

CMPE 108 ALGORITHMS & PROGRAMMING

Department: Computer Engineering

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Assistant Information

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Program Name: Computer Engineering

Program Code: 25

Course Code

CMPE 108

Credits

3 Cr

Year/Semester

2019-2020 Spring

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/hasankomurcugil/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
Feb 17 – Feb 21	Computers (Hardware and Software)	No Lab
Feb 24 - Feb 28	Problem solving concepts for the computer - Algorithms and Flowcharts	No Lab
Mar 02 - Mar 06	Problem solving concepts for the computer - Algorithms and Flowcharts	Lab 0 - Computer Hardware and Architecture
Mar 09 - Mar 13	Introduction to C (Chapter 1) C Fundamentals (Chapter 2)	Lab 1 - Introduction to DevCpp or MS Visual Studio
Mar 16 - Mar 20	Formatted input / output (Chapter 3)	Lab 2- Sequential Programming
Mar 23 - Mar 27	Expressions (Chapter 4)	Lab 2- Sequential Programming(cont.)
Mar 30 - Apr 03	Selection Structures (Chapter 5)	Lab 3- Selection Structures
Apr 06 - Apr 18	Midterm Exams	No Lab
Apr 20 – Apr 24	Repetitive Structures (Chapter 6)	No Lab
Apr 27- May 01	Repetitive Structures (Chapter 6) Types - char (Chapter 7)	Lab 4- Repetitive Structures
May 04– May 08	Arrays (Chapter 8)	Lab 5- Repetitive Structures (cont.)
May 11 - May 15	Functions (Chapter 9)	Lab 6-Arrays
May 18 - May 22	Review	Lab 7-Functions
May 27 – Jun 13	Final Exams	No Lab

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: Hasan Kömürçügil

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