

Syllabus

Department of Electrical & Electronic Engineering

Course Title			שם הקורס
Course No.	3601865		מספר קורס
Lecturers' Name	Assaf Kezurer Engr. Dmitry Ryzhkov	assafkezurer@shenkar.ac.il rdmitryr@gmail.com	מורים הקורס
Year	2026-2025	תשפ"ז	שנת הוראה
Weekly Hours	4 class room + 2 exercise		היקף הקורס בש"ש
Credits	5 credits		נקודות זכות
Prerequisite	None		דרישות קדם

Course Summary

The course gives an insight to computer science and software engineering, in order to build the foundations for the subsequent topics on the subject. The course is aimed at developing the student's abilities in logical problem solving, as well as designing algorithms and writing programs in the **C language**, including advanced memory management and an introduction to **Object-Oriented concepts**.

Main Teaching Methods	The course will be taught using a mixture of frontal lectures, class technical exercises, self-study, homework exercises, and a final exam - but mainly thru practice at home - programming is learned thru the fingertips.
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Learning Outcomes

The students will be able to logically solve given problems and finally write their solutions as programs in the C programming language.
The students will demonstrate proficiency in dynamic memory management and understand the foundational concepts of Object-Oriented Programming through an introduction to Classes.
The students will have acquired the needed software background to continue their studies in electrical engineering

Assessment Structure

Course Requirements	At least 60 in the final exam and at least 60 in the final grade
ASSIGNMENTS	20%
Mid-term Exam	10%
FINAL TEST	70%

Class Attendance	Mandatory. According to Shenkar's regulations
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Course Structure		
Lesson No.	Subject of the Lesson	Details
1	Algorithms & FlowCharts	Homework Exercises
2	Intro to C + Variables, Types, Operators & Expressions	Homework Exercises
3	Control / Conditionals / Switch / Loops	Homework Exercises
4	Functions	Homework Exercises
5	Control Flow & Loops – Deepening	Homework Exercises
6	Arrays & Strings	Homework Exercises
7	Pointers and String-library	Homework Exercises
8	Examples of Arrays /Pointers / Sort / Search	Homework Exercises
9	Variable Scope / Terminal func's & file io	Homework Exercises
10	Recursion	Homework Exercises
11	Structs	Homework Exercises
12	Dynamic memory allocation	Homework Exercises
13	Intro to classes	Homework Exercises
14	Summary for the Test	Homework Exercises

Bibliography / Filmography	
Suggested	המדריך השלם לשפת C מהדר' 6, עמיות רשות ומשה ליבטמן, הוצ' הود-עמיי לספרי מחשבים, 2000
Suggested	A Book on C (Programming in C), A. Kelly and I. Pohl, Addison-Wesley, 4th edition, 1998
Suggested	C Programming Language, B. W. Kernighan and D. M. Ritchie, Prentice Hall, 2nd edition,
Suggested	Introduction to Algorithms, T. H. Cormen et al., MIT Press, 2nd edition, 2001