A microscopic image of biological tissue, possibly a cross-section of a blood vessel or a similar structure. The tissue is stained in shades of blue and purple. A prominent feature is a large, circular structure in the center, which is highlighted with a bright green glow. This structure appears to have a complex internal structure, possibly a nucleus or a specialized cell. The surrounding tissue shows various cellular components and fibers.

Become a biomedical engineer and help solve the complex problems in life sciences and medical care. It could be the most rewarding decision you ever make.

WHY CHOOSE MICHIGAN TECH?

Learn by Example

Biomedical engineers often choose the field to help people—and for the excitement of understanding and focusing on living systems.

In our department, students thrive in an enthusiastic team atmosphere guided by faculty mentors. We offer a supportive learning community with many possibilities for your future, all within a single program. Our goal is to prepare you for a wide range of professional positions.

Here at Michigan Tech, your efforts will be greatly enhanced by working alongside our faculty in their research labs. Our students participate in bio-medical research in a significant way. Many undergrads not only conduct research—they also publish their findings in research journals and present their work at national conferences.

We offer:

Small Class Sizes

Benefit from individual attention and guidance.

Strong Sense of Community

Get to know your fellow students, as well as your professors and their graduate students, too.

Hands-on Learning Experiences

In the lab or in clinical settings—opportunities abound.

Medical and Graduate School Preparation

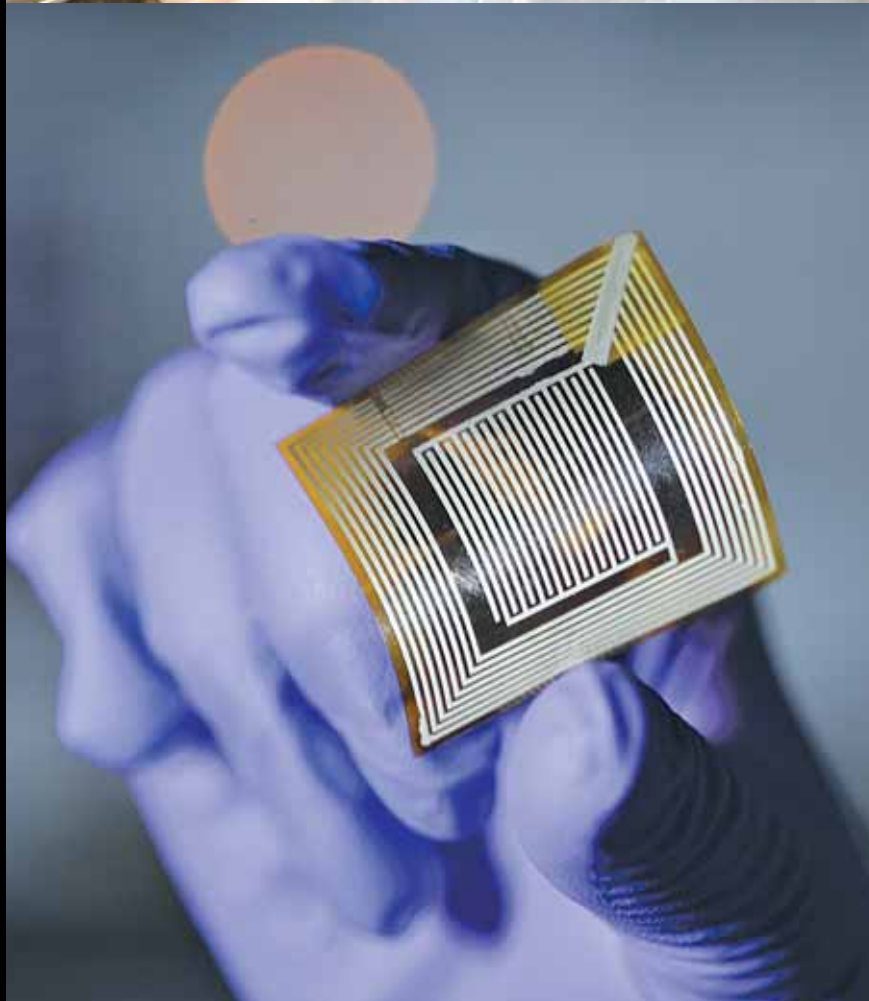
Excellent preparation for medical school, graduate school, and other health professional programs.

International Opportunities

Our students have traveled and studied in Ghana, Norway, Australia and Italy, to name a few.

Co-ops and Internships

Gain real-world experience working in the medical device industry, medical research labs, clinics and hospitals.





