

STATE OF HAWAII
UNIVERSITY OF HAWAII AT MANOA
COLLEGE OF ENGINEERING
July 25, 2006

FUNCTIONAL STATEMENTS

I. ACADEMIC SUPPORT

1. Office of the Dean:

The Office of the Dean consists of the Dean, Associate Dean, Assistant Dean and their support staff. The Dean oversees all College programs of instruction, research, and public service. The Dean has the responsibility for acquiring new resources, the allocation of existing resources, long-range planning of programs and oversight of facilities and personnel. The Associate Dean assists the Dean in administration of the College, assists in the oversight of the research and academic programs, and assists in the supervising functions such as space assignment and fiscal affairs. The Assistant Dean assists the Dean in administration of all aspects of student services. Input and advice to the Dean is provided by: a) External Advisory Council, b) Internal Administrative Council, composed of Deans, Chairpersons, President of the Engineering Faculty Senate, and key staff; c) Engineering Faculty Senate; d) Engineering Alumni Association; and e) College of Engineering Student Council.

2. Student Services:

Student Services deals with academic admissions, advising, scholarships records for undergraduates and K-12 outreach. The office provides an interface with the public and industry and business and responds to requests for data and information regarding College admission requirements and careers in engineering.

3. 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.

4. Fiscal and Personnel Affairs:

Assists the Dean, Associate Dean and senior staff in meeting the College's financial and personnel management responsibilities.

5. Computer Facility:

Provides computer hardware and software support for College of Engineering faculty, students, and staff and the functions they perform such as business administration, programming instruction, data acquisition and analysis, experimental teaching and research laboratory support.

II. INSTRUCTIONAL PROGRAMS

Include the following departments and degree programs:

	<u>B.S.*</u>	<u>M.S.</u>	<u>Ph.D.</u>
Department of Civil & Environmental Engineering	X	X	X
Department of Electrical Engineering	X	X	X
Department of Mechanical Engineering	X	X	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 and Environmental Engineering:**
The instructional programs in Civil and Environmental Engineering are designed to meet the educational demands of business, industry and government. The curriculum develops depth in various areas including environmental engineering, structures, construction management, water resources, hydraulics, geotechnical engineering, transportation and urban engineering. The undergraduate student gains the broad educational background essential to modern civil and environmental engineering practice including an understanding of societal and environmental problems.
- B. **Electrical Engineering:**
The Electrical Engineering program provides instruction in a variety of sub-disciplines including bioelectronics; biomedical engineering; communications; computers; computer-aided design; control theory; integrated circuits; lasers and optics; microwave systems; networking; signal and image processing; and solid-state devices. The undergraduate electrical engineering curriculum has a foundation of fundamental courses, and specialized advanced courses. Students experience hands-on design throughout the program.
- 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, design and manufacture of consumer products, materials handling, process control, and measurement. The Mechanical Engineering program provides its students with a foundation in the traditional areas of mechanical engineering (engineering mechanics, thermal sciences, and materials) as well as in the emerging fields of biomedical engineering to improve and extend life, nanotechnology, which has applications that are just now coming into focus, and multi-scale modeling.
- D. **Graduate Program**
The College plans, directs, develops, coordinates, and manages the graduate academic and professional education programs of the college. It assists in the management, review, development, and assessment of graduate programs, courses, and curricula including the appointment and review of graduate faculty and graduate chairs.

III. RESEARCH PROGRAMS

In support of and under the direction of the Dean, the College of Engineering manages its research programs through program planning and assessment, the determination of directions, the setting of priorities in response to new research opportunities, the formulation of goals and objectives, and the allocation of resources. The College is actively involved in encouraging and developing new research initiatives, in providing an environment conducive to research, in establishing approved new research programs, and in restructuring existing programs within policy. The College coordinates the activities of the research programs through the respective chairs and HCAC director. The College manages strategic initiatives, research program development, research information systems, business operations of the fiscal office and interacts with the Office of Research Services; oversees research and technology transfer, research commercialization and industrial support. The College finds means by which the research environment can be improved and made more conducive to research and educating faculty concerning research

funding opportunities and proposal preparation. It identifies opportunities for Federal funding of research and helping researchers obtain the Federal financial support they need. It manages of the Research and Training Revolving Funds, the internal resource allocations, and the interaction with the Research Corporation of the University of Hawai'i in fiscal matters.

E. Hawai'i Center for Advanced Communication

The Hawaii Center for Advanced Communications implements a multidisciplinary approach to interdisciplinary research with a theme of high-performance wireless networks. The major research areas include: Millimeter-wave devices, Millimeter-wave Circuits, Radio Frequency Integrated Circuits, Communications and Coding, Signal Processing and Multi-user Detection, Multimedia Image and Video Compression, and Efficient Network Control and Management.

The Director administers the total HCAC program. This includes developing and executing the Center's Strategic Plan, administering and managing the Center, raising private, federal, and State funding, developing industry and University research collaboration, developing opportunities for undergraduate and graduate students research participation, promoting the advancement of communications industry and communities in Hawaii.