General Information

Instructor

Dr. Harry H. Cheng
Office: 2018 Bainer
Phone: 752-5020
Email: hhcheng@ucdavis.edu
WWW: http://iel.ucdavis.edu/course/EME152/winter11/
Office hours: 10am-11:30pm MW, or by appointment
(I might be in the computer lab during the office hour)

Teaching Assistant

Kevin Gucwa
Office: 1067 Bainer
Phone: 752-1028
Email: kgucwa@ucdavis.edu
Lab hours: 1:20-2:30pm M, 3:10pm-4:00pm Tu, 2121A Bainer Hall CAE Lab

Lecture Hours

9:00-9:50 am MWF, 1134 Bainer

Discussion Hour

3:10-4:00 pm Th, 80 Social Science

Computer Lab Hours
2121A Bainer

TA will be available at 1:20-2:30pm M, 3:10pm-4:00pm Tu in 2121A in the lab
TA may use discussion hour 3:10-4pm Th in 2121A in the lab

Course Outline

Principles of computer-aided mechanism design, computer-aided kinematic, static, dynamic analysis and design of planar mechanisms such as multi-loop linkages and geared linkages.
Introduction to kinematic synthesis of mechanisms.
Cam design.

Prerequisites

EME 5, ENG 6 or equivalent; ENG 102

Textbooks and Manuscripts

(1) Erdman, A. G. and Sandor, G. N., *Mechanism Design, Analysis and Synthesis*, Vol I, 4th edition, Prentice-Hall, Inc.,
(2) Harry H. Cheng, *C for Engineers and Scientists: An Interpretive Approach*, McGraw-Hill, 2009, ISBN: 978-0-07-337605-9.
(3) SoftIntegration, Inc., *QuickAnimation User's Guide*, version 2.3, 2009. http://www.softintegration.com/docs/ch/qanimate/.
(4) SoftIntegration, Inc., *Ch Mechanism Toolkit User's Guide*, version 2.3, 2009. http://www.softintegration.com/products/toolkit/mechanism/.

Outcome

This course addresses the following Educational Outcomes for
the Mechanical Engineering and Aeronautical Science and Engineering Programs
(a) work comfortably and competently with mathematics, science,
and basic engineering principles;
(b) design and conduct experiments as well as collect, analyze and interpret data;
(d) work comfortably on multi-disciplinary teams;

Course Handouts

The course handouts are distributed at lecture time.
They are available on the World Wide Web for the home page of this class
at the following Uniform Resource Locator (URL) address:
http://iel.ucdavis.edu/course/EME152/winter11/
which is linked to the Department WWW homepage under **Courses**.
For example, this handout is stored as a PDF file *general.pdf* on the web.

Homework

Homework is given out periodically through the email in PDF file
and is due on the date stated on the homework, typically on Wednesday.
The homework will be assigned and collected at lecture time.
Solutions to the homework assignment will be posted on the Web or
in Navin's Copy Shop at 231 Third Street (phone: 758-2311)
after the graded homework is given back to you.
Solutions in computer programs might be posted on the web
or sent to you through the email.
The homework should be submitted in class.
If you hand it in my office and before 5:00pm on due date,
there will be 10% deduction for the *entire* homework.
After that, late homework will not be accepted.
You can submit later homework no more than twice.

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 examination: a comprehensive open book/open notes examination.
Saturday, March 19, 6:00pm-8:00pm, in 1134 Bainer

Grading System

Written and computer homework 30%
Midterm examination 20%
Final examination 50%
The final grade will be given according to Gaussian distribution curve.
Also be aware that I take other factors into account when assigning your
final grade. For example, if you do very well on everything except one exam,
I might boost your grade from the one I would assign using
a strict numeric computation.

Academic Integrity (1) All work submitted for credit must be your own.
You may discuss your assignment with classmates, with instructor,
with teaching assistant, or with reader
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 CHHOME/toolkit/demos and modify them to solve
the similar probelms. Modifications made should be clearly documented. Also, you are free to seek help from instructor, TA, and reader while you are debugging a program once it is written.**