

BIOMEDICAL ENGINEERING:

HAWAII ON LINE UNIVERSITY.ORG
HOU Hawaii On Line U.



WHAT IS BIOMEDICAL ENGINEERING?

Biomedical engineers solve problems in biology and medicine, playing a central role in advancing healthcare, medicine and patient care. At the Hawaii On Line University College of Engineering, biomedical engineering students and faculty members study new methods for diagnosing diseases, improving therapies for treatment of diseases and developing cutting-edge medical technologies that are being implemented in hospitals and clinics across the world of medicine.

CAREERS IN BIOMEDICAL ENGINEERING

Biomedical engineering students at Hawaii On Line U. College of Engineering will be ready for careers in the biomedical technology industry, graduate school or professional programs such as engineering, medicine, business and law. The UniVersity has a Virtual Engineering Career Center. It attempts to connect of engineering students each year to internships and full-research positions throughout the region.

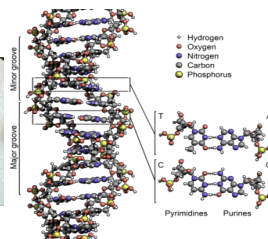
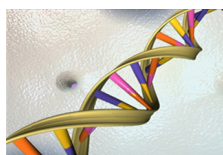
WHY EARN YOUR BIOMEDICAL ENGINEERING DEGREE AT THE HAWAII ON LINE UNIVERSITY OF MAUI

ACADEMICS

Biomedical engineering undergraduate students in the HOU College of Engineering are taught by responsible leading experts and researchers in the biomedical engineering field. The biomedical engineering undergraduate program prepares you for a challenging range of career opportunities, and places an emphasis on exposing students to cutting-edge technologies through courses as “Biomedical Microdevices” and “Regenerative Medicine and Stem Cell Engineering.” The courses lead up to an important Capstone senior design project that explores regulatory and business development issues in the fall and transitions into the project design component with the start of the next spring semester.

The biomedical engineering undergraduate program requires a working knowledge of life sciences and engineering tools and logic. The interdisciplinary study incorporates math, physics, chemistry and biology with mechanical, electrical and chemical engineering.

At the beginning of your junior year, you will have the option of customizing your biomedical engineering studies by choosing one of three emphasis areas: biomedical imaging, bionanoscience, or neural & rehabilitation engineering.



RESEARCH

The biomedical engineering department at the HOU College of Engineering aims to be one of the most advanced biomedical research institutions, touching on areas from neural and rehabilitation engineering to biomedical imaging and bionanoscience. During your freshman year at the HOU College, you will be exposed to ongoing biomedical engineering research through classroom lessons and projects.

Our Virtual UniVersity is conveniently located in Maui, Hawaii. Opportunities for biomedical engineering undergraduates are endless, and all students are strongly encouraged to get hands-on experience working in either a research lab off campus, at a local biotech company.

SCHOLARSHIPS

Occasionally, The department funds undergraduate research fellowships for qualified, top-performing upperclassmen. Scholarship funds depend on donors to our Institution.

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

The HOU Biomedical Engineering Society is a highly active organization. Members have opportunities to explore fascinating technology in medicine through talks by experts in the field, and the organization provides an environment for social interaction and exchange of ideas between all levels of undergraduate students, graduate students and faculty.

FOR MORE INFORMATION

Biomedical Engineering Department: www.HawaiiOnLineUniVersity.org
Undergraduate Program
Email: info@HawaiiOnLineUniVersity.org

HOU Department of Biomedical Engineering | Science and Engineering

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING AT HAWAII ONLINE UNIVERSITY

