

Online MS in Biomedical Engineering

The [online Master of Science \(MS\) in Biomedical Engineering](#) can be your path to a management role in one of the most rapidly changing and impactful fields of engineering. The biomedical engineering program at Case Western University is one of the oldest in the world, and it has produced cutting-edge research and offered an elite-level graduate education for more than 50 years. The online MS in Biomedical Engineering is a professionally-focused degree that builds on this tradition, preparing you with the practical skills and knowledge you'll need to lead in organizations that develop potentially life-saving medical technologies.

Program Benefits

- Engage [100 percent online coursework](#) specifically designed to address the practice of engineering in today's business environment
- Earn a practice-oriented degree that does not feature a required master's thesis
- Learn from the same renowned faculty who teach in our engineering programs on campus and benefit from their years of leading-edge research experience
- Pair with on-campus master's degree students for research projects and presentations
- Enjoy professional support, including entrepreneurial opportunities through [CWRU LaunchNet](#) and remote or in-person appointments with CWRU's innovative on-campus academic makerspace, [Sears think\[box\]](#)

Online Program Structure

- 30 credit hours
- 10 courses (2 core BME courses, 2 core engineering courses, 2 BME specialty courses, 2 translational courses, 2 technical electives)
- Can be completed in as few as 18 months
- 3 annual starts: spring, summer and fall

Admissions Requirements

- Completed [online application form](#)
- **Bachelor's degree** (Bachelor of Science in Engineering preferred)
- **Official transcripts**
- **GRE scores:** We have temporarily suspended the GRE requirement for spring-fall 2024 applicants
- **Personal statement** of one to two pages
- **Resume/CV**
- **Two letters of recommendation** from professional or academic sources (non-family)
- **Application fee:** \$50 (Speak with an advisor about waiving your fee)
- **International Applicants:** TOEFL, IELTS or PTE scores*
 - We are suspending certain requirements for the spring 2024 terms. International applicants may be eligible for conditional admittance; please speak with your advisor to learn more.

*International students whose first language is not English must demonstrate English proficiency by submitting Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson Test of English (PTE-Academic) scores. See our [requirements for international applicants for details](#).

The Curriculum

BME Core Courses:

Required:

EBME 401D Biomedical Instrumentation and Signal Processing

Choose one of the following:

EBME 451 Cellular and Molecular Physiology

EBME 432 Quantitative Analysis of Physiological Systems

Engineering Core Courses:

Required:

EPOM 400 Leadership and Interpersonal Skills

Choose one of the following:

EPOM 405 Applied Engineering Statistics

EPOM 407 Engineering Economics and Financial Analysis

BME Specialty Courses (Choose 2):

EBME 406 Polymers in Medicine (Materials)

EBME 410 Medical Imaging Fundamentals (Imaging)

EBME 421 Bioelectric Phenomena (Neural Engineering)

Translational Courses:

EBME 440 Translational Research for BME

EBME 471 Principles of Medical Device Design and Innovation

Technical Electives (Choose 2):

EMAE 456 Micro Electro Mechanical Systems and Biomanufacturing

EPOM 401 Introduction to Business for Engineers

EBME 601 Research Projects

Join a new breed of engineering leaders. Transform your career.

Interested in advancing to a leadership role in a technology-forward medical organization?

Learn more about our online MS in Biomedical Engineering program by reaching out to an Admissions Outreach Advisor at 855-500-3840 or admissions.case@elearningctr.com.