs) in Windows	
	24	Security Policies and Group Policy Objects (GPOs)	
	25	Windows Update Management and Patching	
V	Flexi Module: Not included for End Semester		15

26	System Backup and Recovery Procedures
27	Windows Update Management
28	System Performance Monitoring and Optimization
29	Troubleshooting Common Windows Errors and Issues
30	Remote Desktop and Remote Assistance Tools
31	Firewall and Network Security Settings
32	Antivirus and Antimalware Protection

References

1. Andrew S. Tanenbaum. "Modern Operating Systems" , Pearson Education. 4th Edition, 2014.
2. Eleen Frisch, "Essential System Administration", O'Reilly Media, 4th Edition, 2021.
3. Thomas Anderson and Michael Dahlin, "Operating Systems: Principles and Practice", Recursive Books, 2nd Edition, 2014.

Resources

1. <https://support.microsoft.com/en-us>
2. <https://developers.google.com/certification>
3. <https://youtu.be/y2kg3MOK1sY?si=VKw-YeFUZSY5BTrf>
4. <https://training.linuxfoundation.org/>
5. <https://aws.amazon.com/dynamodb/resources/training-linux-academy/>
6. <https://www.youtube.com/c/TheLinuxExperiment>
7. <https://help.ubuntu.com/>
8. <https://developers.redhat.com/>

Lab Exercises

1. Commands for files and directories cd, cp, mv, rm, mkdir, more, less, creating and viewing files, using cat, file comparisons, View files, disk related commands, checking disk free spaces, Essential Linux commands.

2. Processes in Linux – process fundamentals, connecting processes with pipes, redirecting input output, manual help, Background processing, managing multiple processes, changing process priority, scheduling of processes at command, batch commands, kill, ps, who, sleep
3. Printing commands, grep, fgrep, find, sort, cal, banner, touch, file, file related commands – ws, sat, cut, grep, dd, etc.
4. Exercises on general desktop management.
5. Using shortcut keys
6. Using File manipulation commands
7. Installing applications
8. Partitioning disks
9. Practising solutions for troubleshooting

Course Outcomes

No.	Upon completion of the course the graduate will be able to	Cognitive Level	PSO addressed
CO-1	Summarise about Operating Systems	U	PSO-1,3
CO-2	Experiment with desktop activities	Ap	PSO-1,3
CO-3	Illustrate disk fragmentation and partitioning activities	Ap	PSO-1,3
CO-4	Experiment with basic Operating system security	Ap	PSO-1,3

R-Remember, U-Understand, Ap-Apply, An-Analyse, E-Evaluate, C-Create

Note: 1 or 2 COs/module

Name of the Course: COMPUTER SYSTEM MANAGEMENT

Credits: 3:0:1 (Lecture:Tutorial:Practical)

CO No.	CO	PO/PSO	Cognitive Level	Knowledge Category	Lecture (L)/ Tutorial (T)	Practical (P)
CO-1	Summarize about Operating Systems	PSO-1, 3	U	F, C, P	L	P
CO-2	Experiment with desktop activities	PSO-1, 3	Ap	F, C, P	L	P
CO-3	Illustrate disk fragmentation and partitioning activities	PSO-1, 3	Ap	F, C, P	L	P
CO-4	Experiment with	PSO-1, 3	Ap	F, C, P	L	P

	basic Operating system security					
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F-Factual, C- Conceptual, P-Procedural, M-Metacognitive

Mapping of COs with PSOs and POs :

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PSO 1	PSO 2	PSO 3	PSO 4
CO 1	-	-	-	-	-	1	1	-	2	-	1	-
CO 2	-	-	-	-	-	2	2	-	2	-	2	-
CO 3	-	-	-	-	-	2	2	-	2	-	2	-
CO 4	-	-	-	-	-	2	2	1	2	-	2	-

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Assessment Rubrics:

- Quiz / Assignment/ Quiz/ Discussion / Seminar
- Midterm Exam
- Programming Assignments