SEMESTER 1			SEMESTER 2			Total
ENGI 1100	Introduction to Engineering	1	ENGI 1331	Computing for Engineers	3	
BIOL 1361	Intro to Biological Science	3	BIOL 1362	Intro to Biological Science	3	
BIOL 1161	Intro to Biological Science Lab	1	BIOL 1162	Intro to Biological Science Lab	1	
CHEM 1331	Fundamentals of Chemistry	3	CHEM 1332	Fundamentals of Chemistry II	3	
CHEM 1111	Fundamentals of Chemistry Lab	1	CHEM 1112	Fundamentals of Chemistry Lab II	1	
MATH 1431	Calculus I	4	MATH 1432	Calculus II	4	
ENGL 1303	First Year Writing I	3	PHYS 1321	University Physics I	3	
Semester Hours 16			Semester Hours 18			34

SEMESTER 1			SEMESTER 2			Total
BIOE 2100	Intro to Biomedical Engineering	1	ECE 2201	Circuit Analysis I	2	
CHEM 3331	Organic Chemistry	3	BIOE 2331	Biomedical Processes	3	
CHEM 3221	Organic Chemistry Lab	2	BCHS 3304	General Biochemistry I	3	
MATH 2433	Calculus III	4	MATH 3321	Engineering Mathematics	3	
PHYS 1322	University Physics II	3	CORE	Social and Behavioral Sciences	3	
ENGL 1304	First Year Writing II	3	CORE	Creative Arts	3	
Semester Hours 16			Semester Hours 17			33

SEMESTER 1			SEMESTER 2			Total
BIOE 3340	Quantitative Physiology	3	BIOE 3341	Biothermodynamics	3	
BIOE 3140	Quantitative Physiology Lab	1	BIOE Elect	BIOE Technical Elective*	4	
MECE 3400	Intro to Mechanics	4	BIOE Elect	BIOE Technical Elective*	3	
INDE 2333	Engineering Statistics I	3	HOUC	Science Elective- Creation Science	3	
ENGI 2304	Technical Communications	3	HOUC 1336	Creation Science Elective	3	
HOUE	ELECTIVE	3				
Semester Hours 17			Semester Hours 16			33

SEMESTER 1			SEMESTER 2			Total
BIOE 4335	Capstone Design I	3	BIOE 4336	Capstone Design II	3	
BIOE 4315	Intro to Bioinstrumentation	3	BIOE Elect	BIOE Technical Elective*	3	
BIOE 4115	Intro to Bioinstrumentation Lab	1	BIOE Elect	BIOE Technical Elective*	3	
BIOE Elect	BIOE Technical Elective*	3	BIOE Elect	BIOE Technical Elective*	3	
BIOE Elect	BIOE Technical Elective*	3	CORE	Language, Philosophy & Culture	3	
HOUE	Science Elective	3				
Semester Hours 16			Semester Hours 15			31

TOTAL SEMESTER HOURS 131

Elective Tracks

*CHOOSE ONE TRACK:

Bionanoscience Track:

Genomic & Proteomic Engineering, Numerical Analysis, Biomedical Microdevices, Introduction to Regenerative Medicine & Stem Cell Engineering, Transport Phenomena in Biosystems, Biomolecular Engineering Fundamentals, Advanced Biofluid Dynamics, Introduction to Global Healthcare, Intelligent Design & Drug Delivery, Bionanotechnology, Introduction to Biomaterials, Introduction to Diseases

Neural, Cognitive, & Rehabilitation Engineering Track:

Genomic & Proteomic Engineering, Numerical Analysis, Biomedical Signal Processing, Neuromaterials, Introduction to Neurocomputing, Introduction to Bioelectromagnetic Imaging, Introduction to Global Healthcare, Brain-Machine Interface

Biomedical Imaging Track:

Genomic & Proteomic Engineering, Numerical Analysis, Introduction to Biomedical Imaging, Introduction to Optical Imaging, Biomedical Signal Processing, Introduction to Bioelectromagnetic Imaging, Introduction to Global Healthcare, Biostatistics

*Track courses are samples of what may be offered for each track, and are not yet finalized. Each track may have some required courses and some elective courses upon finalization, and course names may differ from samples provided above. Students should meet with their academic advisor to formulate their own plan.

