

COLLEGE OF CHEMISTRY COURSE GUIDE (../INDEX.HTML)

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MECHE 185 - INTRODUCTION TO CONTINUUM MECHANICS (3 UNITS)

(Taken from the UC Berkeley Course Guide (<http://guide.berkeley.edu>))

COURSE OVERVIEW

SUMMARY

This course is a general introduction to the fundamental concepts of the mechanics of continuous media. Topics covered include the kinematics of deformation, the concept of stress, and the conservation laws for mass, momentum and energy. This is followed by an introduction to constitutive theory with applications to well-established models for viscous fluids and elastic solids. The concepts are illustrated through the solution of tractable initial-boundary-value problems. This course presents foundation-level coverage of theory underlying a number of sub-fields, including Fluid Mechanics, Solid Mechanics and Heat Transfer.

PREREQUISITES

Physics 7A, Math 53 and Math 54, as well as some prior exposure to the elementary mechanics of solids and fluids

Fall only

TOPICS COVERED

Students will gain a deep understanding of the concepts and methods underlying modern continuum mechanics. The course is designed to equip students with the background needed to pursue advanced work in allied fields.

ABET Outcomes

- an ability to apply knowledge of mathematics, science, and engineering,
- an ability to identify, formulate, and solve engineering problems,
- an ability to communicate effectively,
- the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context,
- a recognition of the need for, and an ability to engage in life-long learning,
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

WORKLOAD

TIME COMMITMENT

3 hours of lecture and 1 hour of discussion per week.

UC Berkeley Course Guide (<http://guide.berkeley.edu>)

COLLEGE OF CHEMISTRY PEER SERVICES

Made by Angela Lee, c/o 2019



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