

Alanya Alaaddin Keykubat University | Rafet Kayış Faculty of Engineering
Electrical-Electronics Engineering Department
 2023-2024 Fall Semester

Syllabus

Code/Name	EEE 109 / Computer Tools for Electrical Engineering
Type	Required
Credit/ECTS	5/5
Hour per Week	3 (3+0+2)
Level/Year	Undergraduate/1
Semester	Fall
Classroom	WWF L308
Content	Matlab variables, scripts, and operations, Visualization and programming, Data presentation and analysis approaches, Built-in Functions, User-defined functions, Plotting in Matlab, Logical functions and Selection structures, Repetition structures, Matrix manipulations.
Prerequisites	None
Textbooks	<p>Primary Class Notes H Moore, MATLAB for Engineers, Pearson, Global Ed., 2019.</p> <p>Supplementary H Moore, MATLAB for Engineers, Pearson Education, Global Ed., 2019. PI Kattan, MATLAB for Beginners-A Gentle Approach, Petra Books, Revised Ed., 2010. JO Attia, Electronics and Circuit Analysis using MATLAB, CRC Press, 1st Ed., 1999.</p>
Objectives	<ul style="list-style-type: none"> • Introduction to programming language constructs • To introduce the basic concepts and features of programming languages • To design and implement advanced computer programs
Course Outcomes	In this course you will be able to: CO1 Understand basic data types such as int, float and arrays and understand how different types of data can be represented and used in computational expressions. CO2 Remember and use widely used MATLAB standard library functions, such as input/output functions and string functions, in a program. CO3 Understand and apply structured programming concepts by elaborating on sequential, selective, repetitive structures, such as statements, if/switch/case statements, and for/while statements. CO4 Design a modular solution to a problem by decomposing it into smaller sub-problems. CO5 Modify an existing program to solve a similar but different problem.

Weekly Schedule of Topics

W	Topic
1	Problem solving in Engineering and Science
2	How is MATLAB used in Industry
3	Solving problems with MATLAB
4	Using various built-in functions
5	Manipulating MATLAB matrices
6	Plotting
7	Logical functions and Selection structures
8	Problems with two variables

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9	Repetition structures
10	Improving the efficiency of loops
11	User-controlled input and output
12	User-defined functions
13	MATLAB toolboxes and creating your own toolbox
14	Matrix algebra

Professional Contribution Modify an existing solution to a problem to accommodate for extension and/or change of problem specifications.

Contribution to Program Outcomes*

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	5	4	2	4	1	4	2	2	3	5	0
CO2	4	5	3	2	1	3	4	2	2	3	1
CO3	5	5	3	4	3	4	3	2	2	3	0
CO4	5	4	5	3	0	4	3	1	4	4	0
CO5	5	2	4	4	1	5	5	3	1	1	2

* Contribution Level | 0: None | 1: Very Low | 2: Low | 3: Medium | 4: High | 5: Very High

Special Conditions Students work in groups for the programming.

Requirements Basic knowledge of a calculus and linear algebra

Course Policy

- Be in the class on time.
- English should always be used to communicate with one another.
- At least 70% attendance is required, otherwise a grade of **DZ** will be assigned.
- You must be present in class for the exercises and write programs in the laboratory.

Cheating & Plagiarism

- Copying or letting someone copy your work on exams, assignments, or reports is cheating.
- Cutting and pasting text, figures and tables from web sources or any other electronic source is plagiarism.
- The consequence of academic dishonesty is to receive a grade of **FF** for the course.

Evaluation	Exercises	10%
	Midterm	30%
	Final Exam	60%
	Total	100%

Instructor

Name/Surname	Emrah Irmak	Email	emrah.irmak@alanya.edu.tr
Room	228	Office Hours	Tu 10.30-11.30 F 15.30-17.30

Prepared by Emrah Irmak on June 7th, 2024.