COURSE PROFILE

Course Name	Code	Semester	Term	Theory+PS+Lab (hour/week)	Local Credits	ECTS
Operating Systems	IT304	Spring	6	3 + 0 + 2	4	8

Prerequisites	None

Course Language	English
Course Type	Required
Course Lecturer	Assist. Prof. Dr. Fatih Özaydın
Course Assistant	Kerem Ok
Course Objectives	This course aims to provide an introduction to the internal operation of modern operating systems and provide analysing and designing skills of operating systems.
Course Learning Outcomes	Upon successful completion of the course, students will be able to: • have an understanding of the internal operation of modern operating systems • have analysing and designing skills related to operating systems.
Course Content	Processes, batch jobs. Process scheduling. Threads. Producer-Consumer problems, process syncronization. Dining Philosophers, Bakery algorithm. Deadlocks. Memory management, address relocation. Virtual memory, paging, thrashing. Secondary storage management. File systems. Security. Future of computers.

COURSE CONTENT

Week	Subjects	Related
1	Introduction to Operating Systems	
2	Processes, batch jobs.	
3	Process scheduling	
4	Threads	
5	Producer-Consumer problems, process syncronization	
6	Dining Philosophers, Bakery algorithm	
7	Deadlocks	
8	Midterm	
9	Memory management, address relocation	
10	Virtual memory, paging, thrashing	
11	Secondary Storage Management.	
12	File Systems	
13	Security	
14	Future of Computers	

Course Textbook	Silberschatz, Galvin, Gagne: Operating System Concepts, 7th Edition
Recommended References	

Semester Requirements	Number	Percentage of Grade
Attendance/Participation		
Laboratory		
Application		
Special Course Internship (Work Placement)		
Quizzes/Studio Critics		
Homework Assignments		
Presentation		
Project		
Seminar/Workshop		
Midterms/Oral Exams		45
Final/Resit Exam		55
Total		100

PERCENTAGE OF SEMESTER WORK		45
PERCENTAGE OF FINAL WORK		55
Total		100

Course Category	Core Courses	X
	Major Area Courses	
	Supportive Courses	
	Media and Management Skills Courses	
	Transferable Skill Courses	

COURSE'S CONTRIBUTION TO PROGRAM

#	Program Qualifications / Outcomes	* Level of Contribution				
		1	2	3	4	5
1	A foundation in mathematics and basic sciences and ability to apply acquired knowledge as they relate to the study and practice of information technology					X
2	An ability to analyze a problem, identify and define the computing requirements appropriate to its solution, to understand, select and use appropriate technology, tools, standards, protocols, building blocks, and components to solve the problem					X
3	An ability to propose, analyze, design, develop, test and maintain an information technology system including software solutions, security model, computer and network infrastructure, information systems etc. to solve information technology problems			X		
4	An ability to analyze local and global impact of computing on individuals, organizations and society; and the ability to apply information technology techniques, skills, and tools for regular computing practices as well as to improve effectiveness of current methodologies	X				
5	An ability to effectively communicate in oral and written media with all kinds of related audiences; and prepare documentation for this purpose as required	X				
6	An understanding of professional, ethical, legal, and social issues and responsibilities of information technology profession		X			
7	A taste and breadth of knowledge across several social topics outside the immediate requirements of the information technology profession, and the ability to work within heterogeneous teams to accomplish a common goal including people from the information technology area as well as other disciplines		X			
8	An ability to engage in life-long learning and professional development for personal improvement to follow contemporary information technology issues					

*1 Lowest, 2 Low, 3 Average, 4 High, 5 Highest

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION

Activities	Number	Duration (Hours)	Total Workload
Course Hours (Including Exams)	14	3	42
Tutorials			
Laboratory			
Application	14	1	14
Special Course Internship (Work Placement)			
Field Work			
Study Hours Out of Class	14	5	70
Presentations / Seminar			
Project			
Preparatory reading	14	5	70
Homework Assignments			
Quizzes	10	1	10
Midterm Exams	1	2	2
Final / Resit Exam	1	2	2
		Total Workload	210

COURSE CATEGORY

ISCED GENERAL AREA CODES	GENERAL AREAS	ISCED BASIC AREA CODES	BASIC EDUCATIONAL AREAS	
1	Education	14	Teacher Training and Educational Sciences	
2	Humanities and Art	21	Art	
2	Humanities and Art	22	Humanities	
3	Social Sciences, Management and Law	31	Social and Behavioural Sciences	
3	Social Sciences, Management and Law	32	Journalism and Informatics	
3	Social Sciences, Management and Law	38	Law	
4	Science	42	Life Sciences	
4	Science	44	Natural Sciences	
4	Science	46	Mathematics and Statistics	
4	Science	48	Computer	60
5	Engineering, Manufacturing and Civil	52	Engineering	40
5	Engineering, Manufacturing and Civil	54	Manufacturing and Processing	
5	Engineering, Manufacturing and Civil	58	Architecture and Structure	
6	Agriculture	62	Agriculture, Forestry, Livestock, Fishery	
6	Agriculture	64	Veterinary	
7	Medicine and Welfare	72	Medical	
7	Medicine and Welfare	76	Social Services	
8	Service	81	Personal Services	
8	Service	84	Transport Services	
8	Service	85	Environment Protection	
8	Service	86	Security Services	