presentations. GME 180 and 181 satisfy the senior major requirement for the B.S. in Geomatics Engineering. (Field trips required)

GME 190. Independent Study (1-3; max total 6)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

GME 191T. Topics in Geomatics Engineering (1-3; max total 6)
Prerequisite: permission of instructor. Investigation of selected geomatics engineering subjects not in current courses.

GME 193. Internship in Geomatics Engineering (2-4)
Prerequisite: permission of adviser. Engineering practice in a consulting, industrial, professional, or government work setting. A report will be required of the student at the termination of each implemented experience. This course cannot be used to meet graduation requirements. *CR/NC* grading only.

Industrial Engineering

Industrial Engineering Admissions Suspended

As of fall 2004, admissions to the Industrial Engineering program have been suspended. Students with substantial coursework in this area should consult with the Department of Mechanical and Industrial Engineering.

COURSES
Industrial Engineering (IE)

As of fall 2004, admissions to the Industrial Engineering program have been suspended. All IE courses are currently inactive and not listed in the *General Catalog*. For more information, please contact the Department of Mechanical and Industrial Engineering.

Mechanical Engineering

Walter V. Loscutoff, *Coordinator*
Engineering East Building, Room 154
559.278.2368

Program Description

Mechanical engineering is the use of basic science in the design and manufacture of components and systems. This requires the application of physical and mechanical principles in the development of machines, energy conversion systems, materials, and equipment for measurement and control. Knowledge of mathematics, physics, and chemistry lies at the core of this field. Application of this knowledge uses engineering technology — a disciplined way of thinking, modeling, and testing that enables development of new systems despite incomplete information and uncertainty.

The program in mechanical engineering provides basics in design and in thermal and fluid mechanics. All areas include statics, dynamics, materials, fluid mechanics, thermodynamics, and experimental methods. Application areas in design include mechanics of materials, applied mechanics, structural and manufacturing aspects of producing equipment, and vibrations. Application areas in thermal and fluid mechanics focus on energy conversion and include combustion, heat engines, refrigeration, and fluid flow.

Students should consult with their advisers to select the proper courses that emphasize their areas of interest.

Engineer-in-Training and Professional Engineering registration is strongly recommended as a first step in professional lifelong learning.

Mission

Our mission is to provide an educational program that will allow our students to meet or exceed the necessary level of academic preparedness for successful professional employment and for graduate study through continuous improvement in curricula and instruction.

Educational Objectives

1. Provide broad-based curriculum in mechanical and industrial engineering fundamentals.
2. Provide a basis for successful professional careers in fields associated with mechanical and industrial engineering.
3. Provide students with a strong foundation for graduate studies in mechanical and industrial engineering and related fields.
4. Provide students with hands-on experience through projects and laboratory courses.
5. Develop students' understanding of global issues.
6. Promote understanding of ethical and professional responsibilities.
7. Develop students' abilities to communicate effectively both orally and in written form.
8. Promote ability to work effectively in teams.

Co-op Program

The department participates in the Cooperative Education Program which allows the student to gain industrial experience and financial benefits through projects with local companies and aerospace companies in Antelope Valley.

Academic Probation

A minimum GPA of 2.0 must be maintained in all courses taken in the College of Engineering. Students who fail to maintain a 2.0 GPA in courses within their major may be placed on administrative academic probation. Failure to eliminate the grade point deficiency could result in disqualification from the College of Engineering.

Career Opportunities

The creation, design, and improvement of products, processes, and systems that are mechanical in nature are the core of many industries. Solutions to such major problems as environmental pollution, lack of mass transportation, and need for new sources of energy will depend heavily on the ability to create new types of machines and mechanical systems. And full use of developments in emerging fields, such as nanotechnology and bioengineering, require mechanical systems. These needs have created a substantial demand for mechanical engineers in a broad range of fields.