Course Description Form	
Course Code and Name	BM309 OPERATING SYSTEMS
Course Semester	5
Catalog Content	Basic architecture of operating systems, hardware and software requirements and application areas of operating systems.
Textbook	Operating System Concepts, 9th Edition by Abraham Silberschatz, Peter B. Galvin, Greg Gagne, 2012.
Supplementary Textbooks	Gary Nutt, Operating Systems. A Modern Perspective, Addison Wesley, 2004 William Stallings, Operating Systems, Prentice-Hall, 2001. Tanenbaum, Andrew S., Modern Operating Systems, Prentice-Hall, 2001.
Credit	6
Prerequisites of the Course (*Attendance Requirements*)	There is no prerequisite or co-requisite for this course.
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	The goals of this course are to teach students the fundamental tasks of a general-purpose operating system and the main approach and algorithms which the operating system employs in order to fulfill these tasks; to allow students to get familiar with managing computer hardware and by this way to equip them with basic information which allows them to develop system programs close to computer hardware.
Course Learning Outcomes	1. Fundamental concepts of operating systems, process management, time sharing working, context changing, 2. Threads, inter processes interaction and synchronization, mutual exclusion, semaphores, classic process problems, deadlock, catching and prevention 3. Input/Output units
Instruction Methods	The mode of delivery of this course is Face to face
Weekly Schedule	1. Week: Operating systems basic concepts 2. Week: Transaction management 3. Week: Time of shared work 4. Week: Changing Context 5. Week: Threads 6. Week: Processes and interactions between synchronization 7. Week: Mutual exclusion 8. Week: Semaphores 9. Week: Classic process problems 10. Week: Dead locks trapping and blocking 11. Week: Job Scheduling Algorithms 12. Week: Memory management, paging, 13. Week: Virtual memory, file system and management 14. Week: Input / Output units

Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours: 3 Reading Activities Internet browsing, library work Material Design and Implementation Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam		

Assessment Criteria		Numbers	Total Weighting (%)	
	Midterm Exams	1	40	
	Assignment	2	10	
	Application	1	10	
	Projects			
	Practice			
	Quiz			
	Percent of In-term Studies (%)		60	
	Percentage of Final Exam to Total Score (%)		40	
	Attendance			

	Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Workload	Weekly Theoretical Course Hours	14	3	42
	Weekly Tutorial Hours			
	Reading Tasks	14	2	28
	Studies	14	2	28
	Material Design and Implementation	1	15	15
	Report Preparing			
	Preparing a Presentation			
	Presentations			
	Midterm Exam and Preparation for Midterm Exam	1	15	15
	Final Exam and Preparation for Final Exam	1	15	15
	Other (should be emphasized)			
	Total Workload			143
	Total Workload / 25			5.72
	Course Credit (ECTS)			6

No	Program Outcomes	1	2	3	4	5
	Contribution Level Between Course Learning Outcomes and Program Outcomes					
1	Sufficient knowledge on mathematics, science and computer engineering; ability to apply theoretical and practical knowledge in these areas to model and solve engineering problems				X	
2	Ability to identify, define, formulate and solve complex engineering problems; ability to choose and apply appropriate analysis and modelling methods for these purposes					X
3	Ability to design a complex system, process, device, software, algorithm, or product under realistic constraints and circumstances to meet certain requirements; ability to apply modern design techniques for this purpose					X
4	Ability to choose, develop and use modern techniques and tools necessary for engineering applications; ability to effectively use computing technologies			X		
5	Ability to design and implement systems or experiments to solve engineering problems, collect and interpret data to evaluate and analyze the results of solutions		X			
6	Ability to work effectively in intradisciplinary and interdisciplinary teams or individually		X			

7	Ability to efficiently prepare, evaluate and interpret reports			X		
8	Ability to make presentations and conduct effective verbal and written communication in Turkish and English				X	
9	Awareness of the necessity of lifelong learning; ability to access information, follow scientific and technological developments; ability to perpetually renew oneself		X			
10	Awareness of professional and ethical responsibility, ability to act in accordance with ethical principles			X		
11	Ability to apply knowledge on project management, risk management and change management			X		
12	Awareness of entrepreneurship and innovation, ability to design and build sustainable systems		X			
13	Ability to devise local and global solutions to contemporary issues considering the effects of engineering applications on health, environment and security	X				
14	Awareness of the legal consequences of engineering solutions	X				
15	Ability to apply knowledge on software development process and documentation rules			X		
16	Knowledge on standards used in engineering applications		X			
17	Awareness of occupational health and security, information security and privacy		X			

The Course's Lecturer(s) and Contact Information	Asst. Prof. Dr. Mehmet Demirci mdemirci@gazi.edu.tr