A. James Clark School of Engineering

GRADUATE ENGINEERING DEGREES IN

BIOENGINEERING

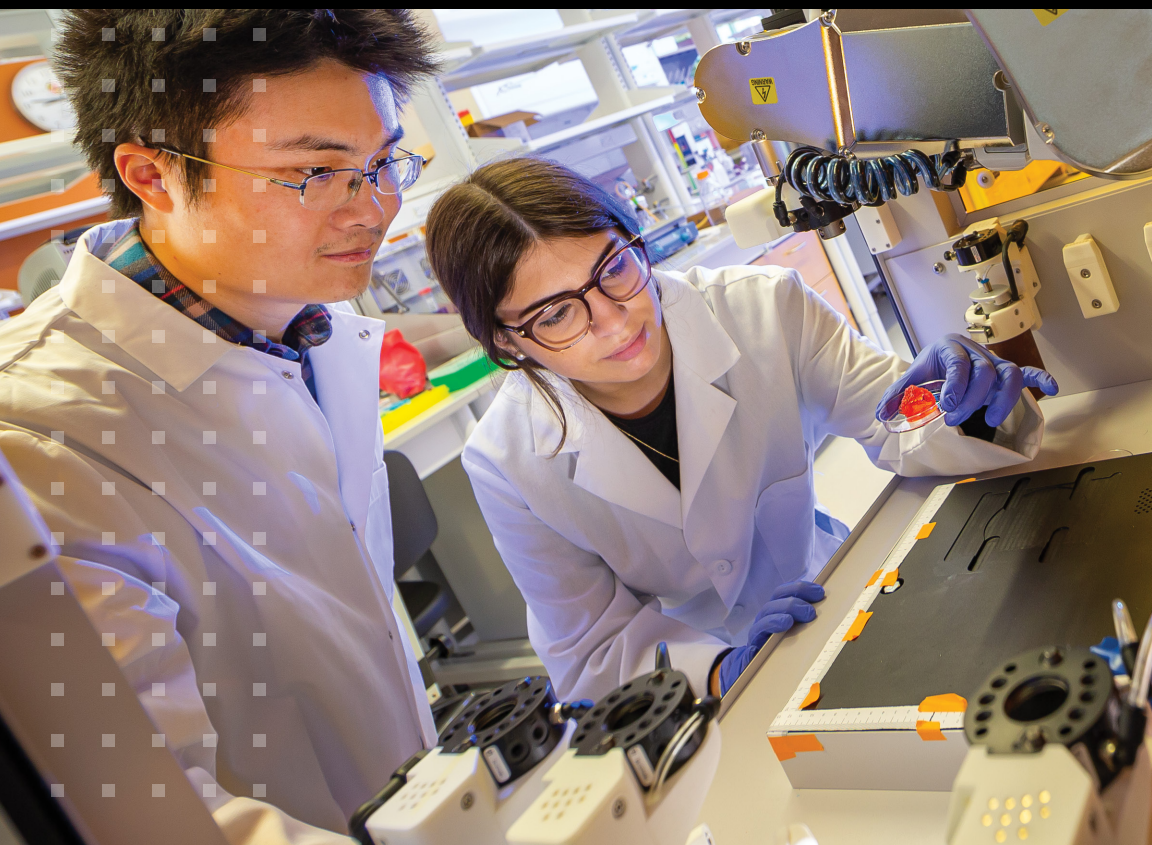
Combine engineering and biotechnology knowledge to create innovative healthcare devices and processes.

DON'T WAIT TO FURTHER YOUR CAREER

Discover how Maryland Applied Graduate Engineering (MAGE) programs prepare you to solve the most daunting engineering challenges and give you a competitive edge in today's market.

- Focus on a specialized area of engineering and target course-work to your interests.
- Learn from industry leaders who incorporate the latest education tools to create collaborative, interactive learning environments.
- Balance work and family through the flexibility of online or in-person classes.
- Access student services online to quickly receive the support you need regarding admissions, financial aid, or career services.

A leader in graduate engineering education for professionals, we are proud to serve the region's engineering community. Through our programs, advance your career with a degree from the A. James Clark School of Engineering, consistently ranked among the top 20 in the U.S. Located just a few miles from Washington, D.C., Maryland Engineering is at the center of a constellation of high-tech companies and federal laboratories, offering students and faculty access to unique professional opportunities.



> At Maryland Engineering, professors care about their students and want them to succeed. We learn from experts who are principal investigators in the field of bioengineering.

