

CMPE 108 ALGORITHMS & PROGRAMMING

Department: Computer Engineering

Instructor Information

Name: Assoc. Prof. Dr. Mehmet Bodur (G01)

E-mail: mehmet.bodur@emu.edu.tr

Office: 216

Office Tel: 2841

Assistant Information

Samaneh Sarfarazi (Coordinator) Office:cmpe226 Tel:2847 and Foad Farahbod

Program Name: Computer Engineering

Program Code: 25

Course Code	Credits	Year/Semester
CMPE 108	3 Cr	2023-2024 Fall

Required Course Elective Course Service Course

Prerequisite(s)

None

Catalog Description

Problem-Solving concepts for computers. Program structures for computer languages. Sequential logic structures: algorithm instructions and flowcharts. Problem-Solving with: decisions, loops and case logic structures. Data structures: arrays, lists. File processing. Laboratory applications will be done with programming languages such as Fortran, C or Visual Basic or other languages.

Course Web Page

<https://staff.emu.edu.tr/mehmetbodur/en/teaching/cmpe108>

Textbook(s)

“C Programming: A Modern Approach”, Second Edition, K. N. King, Norton, 2008.

Reference Book(s)

“Problem Solving and Programming Concepts”, Maureen Sprankle and Jim Hubbard, Pearson Prentice Hall, 8th Edition, 2008.

“Programming in ANSI C”, Ram Kumar and Rakesh Agrawal, West Publishing Company, 1992.

“C How to Program”, Paul Deitel and Harvey Deitel, Sixth Edition, Pearson Prentice Hall, 2009.

“Problem Solving and Program Design in C”, J. R. Hanly and E. B. Koffman, Sixth Ed., Pearson Addison-Wesley, 2009.

“C: The Complete reference”, Herbert Schildt, McGraw-Hill, 1995.

Topics Covered and Class Schedule (DATES TBA)

(3 hours of lectures + 2 hours lab per week)

WEEK OF	TOPICS	LABS
Sep 28 – Sep 29	Computers (Hardware and Software)	No Lab
Oct 5 - Oct 6	Problem solving concepts for the computer - Algorithms and Flowcharts	No Lab
Oct 12 - Oct 13	Problem solving concepts for the computer - Algorithms and Flowcharts	Lab 0 - Computer Hardware and Architecture
Oct 19 - Oct 20	Introduction to C (Chapter 1) C Fundamentals (Chapter 2)	Lab 1 - Introduction to MS Visual Studio
Oct 26 - Oct 27	Formatted input / output (Chapter 3)	Lab 2- Sequential Programming
Oct 2 - Nov 3	Expressions (Chapter 4)	Lab 2- Sequential Programming(cont.)
Nov 9 - Nov 10 (lab)	Selection Structures (Chapter 5)	Lab 3- Selection Structures
Nov 11 - Nov 25	Midterm Exams	No Lab

Nov 30 - Dec 1	Selection Structures (Chapter 5) Repetitive Structures (Chapter 6)	Lab 3- Selection Structures (cont.)
Dec 7 - Dec 8	Repetitive Structures (Chapter 6)	Lab 4- Repetitive Structures
Dec 14- Dec 15	Repetitive Structures (Chapter 6) Types - char (Chapter 7)	Lab 5- Repetitive Structures (cont.)
Dec 21- Dec 22	Arrays (Chapter 8)	Lab 6-Arrays
Dec 28 - Dec 29	Functions (Chapter 9)	Lab 7-Functions
Jan 3 – Jan 18	Final Exams	

Course Learning Outcomes

A successful student passing this course gains an ability to

- (1) know the of hardware and software requirements for coding, compiling and executing C programs.(e1,e2,e3)
- (2) use a suitable IDE to edit, compile, and execute C codes (k1,k2,k3)
- (3) construct an algorithm and /or flowchart for solving a problem (e1,e2,e3)
- (4) include library headers, and declare variables of basic types (e1,e2,e3)
- (5) use if, if-then-else and switch statements in C codes (e1,e2,e3)
- (6) use while-loop, do-while loop, and for-loop in C codes (e1,e2,e3)
- (7) use arrays concept in C programming (e1,e2,e3)
- (8) use functions with arguments by value (e1,e2,e3)

The contribution of each course learning outcome to student outcomes is specified in parenthesis. The student outcomes are available at <http://cmpe.emu.edu.tr/abet>

Assessment	Method	No	Percentage
	Midterm Exam(s)	1	40%
	Final Examination	1	45%
	Attendance	1	-
	Labs	8	15%

Attendance and Participation: Attendance to every lecture is mandatory.

There will be **no points** for the attendance.

Policy on makeups and re-sit

- Only one makeup exam will be given for the midterm or final at the end of the semester that will cover all the topics listed above. The make up exam will take place at the same date and time as the re-sit exam (i.e. there will **not** be a separate make-up exam and resit exam) **A student MUST submit a written report to the CMPE department secretary stating their excuse, within 3 days of that examination. Otherwise, make-up examination will not be provided.**
- If you miss both midterm and final exams and do not submit any written report, you will get an “NG” grade.

Policy on labs

- **No exemption** will be provided for labs.
- There will be **no makeup** for the missed lab experiments.
- If you miss **three or more labs**, your lab grade will be zero.

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

Contribution of Course to ABET Criterion 5

Credit Hours for:

- Mathematics & Basic Science : 0
- Engineering Sciences and Design : 3
- General Education : 0

Updated by: Assoc. Prof. Dr. Mehmet Bodur

Date Updated: 6 October 2023