STATE OF HAWAIʻI
UNIVERSITY OF HAWAI`I
UNIVERSITY OF HAWAIʻI AT MĀNOA
OFFICE OF THE PROVOST
COLLEGE OF NATURAL SCIENCES

FUNCTIONAL STATEMENT

OFFICE OF THE DEAN – Org Code: MADNNS

The Office of the Dean provides leadership and overall vision for the college, directs and coordinates the activities including curricular, personnel and budget management, program management, staff supervision, community relations, fundraising, grievance and litigation, and travel of the College. The Office of the Dean also manages the development of the College's research related programs and oversees curriculum development and reform, program review, and workload activities.

ACADEMIC AFFAIRS – Org Code: MAAANS

Coordinates major curricular policy activities on behalf of the Dean.

Reviews proposals for adding, deleting, or modifying courses, certificates and degrees.

Initiates college-wide curricular innovations, such as certificate programs, interdisciplinary/multidisciplinary programs, across college and school lines.

Assists in establishing and maintaining inter-college coordination relative to cross-disciplinary core requirements.

Provides academic advising services and programming to students from matriculation to graduation for the College of Natural Sciences.

ADMINISTRATIVE SERVICES – Org Code: MAASNS

Administrative Services supports and assists the Dean and the College units in personnel and fiscal affairs, budget planning and preparation, facilities, resource allocation, space management and activities coordination.

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OFFICE OF THE PROVOST
COLLEGE OF NATURAL SCIENCES
SCHOOL OF LIFE SCIENCES

FUNCTIONAL STATEMENT

SCHOOL OF LIFE SCIENCES – Org Code: MALFSC

The School of Life Sciences consists of five academic disciplines, Biology, Botany, Marine Biology, Microbiology, and Molecular Cell Biology within the College of Natural Sciences. The five disciplines offer a cohesive set of undergraduate degrees (BA and BS) and the graduate programs of Botany, Microbiology and Zoology offer MS and PhD degrees. The School of Life Sciences promotes the understanding, appreciation and preservation of biological diversity through excellence in research, education, service and outreach. The School promotes the ability of undergraduate students to explore life sciences with an interdisciplinary perspective and innovative learning experience that will provide them with the important outlook that life on Earth is a continuum.

Marine Option Program – Org Code: MAMOP

The Marine Option Program offers undergraduates of all majors throughout the University system, the opportunity to discover and develop their marine and marine-related interests and talents. The program is responsible for the development and management of one certificate-granting program offered at all UH campuses, including the Community Colleges, for those students who elect to complete selected academic seminars, symposia, field trips, workshops, baseline surveys and other hand-on experiences designed to promote marine education and training.

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OFFICE OF THE PROVOST
COLLEGE OF NATURAL SCIENCES
DEPARTMENT OF CHEMISTRY

FUNCTIONAL STATEMENT

DEPARTMENT OF CHEMISTRY – Org Code: MACHCH

Chemistry stands at the crossroads between physics and biology and provides a fundamental knowledge base for further training in diverse fields including medicine, pharmacy, engineering, oceanography, and environmental studies. The Chemistry Department provides instruction, conducts sponsored and unsponsored research, and provides support and analytical services related to chemical structure determination. Instructional activities include service courses for undergraduate science and engineering majors, advanced courses for undergraduate chemistry and biochemistry majors, and highly specialized courses for graduate students. Research activities serve an essential educational function by training advanced undergraduate and graduate students in the specialized methods for carrying out chemical research projects.

Instructional Activities – Org Code: MACHEM

The department offers BA, BS and minor degrees in chemistry, BA and BS degrees in biochemistry, and MS and PhD degrees in chemistry. The department also teaches large service courses in general chemistry and organic chemistry that support other majors in the natural sciences, as well as in the Colleges of Engineering and Tropical Agriculture and Human Resources, and the Schools of Nursing and Ocean and Earth Science and Technology.

Department faculty have research interests in organic, inorganic, physical, and analytical chemistry, as well as biochemistry and biophysics. Sponsored research conducted by faculty plays a central role in undergraduate and graduate student education. The graduate faculty participate in a number of collaborative research efforts with colleagues at the UH Cancer Center, the John A. Burns School of Medicine, the College of Tropical Agriculture and Human Resources, the Hawaiʻi Natural Energy Institute, the NASA Astrobiology Institute, and the W.M. Keck Astrochemistry Laboratory.

Support Activities – Org Code: MASACH

Associate Chair
The Associate Chair of the Department of Chemistry manages the support activities of the department which include stockroom services; instrument/computer services; and analytical services.

Stockroom Services
The Department of Chemistry is home to two well-supplied stockrooms, containing an array of materials necessary for undergraduate instructional courses and graduate research for the entire University of Hawaiʻi community.

Instrument/Computer Services
The Department of Chemistry provides services for design, construction, and repair of devices and scientific instruments not available commercially, and provides repair and maintenance of departmental instruments used for Gas and Liquid Chromatography, UV-Visible and Infrared Spectroscopy, X-ray Diffractometry, and Mass Spectrometry.

