COURSE DESCRIPTION FORM	
Course Code and Title	CE102 COMPUTER PROGRAMMING
Semester	2
Catalog description	Introduction to MATLAB, Matrices and Operators, Functions and Scripts, Polymorphism, Random Numbers, Keyboard Input, Plotting / Graphing, Debugging, Selection: If Statements, Relational Operators, Logical Operators, Loops: For loops, While loops, Logical Indexing, Data Types, File Input / Output
Required reading	Introduction to MATLAB for Engineers, William J Palm III, McGraw-Hill
Recommended reading	MATLAB for Engineers, Holly Moore, Pearson
ECTS	5
Prerequisites and co-requisites	No prerequisite Required attendance to lectures is at least 70%
Compulsory/Elective	Compulsory
Language of instruction	English
Aim of course	To familiarize the student with the basic computer programming principles and teach the basics of the software platform MATLAB.
Learning outcomes of the course unit	1. Demonstrate the basic principles of computer programming and their application to the solution of engineering problems. 2. Use the MATLAB computing environment. 3. Write programs in MATLAB to solve basic engineering problems.
Mode of delivery	The mode of delivery of this course is face to face.
Course content	1. Introduction to MATLAB Environment 2. Matrices and Operators 3. Matrices and Operators 4. Functions and Scripts 5. Polymorphism, Random Numbers 6. Keyboard Input, Plotting/Graphing, Debugging 7. Keyboard Input, Plotting/Graphing, Debugging and Midterm I 8. Selection (If Statements) 9. Relational Operators, Logical Operators 10. Loops (For loops) 11. Loops (While loops) 12. Logical Indexing 13. Midterm II 14. Data Types 15. File Input/Output
Planned learning activities and teaching methods	2 hours of theoretical lectures per week(2+2) 2 hours of practical lessons per week Web search and library work Quizzes Report preparation Midterm exam and required works Final exam and required works

Assessment methods and criteria		Quantity	Percentage (%)	
	Mid-terms	2	40	
	Assignment	3	5	
	Exercises	-		
	Projects	-		
	Practice	-		
	Quiz	6	15	
	Contribution of		60	

	In-term Studies to Overall Grade %				
	Contribution of Final Examination to Overall Grade (%)			40	
	Attendance				

Workload	Efficiency	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester	
	Theoretical Study Hours of Course Per Week	14	2	28	
	Practicing Hours of Course Per Week	14	2	28	
	Reading	14	1	14	
	Searching in Internet and Library	14	2	28	
	Designing and Applying Materials	14	0	0	
	Preparing Reports	14	1	14	
	Preparing Presentation	0	0	0	
	Presentation	0	0	0	
	Mid-Term and Studying for Mid-Term	2	5	10	
	Final and Studying for Final	1	5	5	
	Other	0	0	0	
	Total Workload:			127	
	Total Workload / 25:			5.08	
	ECTS:			5	

Course's contribution to program	No	Program Learning Outcomes	1	2	3	4	5
	1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.				X	
	2	Ability to identify, formulate, and solve complex civil engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.	X				
	3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.	X				
	4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in civil engineering practice; ability to employ information technologies and to use at least one computer programming language effectively.					X
	5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex civil engineering problems or discipline specific research questions.	X				
	6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams.	X				
	7	Ability to work individually.					X
	8	Ability to communicate effectively in Turkish, both orally and in writing; ability to write effective reports and comprehend written reports.			X		
	9	Knowledge of English of B1 level according to Common European Framework of			X		

	#	Outcome					
		Reference.					
	10	Prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.	X				
	11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				X	
	12	Consciousness to behave according to ethical principles and professional and ethical responsibility.			X		
	13	Knowledge on standards used in civil engineering practice.	X				
	14	Knowledge about business life practices such as project management, risk management, and change management.	X				
	15	Awareness in entrepreneurship, innovation; knowledge about sustainable development.	X				
	16	Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering.	X				
	17	Awareness of the legal consequences of engineering solutions.	X				
Name of lecturer(s) and contact information	Doç. Dr. Kerem TAŞTAN, ktastan@gazi.edu.tr Inst. Dr. Erhan TEKİN,etekin@gazi.edu.tr						