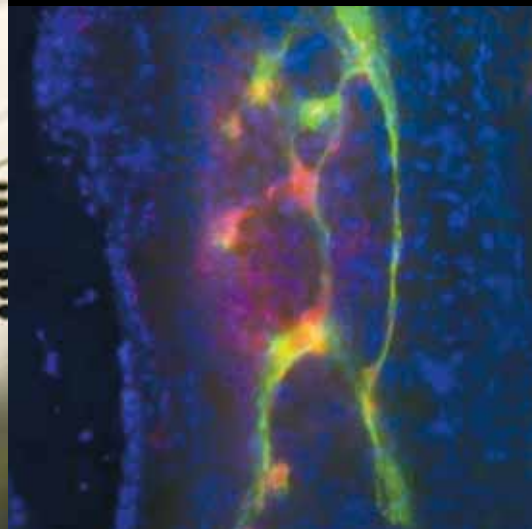
Understand, Restore, and Protect Human Health

Biomedical engineers advance knowledge and develop new technology at the interface of engineering, biology, and medicine.

Working as a biomedical engineer, you will apply engineering approaches to understand living systems, develop methods to repair or replace damaged or diseased organs, measure the internal structures of the human body in health and disease, develop new diagnostic tools, and create many ways to make our lives healthier and safer.

You could...

- Monitor newborns in a hospital setting
- Design technology to aid people with physical impairments
- Engineer cells to regenerate diseased or injured tissue
- Design new materials for implantation in the body
- Conduct clinical trials of new medical devices
- Build customized devices for special health care or research needs
- Collaborate with researchers in other fields, such as medicine, physiology, or nursing



UNDERGRADUATE RESEARCH

The integration of biology and engineering is the cornerstone of biomedical engineering. From helping to conquer deadly diseases to enabling the paralyzed to regain use of their limbs, biomedical engineers draw upon numerous engineering disciplines to solve complex health problems. Your work can range from developing new diagnostic tools and therapies to designing artificial organs and prosthetics. Much of this work begins in the research lab.

Our undergraduate researchers work in a variety of areas including:

Biomaterials and Tissue Engineering

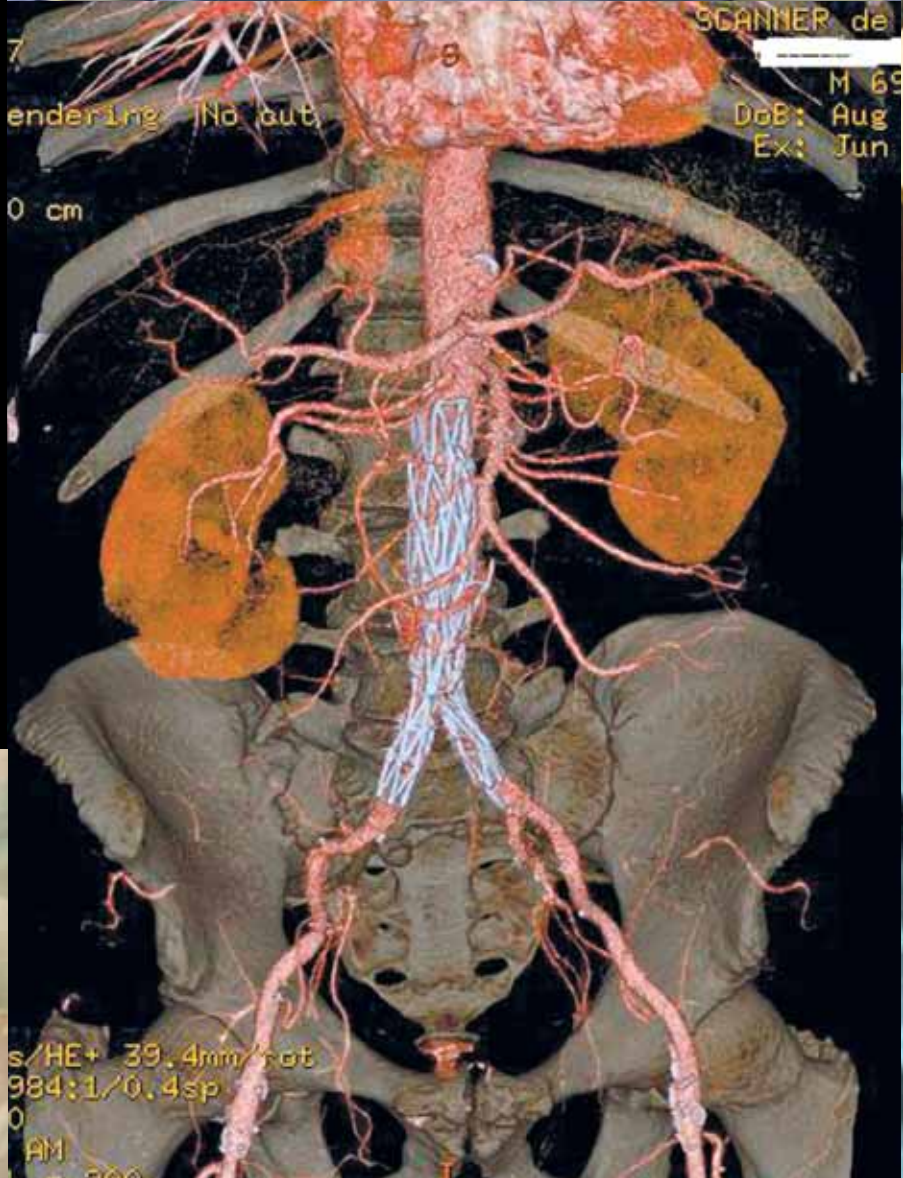
Train cells to regenerate tissue and organs

