

Course Description Form	
Course Code and Name	CENG465 DISTRIBUTED SYSTEMS (TECH.ELECT.)
Course Semester	7
Catalog Content	Algorithms based on distributed systems, distributed systems Paradigms, Models and methods
Textbook	Distributed Systems: Principles and Paradigms (2nd Edition) by Andrew S. Tanenbaum, Maarten van Steen, 2016.
Supplementary Textbooks	Introduction to Distributed Algorithms (2nd Edition) by Gerard Tel, 2000. Replication Theory and Practice, Editors: Charron-Bost, Bernadette, Pedone, Fernando, Schiper, Andre, 2010.
Credit	6
Prerequisites of the Course (Attendance Requirements)	There is no prerequisite or co-requisite for this course.
Type of the Course	Elective
Instruction Language	English
Course Objectives	Understanding the fundamental algorithms on distributed systems, Understanding the concept of fault tolerance and how it can be achieved, Learning the necessary models for designing distributed applications
Course Learning Outcomes	1. Understanding the fundamental algorithms on distributed systems 2. Understanding the concept of fault tolerance and how it can be achieved 3. Learning the necessary models for designing distributed applications
Instruction Methods	The mode of delivery of this course is face to face.
Weekly Schedule	1. Week: Algorithms based on distributed systems 2. Week: Algorithms based on distributed systems 3. Week: Problems 4. Week: Problems 5. Week: distributed systems Paradigms 6. Week: distributed systems Paradigms 7. Week: Taking into account the design of distributed applications fault tolerance 8. Week: Taking into account the design of distributed applications fault tolerance 9. Week: Models and methods 10. Week: Models and methods 11. Week: Distributed file systems 12. Week: Distributed file systems 13. Week: Examples of practical distributed systems 14. Week: Examples of practical distributed systems

<p>Teaching and Learning Methods</p> <p><i>(These are examples. Please fill which activities you use in the course)</i></p>	<p>Weekly theoretical course hours: 3 Reading Activities Internet browsing, library work Designing and implementing Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam</p>		
<p>Assessment Criteria</p>		<p>Numbers</p>	<p>Total Weighting (%)</p>
	Midterm Exams	1	30
	Assignment	5	30
	Application		
	Projects		
	Practice		
	Quiz		
	Percent of In-term Studies (%)		60
	Percentage of Final Exam to Total Score (%)		40
	Attendance		

Workload	Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load			
	Weekly Theoretical Course Hours	14	3	42			
	Weekly Tutorial Hours						
	Reading Tasks	12	4	48			
	Studies	10	3	30			
	Material Design and Implementation						
	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			150			
	Total Workload / 25			6			
Course Credit (ECTS)			6				
Contribution Level Between Course Learning Outcomes and Program Outcomes	No	Program Outcomes	1	2	3	4	5
	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		Computer Engineering Department Chair bmbb@gazi.edu.tr						