

UNIVERSITY OF HAWAII AT MANOA
COLLEGE OF ENGINEERING
July 10, 1990

MAJOR FUNCTIONS

I. ACADEMIC SUPPORT

A. Office of the Dean:

Consists of the Dean, Associate Dean, Assistant Dean and their support staff--secretarial, fiscal, clerical, and student help. The Dean administers the total program of instruction, research, and public service for the College including, in addition to standard operating support, responsibility for allocation of resources assigned to the College and for long-range planning of program, facilities, faculty and staff. The Associate Dean concentrates on administrative, academic, and personnel affairs; the Assistant Dean on student academic affairs. Input and advice on decisions is provided by: a) Engineering Executive Committee, composed of Deans and Chairmen of academic departments, President of the Engineering Faculty Senate, and the Chairman of the Engineers' Council of the University of Hawaii; b) Engineering Faculty Senate; c) Alumni Association; and d) Engineers' Council of the University of Hawaii, consisting of representatives of the student engineering professional and honorary organizations.

1. Engineering Shop:

Provides assistance to the College faculty and staff in the construction and repair of equipment and apparatus for both instructional and research activity. Services include design, fabrication, assembly, troubleshooting, modification, testing and calibration in the areas of machine shop, electronics, metal working, and welding.

2. Fiscal and Personnel Affairs:

Assists the Dean in meeting his financial management and personnel responsibilities by performing the business administration functions for the College. These functions include personnel management, budget development and execution, procurement, property management, contracts and grants administration, disbursements, receipts, and fiscal control and reporting systems.

II. INSTRUCTIONAL PROGRAM

Includes the following departments and degree programs.

	<u>B.S.*</u>	<u>M.S.</u>	<u>Ph.D.</u>
Department of Civil Engineering	X	X	
Department of Electrical Engineering	X	X	X
Department of Mechanical Engineering	X	X	X
Program in General Engineering	X		

*The three basic undergraduate curricula in civil, electrical, and mechanical engineering are accredited by the national accreditation agency, the Accreditation Board of Engineering and Technology, Inc.

A. Civil Engineering:

The program in civil engineering is designed to meet the demands of business, industry and government where a broad, fundamental education is required. The curriculum develops depth in various areas including environmental and sanitary engineering, structures, applied mechanics, construction engineering, water resources, hydraulics, surveying, soil mechanics, transportation and urban engineering. The student gains the broad educational background essential to modern civil engineering practice including an understanding of societal and environmental problems.

B. Electrical Engineering

Electrical engineering is concerned with the basic form of energy that runs our world and with the exciting world of electronics and information technology. Electronics continues to bring forth new breakthroughs in solid-state technology (transistors, integrated circuits, LSI chips, microprocessors, lasers, optical fibers), which in turn fuel the unprecedented revolutions in telecommunications, computers, instrumentation, and many other areas.

The department offers the BS, MS, and Ph.D. degrees. The undergraduate curriculum requires a broad core in electrical engineering plus a certain amount of depth in several of the sub-areas.

C. Mechanical Engineering:

Mechanical engineers conceive, plan, design, and direct the manufacture, distribution, and operation of a wide variety of devices, machines, and systems used for energy conversion, environmental control, materials processing, transportation, manufacture of consumer products, materials handling, process control, and measurement.

The mechanical engineer finds opportunities for employment in a wide variety of governmental agencies and industries of all types. Work may involve research, design, development, manufacture, marketing, or management.

The mechanical engineering curriculum consists of a group of required courses chosen to develop basic skills needed to solve a wide variety of problems. In addition, elective courses are provided to permit students some degree of specialization in the professional area of their choosing or to allow preparation for graduate education.

D. General Engineering:

This is a nonaccredited engineering special studies program for students who want to pursue a course of study not covered in the departmental curricula (such as preparation for chemical or ocean engineering, joint study with law or business programs, or aquaculture). The program allows an especially well-motivated student to pursue a personally designed course of study, provided that it meets certain minimum engineering requirements and is approved by the special studies committee.

E. Computer Facility:

Provides computer hardware and software for College of Engineering faculty, students, and staff for programming instruction, upper-division applications courses, and data acquisition and analysis for research. Services include assuring that hardware is in operable condition, maintaining a system library, programming assistance, and coordinating computing needs with the UH Computing Center or other campus units as necessary. The facilities include only College-acquired equipment, not department-acquired or individual faculty-acquired equipment.

III. RESEARCH PROGRAM

The bulk of the research activity conducted within the College of Engineering is performed by faculty whose salaries come entirely from the Instructional Budget. Engineering does not have a large cadre of researchers, such as HIG or HAES; and the development of a significant level of extramural funding, necessary to support graduate students and their thesis projects, has been achieved primarily by instructional faculty--over and above their teaching responsibilities