Biomechanics

Understand forms, motion, and material properties of cells, tissues, and organisms

Instrumentation and Physiological Measurement

Focus on biosensors, imaging, and more





Senior Design

Our Senior Design program connects student teams with industry through open-ended design projects—helping you gain the skills and experience that can launch you into a successful career.

During your senior year, you'll have the chance to work with a small team of students on a Senior Design project.

Projects have included:

- Evaluating bioabsorbable cardiac stents for Boston Scientific
- Developing a data collection system for Beaumont Hospital
- Designing a pacemaker fixation system for Medtronic
- Designing a transtibial prosthetic for Bremer Prosthetics
- Creating a clinician hand-washing monitor for Portage Health
- Developing a wearable health alert system for 3M

Enterprise

It takes teamwork to bring creative ideas to life. Join an Enterprise team and get the extra edge on your education. Solve real-world engineering, design, and communication problems. Develop marketing, business, and leadership skills. Teams are open to students from every major and operate like companies in the private sector. Our department helped launch the International Business Ventures team, but you can choose from more than thirty teams across campus.

Professional Opportunities

Biomedical engineering is a fast-growing field, as well as a wide-ranging one. Firms that hire biomedical engineers include pharmaceutical companies, medical equipment and instrument manufacturers, biotech companies, hospitals, universities, and government agencies. It's a very entrepreneurial field, so it's not unusual to find biomedical engineers founding or working for start-up companies.

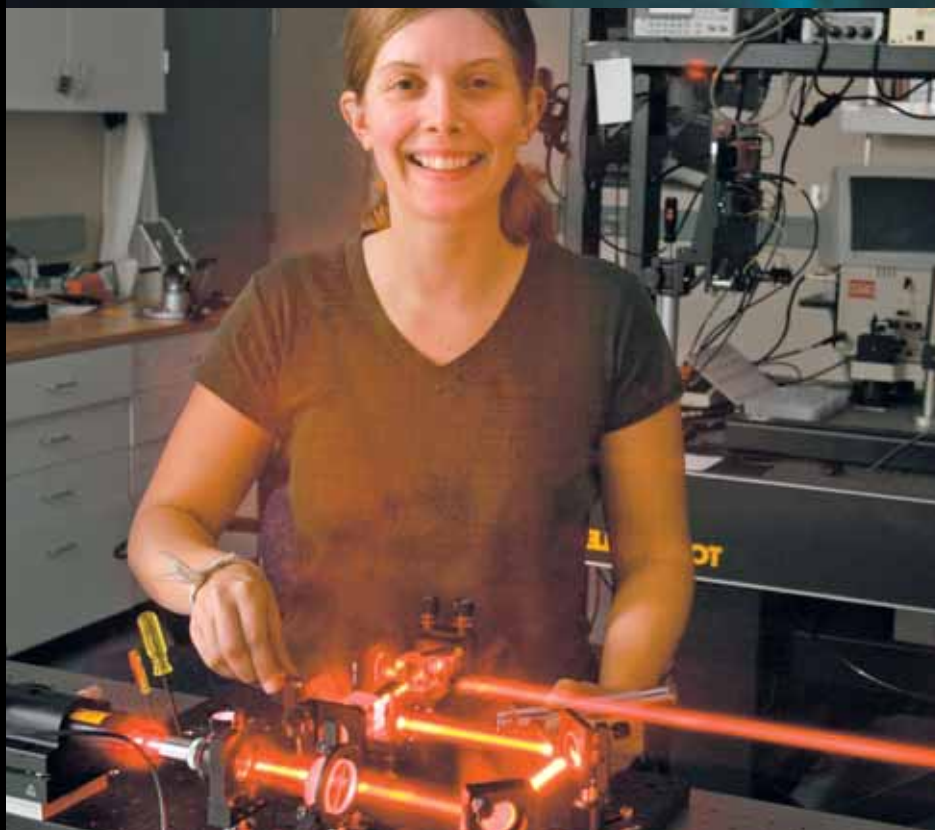
You could also use your degree to become a high school teacher of science and math, go on to medical or law school, or head directly to graduate school to obtain a master's or doctoral degree.

