COURSE DESCRIPTION FORM	
Course Code and Name	CENG372 JAVA PROGRAMMING (TECH. ELECT.)
Course Semester	6
Catalogue Data of the Course (*Course Content***)**	Java fundamentals, methods, classes and objects, arrays and lists, access modifiers and encapsulation, inheritance and polymorphism, abstract classes and interfaces, exception handling, graphical user interface, file operations, lambda and streams, concurrent programming, accessing databases.
Course Textbooks	Java: How to Program, Early Objects, 11th Edition, by Paul Deitel, Harvey Deitel, 2021.
Supplementary Textbooks	Java: The Complete Reference, 10th Edition (Complete Reference Series) by Herbert Schildt, 2017. Thinking in Java, 4th Edition, by Bruce Eckel, 2006.
Credit (*ECTS***)**	6
Prerequisites for the Course (*Attendance Requirements***)**	Obligatory course attendance
Course Type	Compulsory
Language of Instruction	English
Course Objectives	Introducing students to Java programming language concepts and object-oriented programming thought processes. To explain advanced techniques in Java programming language.
Course Learning Outcomes	1. Knows the basics of Java programming 2. Explains methods, classes and objects. 3. Knows arrays and lists. 4. Explain access modifiers and encapsulation. 5. Explains inheritance and polymorphism. 6. Knows how to define and use abstract classes and interfaces 7. Explains how to handle exceptions. 8. Knows how to create a graphical user interface. 9. Knows the String class. 10. Knows how to perform file operations. 11. Knows how to develop faster programs with lambda and streams. 12. Knows concurrent programming. 13. Knows accessing databases.
Instruction Method (*Face-to-face, Distance education etc.*)	The mode of delivery of this course is face-to-face.
Weekly Schedule of the Course	1. Java fundamentals 2. Methods, classes and objects 3. Arrays and lists 4. Access modifiers and encapsulation 5. Inheritance and polymorphism 6. Abstract classes and interfaces 7. Exception handling 8. String class 9. File streams 10. Lambdas and streams 11. GUI design 12. GUI design 13. Concurrency 14. Accessing databases with JDBC
Teaching Activities (*The time spent for the activities listed here will determine the amount of credit required*)	Weekly theoretical course hours Reading activities Internet search and library work Designing and implementing materials Making a report

		Number(s)	Weight (%)				
	Midterm and revision for midterm Final exam and revision for final exam						
Assessment Criteria	Midterm exam	1	30				
	Assignment	0					
	Application	0					
	Project	1	30				
	Practice	0					
	Quiz	0					
	Final exam	1	40				
	Total	3	100				

	Activity	Number of Weeks	Duration (Weekly Hour)	End of Semester Total Workload
Workload of the Course	Weekly theoretical course hours	14	3	42
	Weekly practical course hours			
	Reading activities	14	1	14
	Internet search and library work	14	2	28
	Designing and implementing materials	3	10	30
	Making a report	1	8	8
	Preparing and making presentations			
	Midterm and revision for midterm	1	15	15
	Final exam and revision for final exam	1	15	15
	Total workload			152
	Total workload/ 25			6,08
	Course Credit (ECTS)			6

	No	Program Outcomes	1	2	3	4	5
Contribution Level between Course Outcomes and Program Outcomes	1	Knowledge of mathematics, science, basic engineering, computing, and computer engineering; ability to use this knowledge in solving complex engineering problems.					X
	2	Ability to define, formulate and analyze complex engineering problems using basic science, mathematics and engineering knowledge and considering the UN Sustainable Development Goals relevant to the problems addressed.					X
	3	Ability to design creative solutions to complex engineering problems; ability to design complex systems, processes, devices, software, algorithms or products to meet current and future requirements, considering realistic constraints and conditions.					X
	4	Ability to select, use and develop appropriate techniques, resources and modern engineering and informatics tools, including estimation and modeling, for the analysis and solution of complex engineering problems while being aware of their limitations.				X	
	5	Ability to use research methods to examine complex engineering problems or research topics in computer engineering, including reviewing the literature, designing experiments, conducting experiments, collecting data, analyzing and interpreting results.				X	

#	Description				
6	Knowledge of the effects of engineering practices and the standards used in these practices on society, health and safety, economy, sustainability and environment within the scope of the UN Sustainable Development Goals; awareness of the consequences of engineering solutions in the fields of information security and law.				
7	Acting in accordance with engineering professional principles and knowledge on ethical responsibility; awareness of acting impartially, without discrimination on any issue, and being inclusive of diversity.				
8	Ability to work effectively individually and as a team member or leader in intradisciplinary and multidisciplinary teams (face-to-face, remote, or hybrid).	X			
9	Ability to conduct effective verbal and written communication on technical issues in Turkish or English, prepare reports, make effective presentations and prepare software documentation, considering the various differences of the target audience (such as education, language, profession).			X	
10	Knowledge of business practices such as project, risk and change management and economic feasibility analysis; awareness of entrepreneurship and innovation.	X			
11	Lifelong learning skill that includes the ability to learn independently and continuously, to adapt to new and developing scientific practices and technologies, and to think inquisitively about technological changes.			X	

Lecturer(s) and Contact Information	Assoc. Prof. Dr. Ümit ATİLA umitatila@gazi.edu.tr