



## Syllabus for ENGR195: Upper Div Undergrad Research

Spring 2013

Instructor: Lilian Davila

**Designation:**

**Catalog Description:**

ENGR 195 is laboratory, field, theoretical, interdisciplinary, and/or computational research for undergraduate students carried out under the supervision of the instructor. Undergraduate students enroll in ENGR 195 with the permission of the instructor in order to gain valuable research experience.

**Text Books and Other  
Required Materials:**

**Course Objectives/  
Student Learning  
Outcomes:**

Upon completion of ENGR 195, students should have designed, carried out, and/or analyzed experiments and/or developed theoretical results under the supervision of the instructor. The student and instructor will establish mutual agreement at the start of the semester on the project progress expected by the end of the term.

Successful completion of ENGR-195 contributes to the realization of all five PLOs:

- (i) Graduates will demonstrate the ability to apply advanced science (such as chemistry and physics) and engineering principles to materials systems.
- (ii) Graduates will demonstrate an integrated understanding of the scientific and engineering principles that underlie the four major elements of the field: structure, properties, processing, and performance related to materials systems appropriate to the field.
- (iii) Graduates will demonstrate the ability to apply and integrate knowledge from each of the above four elements of the field to solve materials selection and design problems.
- (iv) Graduates will demonstrate the ability to utilize experimental, statistical and computational methods in the context of materials systems.
- (v) Graduates will demonstrate professional and ethical responsibility.

**Program Learning  
Outcomes:**

**Prerequisites by Topic:**

**Course Policies:**

**Academic Dishonesty  
Statement:**

- a. Each student in this course is expected to abide by the University of California, Merced's Academic Honesty Policy. Any work submitted by a student in this course for academic credit will be the student's own work.
- b. You are encouraged to study together and to discuss information and concepts covered in lecture and the sections with other students. You can give "consulting" help to or receive "consulting" help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e mail, an e mail attachment file, a diskette, or a hard copy. Should copying occur, both the

student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Policy can also be extended to include failure of the course and University disciplinary action.

c. During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

**Disability Statement:**

Accommodations for Students with Disabilities: The University of California Merced is committed to ensuring equal academic opportunities and inclusion for students with disabilities based on the principles of independent living, accessible universal design and diversity. I am available to discuss appropriate academic accommodations that may be required for student with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances. Students are encouraged to register with Disability Services Center to verify their eligibility for appropriate accommodations.

**Topics:**

**Class/laboratory**

Fridays 3-6 pm

**Schedule:**

**Midterm/Final Exam**

**Schedule:**

**Course Calendar:**

**Professional Component:**

**Assessment/Grading**

**Policy:**

The grading mode of ENGR 195 is via letter grade. The student must spend an average of at least three hours per week per unit on research-related activities. These may include laboratory, computational, or theoretical work, reading and study related to the research project, searching the scientific literature, participation in research group meetings, manuscript and research report writing, and similar activities. Research necessarily involves trying to do something new, and failure to achieve the desired goal does not, by itself, constitute unsatisfactory performance.

In order to receive an "A" grade, the student must have worked with care and accuracy, used proper scientific methodology in planning experiments and recording and analyzing data, consulted the scientific literature as required, and taken initiative to move the research forward. In addition, the student must adhere to proper professional standards of laboratory safety, behave ethically in performing the research and reporting the results, maintain good records via a physical laboratory notebook and/or electronic files as discussed with the faculty advisor, and work with others in a collegial manner.

**Coordinator:**

**Contact Information:**

Lilian Davila  
ldavila@ucmerced.edu

**Office Hours:**

Regular meetings (at least weekly) between the undergraduate student and the instructor are to be arranged at mutually satisfactory times.