Recent graduates of our program are working across the country at companies such as:

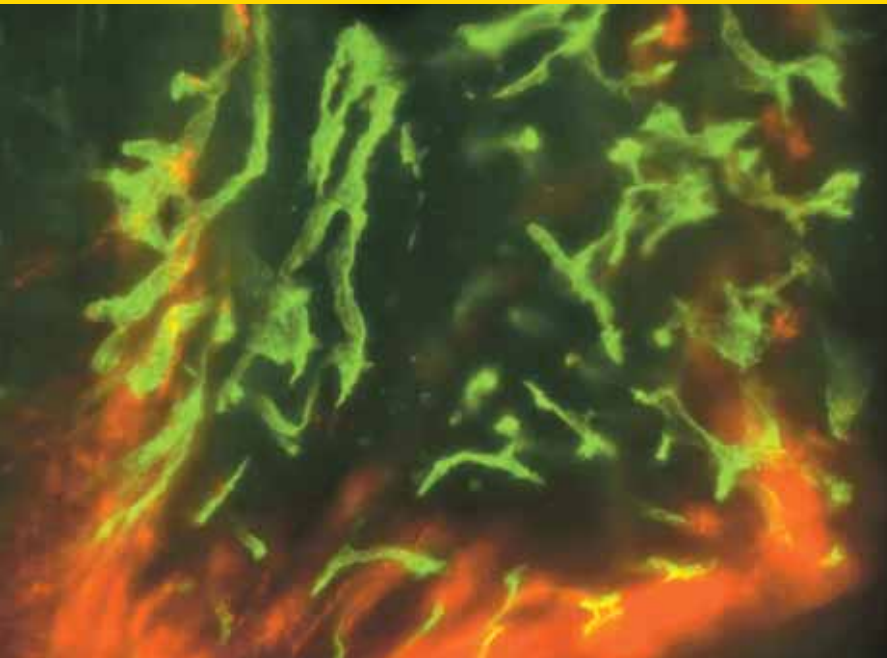
Beckman-Coulter
BD Diagnostics
Boston Scientific
Kimberly-Clark
Mayo Clinic
Medtronic
Pioneer Surgical
Schlumberger
Stryker
Zimmer

Early Assurance Program

Partnerships between Michigan State University College of Human Medicine, Wayne State University School of Medicine, and Michigan Tech provide early admission for qualified students, especially for those who wish to practice in underserved areas.



FIND OUT MORE



Come See Us

There is no substitute for seeing firsthand what Michigan Tech has to offer. We invite you to visit our campus and tour the Department of Biomedical Engineering. Call 888-688-1885 to set things up.

Please feel free to get in touch. We look forward to hearing from you.

T: 906-487-2772

E: biomed@mtu.edu



biomed.mtu.edu



On the cover: Fluorescently-labeled
bone from a hibernating grizzly bear.
Bears possess a special mechanism
that fights off osteoporosis.

CREATE THE FUTURE

MichiganTech

BIOMEDICAL ENGINEERING

Michigan Technological University
Biomedical Engineering
309 Minerals and Materials Engineering Building
1400 Townsend Drive
Houghton, MI 49931-1295

T: 906-487-2772

F: 906-487-1717

E: biomed@mtu.edu

biomed.mtu.edu

Michigan Technological University is an equal opportunity educational institution/
equal opportunity employer.

Michigan Tech offers more than 130 undergraduate and graduate degree programs in
engineering; forest resources; computing; technology; business; economics; natural,
physical and environmental sciences; arts; humanities; and social sciences.