

# CEN111 Algorithms and Programming I

Fall 2025-2026

**Instructor:** Dr. Barış ATA (bata@cu.edu.tr)

**Office Hours:** Tuesday, 10:00-12:00

## Description:

This course aims to teach students the basics of computer programming using C Programming Language. This course focuses on Algorithm design tools: flowcharts, pseudocodes, C programming language primitives, I/O functions, Random Numbers, Operations, Type Conversions, Precedence of Evaluation, Conditions, Loops, Functions, Recursive Functions, Arrays.

## Textbooks:

- C How to Program - 9th ed, Paul Deitel, Harvey Deitel, Pearson
- Problem Solving and Program Design in C —7th ed, Jeri R. Hanly, Elliot B. Koffman

## Required Software:

- Raptor Flowchart based Programming Environment
- Microsoft Visual Studio

## References:

- C Programming Language (2nd Edition), Brian W. Kernighan, Dennis M. Ritchie
- C Programlama Dili, Rifat Çölkesen
- C Dersi: Programlamaya Giriş, Nergiz Ercil Çağiltay,C. Fügen Elbes, Gül Tokdemir, Çiğdem Turhan

## Course Schedule:

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|----------|-------------------------------|
| Week 1:  | Introduction                  |
| Week 2:  | Algorithmic Thinking Steps    |
| Week 3:  | Problem Solving               |
| Week 4:  | Introduction to C Programming |
| Week 5:  | Selection Structures          |
| Week 6:  | Review                        |
| Week 7 : | Repetition Structures I       |
| Week 8 : | Repetition Structures II      |
| Week 9 : | Functions II                  |
| Week 10: | Functions I                   |
| Week 11: | Arrays II                     |
| Week 12: | Arrays II                     |
| Week 13: | Review                        |

**Grading:** Midterm 40 %, Final exam 60 %.