

CMPE 108 ALGORITHMS & PROGRAMMING

Department: Computer Engineering

Instructor Information

Coordinator

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Assistant Information

Program Name: Computer Engineering

Program Code: 25

Course Code

CMPE 108

Credits

3 Cr

Year/Semester

2019-2020 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/gurcuoz/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

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

WEEK OF	TOPICS	LABS
Sep 23 – Sep 27	Computers (Hardware and Software)	No Lab
Sep 30 - Oct 4	Problem solving concepts for the computer - Algorithms and Flowcharts	No Lab
Oct 7 - Oct 11	Problem solving concepts for the computer - Algorithms and Flowcharts	Lab 0 - Computer Hardware and Architecture
Oct 14 - Oct 18	Introduction to C (Chapter 1) C Fundamentals (Chapter 2)	Lab 1 - Introduction to DevCpp or MS Visual Studio
Oct 21 - Oct 25	Formatted input / output (Chapter 3)	Lab 2- Sequential Programming
Oct 28 - Nov 1	Expressions (Chapter 4)	Lab 2- Sequential Programming(cont.)
Nov 4 - Nov 8	Selection Structures (Chapter 5)	Lab 3- Selection Structures
Nov 11 - Nov 23	Midterm Exams	No Lab
Nov 25 – Nov 29	Repetitive Structures (Chapter 6)	No Lab
Dec 2- Dec 6	Repetitive Structures (Chapter 6) Types - char (Chapter 7)	Lab 4- Repetitive Structures
Dec 9– Dec 13	Arrays(Chapter 8)	Lab 5- Repetitive Structures (cont.)
Dec 16 - Dec 20	Functions (Chapter 9)	Lab 6-Arrays
Dec 23 - Dec 27	Review	Lab 7-Functions
Jan 2 – Jan 17	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%
	Labs	8	15%

Attendance and Participation: Attendance to every lecture is mandatory.

Policy on makeups

- 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. **That 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.**
- The re-sit exam will cover both midterm and final topics, and it will replace both midterm and final.
- 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: Gürcü Öz

Date Updated: 24 September 2019