SARAH BETH BROWNING
M.ENG., BIOENGINEERING SPRING '24

TOP BIOENGINEERING ROLES

- Manufacturing Engineer
- Biomedical Scientist Researcher
- Health Care Manager
- Biomaterials Developer
- Medical Policy Coordinator
- Biomedical Equipment Technician

TOP STUDENT EMPLOYERS

- Medtronic
- NeuroLex Diagnostics
- Pulmatrix
- U.S. Public Health Service Commissioned Corps
- Emmes Corporation

BIOENGINEERING AT MARYLAND

The movement to more technological approaches to patient diagnosis and treatment is dramatically changing the health care environment. In response, bioengineering—the application of engineering to the fields of medicine and biology—is fast becoming one of the country's largest industrial sectors. With this growth comes increasing demand for engineers trained in medical science and biotechnology and doctors competent with new technologies. The Fischell Department of Bioengineering, located in the A. James Clark Hall on the University of Maryland campus, is home to this growing academic discipline. Access to the latest technologies—from 3D printing to updated wet laboratories to expansive testing spaces—provide the resources required for healthcare discovery and innovation. Long recognized for its contributions to the field, the department has established long-term relationships with a host of federal agencies, including the National Institutes of Health, the Institute for Bioscience & Biotechnology, and the U.S. Food and Drug Administration (FDA), and is a founding member of the University of Maryland Center of Excellence in Regulatory Science and Innovation, which focuses on modernizing and improving the ways drugs and medical devices are reviewed and evaluated.

GRADUATE PROGRAMS IN BIOENGINEERING

Our interdisciplinary **Master of Engineering** and **Graduate Certificate in Engineering** programs are uniquely positioned to draw on the university's strengths in engineering, biology, and medicine. Integrating engineering principles with biological systems, students learn to create new technologies and devices that can improve human health, fight disease, and aid persons with disabilities. Through courses in biomaterials, bioinformatics, biopharmaceuticals, and biomedical device development, students gain a solid grounding in the biological component of engineering. Faculty and students work closely to advance innovative solutions in health and biological sciences with the potential to improve health worldwide.

TAKE THE NEXT STEP

ADMISSION REQUIREMENTS

- Bachelor's degree in engineering, biology, chemistry, physics, or another technical field from an accredited institution
- GPA of 3.0 or better
- Successful completion of all of the following courses (or their equivalent):
  - Math: Calculus I, II, and Differential Equations
  - Biology: Either Biology for Engineers (BIOE 120), Molecular and Cellular Biology (BSCI 170 or 330), or Physiology (BSCI 201)
  - Chemistry: General Chemistry I with Lab (CHEM 131 and CHEM 132)
  - Physics: Fundamentals of Physics I (PHYS 121)
  - Engineering: Thermodynamics (ENES 232) or a chemistry class with substantial content devoted to energetics/thermodynamics (such as CHEM 271 or CHEM 481)
- Three letters of recommendation (M.Eng. applicants only)
- Unofficial copies of transcripts
- For international students: an official English proficiency score report
- Official GRE scores considered but not required
- Completed applications considered for admission on a case-by-case basis

DEGREE REQUIREMENTS

MASTER OF ENGINEERING

- 10 courses (30 Credits)
- No thesis / no research
- No comprehensive exam

GRADUATE CERTIFICATE IN ENGINEERING

- 4 courses (12 credits)

FULL LISTING OF COURSES

Visit mage.umd.edu/bioengineering or scan here for more specific requirements, available courses, and degree planning sheets.

APPLICATION DEADLINES

ON-CAMPUS DOMESTIC

FALL July 31
SPRING December 15
SUMMER May 15

ON-CAMPUS INTERNATIONAL

FALL March 8
SPRING September 24

ONLINE DOMESTIC AND INTERNATIONAL

FALL July 31
SPRING December 15
SUMMER May 15

Are you ready to take the next step in your engineering career journey? Explore program options, application requirements, and deadlines through virtual and in-person open house sessions.

TO LEARN MORE, VISIT
mage.umd.edu/bioengineering

The A. James Clark School of Engineering is a catalyst for high-quality research, innovation, and learning, providing students the resources to be engaged problem-solvers and entrepreneurial thinkers. Pursue a degree tailored to your career interests through the top-ranking Maryland Applied Graduate Engineering programs.

DON'T WAIT TO FURTHER YOUR CAREER

MARYLAND APPLIED GRADUATE ENGINEERING

FOR MORE INFORMATION

We welcome your interest. For complete information, including course descriptions, deadlines, and schedules please contact us.

WEBSITE: **mage.umd.edu**
TEL: **855-309-8379**
EMAIL: **mage@umd.edu**