



Course Specifications

Course Title:	Operating System
Course Code:	501453-3
Program:	Bachelor in Computer Science
Department:	Department of Computer Science
College:	College of Computers and Information Technology
Institution:	Taif University

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A. Course Identification

1. Credit hours: 3
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: 11 th level/4
4. Pre-requisites for this course (if any): Computer Architecture 503323-3
5. Co-requisites for this course (if any): None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	5	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	50
2	Laboratory/Studio	0
3	Tutorial	0
4	Others (specify)	0
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

Introduces to the functions and major techniques of a modern multitasking operating system. Topics include operating system structures, process management, process synchronization, multithreading, deadlocks, CPU scheduling, memory management, file systems, and peripheral management.

2. Course Main Objective

- Understand basic concepts of operating systems, and interactions among its components
- Learn algorithms and techniques used by operating systems for resource management, scheduling and data storage.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Define the role of operating systems and describe their services and structures.	K1
1.2	Describe process management and scheduling techniques used by operating system	K1
1.3	Describe memory and storage management techniques used by operating systems.	K1
2	Skills :	
2.1	Use different techniques to deal with process and thread synchronization	S1
3	Values:	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Operating System and Operating Systems Structures	6
2	Processes and Threads	7
3	CPU Scheduling	6
4	Process Synchronization	6
5	Deadlock	7
6	Main Memory Management	6
7	Virtual Memory Management	6
..8.	File System	6
Total		50

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Define the role of operating systems and describe their services and structures.	Lectures Tutorials	Direct Assessment Tool Quizzes / Homework/Project/ Exams Indirect Assessment Tool Course Exit Survey
1.2	Describe process management and scheduling techniques used by operating system	Lectures Tutorials	Direct Assessment Tool

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
			Quizzes / Homework/Project/ Exams Indirect Assessment Tool Course Exit Survey
1.3	Describe memory and storage management techniques used by operating systems.	Lectures Tutorials	Direct Assessment Tool Quizzes / Homework/Project/ Exams Indirect Assessment Tool Course Exit Survey
2.0	Skills		
2.1	Use techniques to deal with process and thread synchronization	Lectures Tutorials	Direct Assessment Tool Quizzes / Homework/Project/ Exams Indirect Assessment Tool Course Exit Survey
3.0	Values		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Home Works	Every two weeks	10%
2	Quizzes	Week 4, and Week 8	15%
3	Projects	Week 5 and Week 9	10%
4	Mid-Term	Week 6	25%
5	Final Examination	Week 12	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice

Academic advising and counseling of students is an important component of teaching; student academic advising is a mandatory requirement of College of Computers and Information Technology (CCIT). Appropriate student advising provides support needed for the student during times of difficulty. In addition, it helps the student to build a close relationship with his/her advisor and to provide student motivation and involvement with the institution.

In addition, since faculty are usually the first to recognize that a student is having difficulty, faculty members play a key role in developing solutions for the students or referring them to

appropriate services. Faculty members also participate in the formal student-mentoring program.

Additional counseling is provided by course directors, who provide students with academic reinforcement and assistance and refer “at risk” students to the Vice Dean for Academic Affairs and the Vice Dean for female section.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	* Operating Systems Concepts by Silberschatz, Peter Baer Galvin, Greg Gagne. Edition 10 * Lectures Slides
Essential References Materials	Understanding Operating Systems by Ann McIver McHoes; Ida M. Flynn
Electronic Materials	NON
Other Learning Materials	NON

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	A Lecture room appropriate for maximum 25 students with a personal computer, a data show and a smart board.
Technology Resources (AV, data show, Smart Board, software, etc.)	
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Students’ surveys and Student’s course evaluation
Improvement of Teaching	Course Coordinator	deficiencies based on the student Evaluation, faculty

Evaluation Areas/Issues	Evaluators	Evaluation Methods
		input, course file, and program assessment
Verifying Standards of Student Achievement	Curriculum Committee	<ul style="list-style-type: none"> Review CAF (Course assessment file) Alumni surveys. Periodic exchange and remarking of tests or a sample of assignments with staff at another

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	CS council
Reference No.	Meeting #12
Date	23-10-1443

