

General Information

Instructor	Dr. Harry H. Cheng Office: 2018 Bainer Phone: 752-5020 Email: hhcheng@ucdavis.edu WWW: http://iel.ucdavis.edu/course/MAE254/spring10 Office hours: 11:00am-12:00pm MW, or by appointment
Lecture Hours	10:00-10:50 am MWF, 116 Veihmeyer Hall
Computer Lab	You have an account on a Linux machine eme.engr.ucdavis.edu in Graduate Computer Lab.
Topics	Principle and design of engineering software Very high-level shell programming Advanced topics in C90 and C99 for engineering applications. Object-oriented engineering software design in C++ Visualization for engineering applications Interface between scripting languages and binary C/C++ libraries Embedded computing and its engineering applications Web-based network computing and its engineering applications Event-driven programming and design for graphical user interface (GUI) Advanced scientific numerical computing for engineering applications Multi-thread real-time computing for control and sensor fusion Mobile agent based computing and its applications
Prerequisites	EME5 (C language) and E180 (numerical analysis) or equivalent
Textbooks	(1) Harry H. Cheng, <i>C for Engineers and Scientists: An Interpretive Approach</i> , McGraw-Hill, 2009, ISBN: 978-0-07-337605-9.
Supplementary Materials	(1) <i>The Ch Language Environment User's Guide</i> . (2) Instructor's lecture notes.
Course Handouts	The course handouts are distributed at lecture time. Some of them are available on the World Wide Web of the the home page for EME254 at the Uniform Resource Locator address http://iel.ucdavis.edu/course/MAE254/spring10 For example, this handout is stored as <code>general.pdf</code> under <i>General Policy</i> .
Homework	Homework is given out periodically through email and is due at the beginning of the class on the date stated on the homework. If you used computer programs to solve a problem,

you should send me computer programs.
 Otherwise, you will not get the full credit for the homework.
 Remember that computer programs are always treated as an Appendix.
 If without text, appendix alone is not sufficient enough to receive a full credit.
 The homework should be submitted in class.
 If you hand it in my office after class and before 5:00pm on due date, there will be 10% deduction for the entire homework.
 After that, late homework will not be accepted.
 No exception unless there is a documented medical excuse.

Examinations

Midterm examination: this is an open book/open notes examination. The specific date of examination will be announced one week before the examination date. No early or late exam will be given. If you miss the exam for medical reasons (You **must** document this; no other excuses are acceptable), the other parts of the course will be counted proportionally more or you may be allowed or required to take a make-up exam (the choice is the instructor's).
Final Project: a comprehensive project with a technical report.

Grading System

Written and computer homework 40%
 Midterm examination 30%
 Final project 30%

Computer Account

All students enrolled in this course have been set up with an account in machine eme.engr.ucdavis.edu in the Graduate Computer Lab in Bainer Hall. For students who add late or didn't make the latest class roster, please contact Ben Ransom (ransom@mae.engr.ucdavis.edu) for a new account. Provide him with your full name and social security number.

Academic Integrity

(1) All work submitted for credit must be your own. You may discuss your assignment with classmates and instructor, in the course to get ideas or a critique of your ideas, but the ideas and words you submitted must be your own. Unless **explicitly** stated otherwise in the homework assignment, collaboration is considered cheating and will be dealt with accordingly.
 (2) For written homework, you must write up your own solutions and may neither read nor copy another student's solutions.
 (3) **For computer programs, you must create and type in your own code and document it yourself.**
 But, you are free to copy programs from toolkit and modify them to solve the similar problems. Modifications made should be clearly documented.
You are free to seek help from instructor and fellow students while you are debugging a program once it is written.