Analytical Services
The Department has a strong commitment to maintaining state-of-the-art instruments for molecular structure determination. Instrumentation includes Nuclear Magnetic Resonance and Electron Paramagnetic Resonance Spectrometers, Mass Spectrometers, and X-ray Diffractometers. These facilities are regularly used by members of the Department of Chemistry, other research units within the University of Hawaiʻi system, and scientists from across the State of Hawaiʻi.

UNIVERSITY OF HAWAI`I
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OFFICE OF THE PROVOST
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DEPARTMENT OF INFORMATION AND COMPUTER SCIENCES

FUNCTIONAL STATEMENT

DEPARTMENT OF INFORMATION AND COMPUTER SCIENCES – Org Code: MAICS

Information and Computer Sciences is the study of the description and representation of information and the theory, design, analysis, implementation, and application of algorithmic processes that transform information. The curriculum covers all major areas of computer science with special emphasis on software engineering, computer networks, artificial intelligence, human-computer interaction and bioinformatics. Information and Computer Sciences offers BA, BS, and minor degrees in information and computer science, MS in computer sciences, PhD in computer science, and PhD in communication and information sciences (interdisciplinary).

Information and Computer Sciences faculty members have research interests in algorithms; artificial intelligence and robotics; biomedical informatics and bioinformatics; collaborative systems; compilers; computer vision; databases; human computer interaction; machine learning; mobile and ubiquitous computing; security and information assurance; software engineering; and systems, networking, and high-performance computing.

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DEPARTMENT OF MATHEMATICS

FUNCTIONAL STATEMENT

DEPARTMENT OF MATHEMATICS – Org Code: MAMATH

Mathematics is the study of the logic of shape, quantity, and arrangement.
The Department of Mathematics offers preparation in the full spectrum of mathematical sciences, including algebra, geometry, differential equations, real and complex analysis, topology, logic, number theory, and probability and statistics, as well as various applications of mathematics to other disciplines. The math department offers BS, BA and minor degrees in mathematics, BS tracks in data science and computational science, MA and PhD degrees in mathematics, and an introductory curriculum in actuarial science.

Department of Mathematics faculty members have research interests in algebra & number theory; analysis; applied mathematics; geometry & topology; and logic.

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DEPARTMENT OF PHYSICS AND ASTRONOMY

FUNCTIONAL STATEMENT

DEPARTMENT OF PHYSICS AND ASTRONOMY – Org Code: MAPA

Physics is the study of matter and energy and how they interact at the most basic levels. It is the ideal major for those who want to understand the universe from the smallest to the largest scales. The department curriculum encompasses all major branches of physics: classical mechanics, electricity and magnetism, thermodynamics, optics, quantum theory, atomic and nuclear phenomena, condensed matter, and elementary particles. These subjects are investigated using experimental, computational, and theoretical methods.

Astronomy is the branch of science that studies the structure and development of the physical cosmos beyond earth. This includes planets and other objects of the solar system; the properties and evolution of stars; the interstellar medium; the nature and dynamics of galaxies and galaxy clusters; mysterious phenomena such as dark matter, dark energy, and black holes; and the history and future of the universe itself.

Faculty members in Physics are joined by faculty members from the Institute for Astronomy to present a strong, diverse, and balanced academic program. The department offers a range of undergraduate degree options: BS, BA, and minor in Physics; BS and minor in Astrophysics; and BA and minor in Astronomy. Graduate degrees include MS and PhD in Physics, and MS and PhD in Astronomy.

Faculty and students in the Department of Physics and Astronomy conduct substantial fundamental research, both on campus and as part of world-class experimental collaborations. Current research pursuits include high-energy particle physics, cosmic rays and particle astrophysics, detector design and electronics, elementary particle theory, observational cosmology, theoretical astrophysics, accelerator physics, physics of solids and nano-structures, and thermodynamics of information.

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PACIFIC COOPERATIVE STUDIES UNIT

FUNCTIONAL STATEMENT

PACIFIC COOPERATIVE STUDIES UNIT – Org Code: MAPCSU

PCSU is a research unit that conducts basic and applied research on natural resources, biodiversity, and ecosystems throughout Hawaiʻi and the Pacific. The unit works with a wide range of state and federal agencies, foundations, conservation organizations and private landowners to protect and restore Hawaiʻi's native species, ecosystems and cultural resources. PCSU facilitates collaborative projects on all of the main Hawaiian Islands, linking agencies that might otherwise have difficulty interfacing effectively, to achieve economies of scale and efficiently address problems at landscape and ecosystem levels. PCSU encourages and supports community-based projects such as watershed partnerships and island invasive species committees that bring together informal steering committees of landowners, local and state officials, and other key public stakeholders. PCSU supplies onsite and administrative expertise and logistical support for state and federal agencies and NGOs to implement adaptive management programs to restore degraded natural ecosystems and conserve native and endangered species.