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| **CMPE 108 ALGORITHMS & PROGRAMMING** |
| **Department:** Computer Engineering |
| **Instructor Information****Coordinator****Name:** Selin Bitirim (G05) **Office:** 203 **Name:** Prof. Dr. Marifi Güler (G02)**Office:** 209**Name:** Prof. Dr. Hasan Kömürcügil (G04)**Office:** 207**Name:** İmren Toprak (G01)**Office:** 202 |
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| **Program Name:** Computer Engineering | **Program** **Code:** 25 |
| **Course Code** CMPE 108 | **Credits** 3 Cr | **Year/Semester**2018-2019 Fall |
| [ ]  Required Course [ ]  Elective Course [x]  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** <http://cmpe.emu.edu.tr/CourseLoad.aspx?CourseCode=CMPE108> |
| **Textbook(s)** G. J. Bronson, *A First Book of ANSI C*, 4th ed., Course Technology, 2006.**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, Tentative Class Schedule and Lab Schedule****(3 hours of lectures + 2 hours lab per week)**

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| WEEK OF | TOPICS | LABS |
| Feb 18 – Feb 22 | Introduction | No Lab |
| Feb 25 – Mar 01 | Computer Hardware and Software (Ch. 1) | No Lab |
| Mar 04 – Mar 08 | Problem solving concepts for the computer - Algorithms and Flowcharts  | Lab 0 - Computer Hardware and Architecture |
| Mar 11 – Mar 15 | Introduction to C, Formatted I/O (Ch. 2) | Lab 1 - Introduction to DevCpp or MS Visual Studio |
| Mar 18 – Mar 22 | Introduction to C, Formatted I/O (Ch. 2) | Lab 2- Sequential Programming |
| Mar 25 – Mar 29 | Sequential Structures (Ch. 3) | Lab 2- Sequential Programming(cont.) |
| Apr 01 – Apr 05 | Selective Structures (Ch. 4) | Lab 3- Selective Structures  |
| Apr 08 – Apr 10 | Review | No Lab |
| Apr 11 - Apr 23 | Midterm Exams | No Lab |
| Apr 29 – May 03 | Repetitive Structures (Ch. 5) | Lab 4- Repetitive Structures |
| May 06 – May 10 | Arrays (Ch. 8) | Lab 5- Repetitive Structures (cont.) |
| May 13 – May 17 | Functions (Ch. 6, 7) | Lab 6-Arrays  |
| May 20 – May 24 | Functions (Ch. 6, 7) | Lab 7-Functions |
| May 27 – May 31 | Review  |  |
| Jun 10 – Jun 22 | Final Exams |  |

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| **Course Learning Outcomes**A successful student passing this course gains an ability to1. 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 studentoutcomes 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% |
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| **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.
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| **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.
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| **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
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| **Updated by:** Selin Bitirim, Prof. Dr. Marifi Güler | **Date Updated:** 22 February 2019 |