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% 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]

Admissions Requirements

- Completed online application form
- Bachelor’s degree (Bachelor of Science in engineering preferred)
- Official transcripts
- GRE scores: Due to COVID-19 concerns, we have temporarily suspended the GRE requirement for spring-fall 2022 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**
  - In response to concerns about the COVID-19 virus, we are suspending certain requirements for the spring-fall 2022 terms. International applicants may be eligible for conditional admittance; please speak with your advisor to learn more

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

*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 Advisor at 855-500-3840 or admissions.case@elearningctr.com.