BACHELOR OF SCIENCE IN BIOENGINEERING

WHY BIOENGINEERING?

Bioengineering encompasses a broad range of topics that focus on the interface between biology and engineering. Bioengineers design devices and develop methods that benefit society. They work in exciting new areas that directly affect the lives of many people. The predicted job growth is currently greater than in any other engineering field.

WHAT DO BIOENGINEERS DO?

Bioengineers work at the cutting edge of research and industry, and frequently address clinical, diagnostic and therapeutic applications of engineering. For example, they may be involved in diagnostic imaging of tissues, engineering surfaces to ensure compatibility of implants with the body, or creating sensors for monitoring the repair of biological systems. They also work on the design of artificial organs, the development of new methods to detect and treat cancer, the production of devices to measure biological agents, and the creation of ways to obtain the controlled release of drugs.

HOW DO I BECOME A BIOENGINEER?

Students enter UMaine’s Bioengineering B.S. program with a strong interest in science and problem solving. The curriculum provides thorough training in the fundamentals of engineering and biological sciences. At UMaine, students learn instrumentation and techniques employed to analyze biological systems and processes. They are introduced to the challenges and methodologies associated with manipulating biological systems and are exposed to current and future applications of bioengineering. Utilizing this knowledge base, students develop the skills to engineer solutions to real-world problems. UMaine students are actively involved in engineering projects mentored by individual faculty.

WHERE DO GRADUATES END UP?

The B.S. degree is suitable for entry-level engineering careers and as preparation for graduate-level study in engineering or scientific disciplines. The degree also serves as an excellent foundation for admission to medical school.

WHY UMAINE?

The size of UMaine’s Bioengineering program allows students to receive individual attention, with many opportunities for direct interaction and discussion with faculty members. Bioengineering majors interested in the production of biofuels, biopharmaceuticals and biopolymers may take advantage of a Bioprocess Engineering concentration. UMaine also offers an M.S. in Biological Engineering. Additionally, UMaine’s College of Engineering offers a Biomedical Engineering minor, a five-year B.S.-M.B.A. degree with the Maine Business School, and a minor in Engineering Leadership and Management.

For more information, contact:
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To apply: go.umaine.edu
CO-OPS AND INTERNSHIPS
UMaine faculty members help place students in summer internships in leading research and diagnostics development laboratories throughout New England. Placement with these companies and research institutions typically takes place in the junior and senior years of the program.

RESEARCH
Professors in UMaine’s Bioengineering program are all highly active and accomplished researchers. Current research projects include the development of nanoprobes for detection and imaging of cancer; creation of model cellular membranes for the study of membrane-protein interactions; detection of pathogens and toxins using molecular biosensors; and improvement of tissue-implant compatibility. Undergraduates are encouraged to participate in projects such as these to gain hands-on experience in the field, either for course credit or as paid employees.

WHY ENGINEERING?
Engineers solve the most pressing problems of our time. There is always a strong demand for engineers. At UMaine, you’ll work with and learn from nationally and internationally recognized innovators in their fields. You’ll also be able to take advantage of our programs in leadership and management. At UMaine, you’re in a great place.

HOW DO I APPLY?
Visit go.umaine.edu for an application, as well as information about academics and life at UMaine.

succeed

“Originally, when I read you could get involved in the labs at UMaine, I thought I’d be washing dishes. It’s really nice, as an undergraduate, to be able to go into a lab and participate in cutting-edge research with actual biological systems.”
— Ryan Dawes, Pre-med, Neuroscience, Psychology and Chemistry minors, Honors College President, UMaine Bioengineering Club

“The ever-evolving field of bioengineering is diverse and fascinating. By exposing me to a variety of different fields within bioengineering, UMaine opened my eyes to what I was truly passionate about. The faculty and staff were devoted to my success and worked with me to tailor my education to meet my interests, helping me find a niche that has allowed me to excel in my career.”
— Joan Malcolm Albee, UMaine Bioengineering alumna, Biomedical Engineer, The Jackson Laboratory

“The Biological Engineering Department at the University of Maine provided me with an unparalleled foundation for the rigors of medical school. While giving me a solid knowledge base and multiple research experiences, the department also instilled the values of teamwork, problem-solving, diligence, and ethical responsibility. The faculty truly care and will go out of their way to encourage the aspirations of their students, whatever they may be and whenever they may change.”
— Jessica Deane M.D. UMaine Bioengineering alumna, Resident, Carolinas Medical Center, Charlotte, NC

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