CMPE 108 ALGORITHMS & PROGRAMMING

Department: Computer Engineering

Instructor Information
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Assistant Information

Program Name: Computer Engineering	**Program Code:** 25

Course Code CMPE 108	**Credits** 3 Cr	**Year/Semester** 2020-2021 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/hakanaltincay/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
Oct 12 – Oct 16	Computers (Hardware and Software)	No Lab
Oct 19 - Oct 23	Problem solving concepts for the computer - Algorithms and Flowcharts	No Lab
Oct 26 - Oct 29	Problem solving concepts for the computer - Algorithms and Flowcharts	Lab 0 - Computer Hardware and Architecture
Nov 2 - Nov 6	Introduction to C (Chapter 1) C Fundamentals (Chapter 2)	Lab 1 - Introduction to DevCpp or MS Visual Studio
Nov 9 - Nov 13	Formatted input / output (Chapter 3)	Lab 2- Sequential Programming
Nov 16 - Nov 20	Expressions (Chapter 4)	Lab 2- Sequential Programming(cont.)
Nov 23 - Nov 27	Selection Structures (Chapter 5)	Lab 3- Selection Structures
Nov 30 - Dec 11	Midterm Exams	No Lab
Dec 14- Dec 18	Repetitive Structures (Chapter 6)	No Lab
Dec 21– Dec 25	Repetitive Structures (Chapter 6) Types - char (Chapter 7)	Lab 4- Repetitive Structures
Dec 28 - Jan 1	Arrays (Chapter 8)	Lab 5- Repetitive Structures (cont.)
Jan 4 – Jan 8	Functions (Chapter 9)	Lab 6-Arrays
Jan 11 – Jan 15	Functions (Chapter 9)	Lab 7-Functions
Jan 18 – Jan 22	Review	
Jan 25- Feb 05	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

	Method	No	Percentage
Assessment	Midterm Exam(s)	1	40%
	Final Examination	1	50%
	Labs	8	10%

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 course instructor, stating their excuse, within 3 days of that examination. The report will be evaluated by the committee of instructors. If the committee approves, the student will be able to take a make-up exam.**

- 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 did not submit any written report that was approved by the committee, 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:** H. Altınçay | **Date Updated:** 9 October 2020 |