CMPE112 - CMSE112 - AING112 Programming Fundamentals

Department:
Computer Engineering

Program Name:
Computer Engineering, Software Engineering, Artificial Intelligence Engineering

Program Code: 25, 29, 2L

Course Number:	**Credits:**	**Year/Semester:**
CMPE112, CMSE112, AING112	4 Cr	2026-2027 Fall

☒ Required Course ☐ Elective Course

Prerequisite(s):
CMPE107, CMSE107, AING107

Catalog Description:
An overview of C programming language. Sequential structures, data types and classes of data, arithmetic operators and expressions, assignment statements, type conversions, simple I/O functions (printf, scanf, fprintf, fscanf, gets, puts, fgets, fputs). Selective structures, relational operators, logical operators, conditional expression operator, conditional statements (if, switch). Repetitive structures, while, do-while, for loops, loop interruptions (goto, break, continue). Functions, function definitions and function calls, recursion. Arrays, array declaration, array initialization, arrays as function arguments. Pointers, basics of pointers, functions and pointers arrays and pointers, strings and pointers. Library functions for processing strings, pointer arrays.

Aims and Objectives
A student who successfully fulfills the course requirements will learn the key topics of C programming language (including sequential structure, selective structure, repetitive structure, arrays, pointers and structures) and problem solving with C programming language.

Textbook(s):
"C Programming: A Modern Approach", Second Edition, K. N. King, Norton, 2008.
"Programming in ANSI C", Ram. Kumar and Rakesh Agrawal, West Publishing, 1992

Indicative Basic Reading List:
"Problem Solving and Program Design in C", J. R. Hanly and E. B. Koffman, Sixth Ed., Pearson Addison-Wesley, 2009.
"C How to Program", Fifth Edition, P. J. Deitel and H. M. Deitel, Pearson Education, 2007.

Extended Reading List:
"C: The Complete reference", Herbert Schildt, McGraw-Hill, 1995.

Topics Covered, Class Schedule and Lab Schedule: (Tentative)
(4 hours of lectures per week) (2 hours of laboratory per week)

WEEK	Starting Day of Week	LABS
1	September, 21	**No Lab**
2	September, 28	**No Lab**
3	October, 05	Exp 1 - Introduction
4	October, 12	Exp 2 – Selection
5	October, 19	Exp 3 – Loops
6	October, 26	**No Lab**
6-7	MIDTERM EXAM WEEKS (30 Oct.-7 Nov.)	**No Lab**
8	November, 09	**No Lab**
9	November, 16	Exp 4 – Arrays
10	November, 23	Exp 5 – Functions
11	November, 30	**No Lab**
12	December, 07	**No Lab**
13	December, 14	Exp 6 - Pointers
14	December, 21	Exp 7 – Pointers + Strings
15	December 28	**No Lab**
16-17	FINAL EXAM WEEKS (4-12 Jan.)	**No Lab**

Course Learning Outcomes:
On successful completion of the course, the student is expected to be able to:
(1) Design and implement programs in the standard version of C
(2) Develop good programming skills
(3) Use modern C compilers and debuggers (such as Microsoft Visual C)

	Method	No.	Percentage
Assessment	Midterm Exam	1	35%
	Labs	7	15 %
	Final Examination	1	50%

Exams:

- You have a resit exam chance at the end of the semester if you fail. Note that if your letter grade is "D" or above and you have no warning, you will not be able to enter the resit exam. Yet, be aware that if you attend the resit exam, the grade you get will replace your midterm and final exam grades even if your grade is decreased.
- If you miss the midterm or the final exam, you **MUST submit a medical report to the course instructor, stating your excuse, within 3 days of that examination. The report will be evaluated by the committee of instructors. If the committee approves, you will be able to take a make-up exam. You will be able to take only one make-up exam.**

Attendance Policy in EMU:

"Eastern Mediterranean University Rules and Regulations for Undergraduate Studies and Examinations" regarding the Course Attendance Requirements (NG):
• "NG" Nil Grade / Failure Due to Non-Attendance:
The "NG" grade is awarded to a student who fails to meet the course attendance requirements and the conditions essential for course assessment. This grade is assigned by the Academic Staff of the relevant course based on the criteria set by the Faculty/School Boards. Students who receive an "NG" grade are not eligible to take the make-up examination for that course. If it is determined in advance that a student will receive an "NG" grade, they may also be barred from sitting for the final exam.

• Students' Course Attendance Obligation:
A student who exceeds the absenteeism limits set by the Faculty/School Boards or fails to fulfill the essential assessment requirements for the course is deemed to have failed that course. However, in courses that are being repeated due to other academic reasons (excluding the NG grade), attendance is not mandatory. Courses repeated due to receiving an "NG" grade are not included in this exemption and are subject to attendance requirements.

NG Grade Policy in This Course:

- If you are taking the course for the first time and if you miss 50% of the attendance for the lectures, you will get an "NG" grade.
- If you are taking the course for the first time and if you miss both the midterm and the final exam, you will get an "NG" grade.
- If you are not taking the course for the first time and if you miss the midterm and the final exam, you will get an "NG" grade.

Labs:

- There will be 1 makeup for the missed lab experiments. Exemption for lab work will not be provided.

Plagiarism

Plagiarism (which also includes any kind of cheating in exams, assignments, and lab work) is a disciplinary offence and will be dealt with accordingly. Furthermore, the penalty for plagiarism is to get a zero for the corresponding exam, assignment, or lab work.

Important Remarks

- You should have regular attendance at the lectures to be successful in the course.
- Course-related materials, exercises, laboratory experiments, past exam questions and announcements will be published on the course website and you will be responsible for all. Note that the course website can be updated during the semester. Therefore, check it regularly.

  COURSE WEBSITE FOR ALL GROUPS: https://staff.emu.edu.tr/onsentoygar/en/teaching/aingcmpecmse-112/home

Contribution of Course to ABET Criterion 5
Credit Hours for:
Mathematics & Basic Science : 0
Engineering Sciences and Design : 4
General Education : 0

Relationship of Course to Program Outcomes
The course has been designed to contribute to the following program outcomes:
1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

Prepared by: Prof. Dr. Önsen Toygar	**Date Prepared:** September 21, 2026