Mechanical Engineering (MEC ENG)

MEC ENG 24 Freshman Seminars 1 Unit
Department: Mechanical Engineering
Course level: Undergraduate
Terms course may be offered: Fall and spring
Grading: The grading option will be decided by the instructor when the class is offered.
Hours and format: 1 hour of Seminar per week for 15 weeks.
The Berkeley Seminar Program has been designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small-seminar setting. Berkeley Seminars are offered in all campus departments, and topics vary from department to department and semester to semester.
Course may be repeated for credit as topic varies. Course may be repeated for credit when topic changes.

MEC ENG 40 Thermodynamics 3 Units
Department: Mechanical Engineering
Course level: Undergraduate
Terms course may be offered: Fall, spring and summer
Grading: Letter grade.
Hours and format: 3 hours of Lecture and 1 hour of Discussion per week for 15 weeks. 4.5 hours of Lecture and 1.5 hours of Discussion per week for 10 weeks.
Prerequisites: Chemistry 1A, Engineering 7, Mathematics 1B, and Physics 7B.
This course introduces the fundamentals of energy storage, thermophysical properties of liquids and gases, and the basic principles of thermodynamics which are then applied to various areas of engineering related to energy conversion and air conditioning.
Students will receive no credit for 40 after taking 105B.

MEC ENG C85/CIV ENG C30 Introduction to Solid Mechanics 3 Units
Department: Mechanical Engineering; Civil and Environmental Engineering
Course level: Undergraduate
Terms course may be offered: Fall, spring and summer
Grading: Letter grade.
Hours and format: 3 hours of lecture and 1 hour of discussion per week. 4.5 hours of lecture and 1.5 hours of discussion per week for 10 weeks. 7.5 hours of lecture and 2.5 hours of discussion per week for 6 weeks.
Prerequisites: Mathematics 53 and 54 (may be taken concurrently); Physics 7A.
A review of equilibrium for particles and rigid bodies. Application to truss structures. The concepts of deformation, strain, and stress. Equilibrium equations for a continuum. Elements of the theory of linear elasticity. The states of plane stress and plane strain. Solution of elementary elasticity problems (beam bending, torsion of circular bars). Euler buckling in elastic beams.
Instructors: Armero, Papadopoulos, Zohdi

MEC ENG 98 Supervised Independent Group Studies 1 - 4 Units
Department: Mechanical Engineering
Course level: Undergraduate
Terms course may be offered: Fall, spring and summer
Grading: Offered for pass/not pass grade only.
Hours and format: Hours to be arranged.
Prerequisites: Consent of instructor.
Organized group study on various topics under the sponsorship and direction of a member of the Mechanical Engineering faculty.
Course may be repeated for credit. Course may be repeated for credit when topic changes.