Biomedical Engineering

Educating future engineers for 80 years

Oldest biomedical engineering research program in the US, since 1939

Home to nation’s first electric-drive vehicle engineering program and alternative energy technology master’s degree program

One of 23 U.S. PACE institutions

62 patent applications and five startup companies in the past five years

One of only 15 North American universities chosen to compete in EcoCAR 2

Resume Booster

Our 16-credit EDGE Engineering Entrepreneur Certificate Program is a great addition to a biomedical engineering degree. The EDGE program trains engineering students in the entrepreneurial skills required to commercialize new ideas, technologies and products. Students learn to solve problems and bring inventions to market through courses in entrepreneurial marketing, finance, law and management, as well as engineering. Additionally, engineering students have direct access to a wide range of business incubators, partner services, mentors and advocates both on and off campus.

engineering.wayne.edu/edge

Getting Started

Take a tour

admissions.wayne.edu/visit

engineering.wayne.edu/visit

virtualtour.wayne.edu

Talk to an academic advisor

313-577-1345

engineering.wayne.edu/advising

engadmissions@wayne.edu

Learn more online

engineering.wayne.edu/bme
WHAT IS BIOMEDICAL ENGINEERING?

Biomedical engineering (BME) is one of the fastest-growing engineering disciplines — with very promising job prospects. Focused on medical sciences and interventions, biomedical engineers create new, game-changing technologies that save lives and improve quality of life. As a biomedical engineer, you could be working to create an advanced military helmet prototype, predict kidney problems early enough to save lives, or develop synthetic substitutes for bone grafts.

ON THE JOB

Wayne State engineering students enjoy unparalleled career opportunities in Detroit and around the world. We support our students and alumni through our Career Services Office, online job listings, industry employer job banks and more. And, with so many employers based in the city and surrounding areas, our students have direct access to countless internship opportunities.

RESEARCH

Wayne State is known for supporting undergraduate research as early as the freshman year, and the College of Engineering is no exception. In fact, the college recently kicked off its Undergraduate Research Award Matching Fund Program, providing students with support and faculty mentorship on a wide range of research projects.

In addition, each class of BME students tackles a real-life challenge as a group. The charter class of BME students, then just freshmen, designed devices that would allow a diabetic patient with the use of only one arm to test his blood sugar independently.

FACULTY EXPERTISE

You’ll learn from biomedical engineering faculty members who are consistently tapped by the federal government, major corporations, and international agencies for their expertise. Faculty researchers at Wayne State have made great strides in the prevention of military injuries and automotive safety. Groundbreaking research is also being conducted on the development of tissue-engineered nerves and heart valves as well as imaging techniques for improved diagnosis of brain injury and cancer.

DEGREE PROGRAMS

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING

Concentrations
- Biomaterials
- Biomechanics
- Biomedical instrumentation

GRADUATE DEGREES

The College of Engineering offers M.S. and Ph.D. programs in biomedical engineering, as well as a graduate certificate in injury biomechanics.

WHY THE WAYNE STATE COLLEGE OF ENGINEERING?

- Internships: Start working in the field before you even graduate with a large number of internship opportunities.
- Practical experience: Break classroom boundaries by working with teams to design and build devices for the disabled, a concrete canoe, hybrid vehicle, and more.
- Scholarships: The college awards up to 100 engineering scholarships annually. The university offers many more.
- Study abroad: Graduate with the global perspective employers love.
- Undergraduate research: Join expert faculty in research from your very first year.

“...I’ve had opportunities I couldn’t have even imagined as an undergraduate. I’m confident that I’ll be well prepared for whatever challenges I face.”

— Nigil Valikodath, biomedical engineering

After a decade at General Motors, in 2007 Matthew Craig earned his Ph.D. in biomedical engineering from Wayne State and joined the National Highway Traffic Safety Administration (NHTSA). He was recently named division chief of human injury research in the organization’s Office of Vehicle Crashworthiness Research.

工程学位课程

生物医学工程（BME）是工程学科中发展最快的领域之一，具有非常有前途的就业前景。生物医学工程师专注于医学科学和干预措施，创造新的、革命性的技术来挽救生命和提高生活质量。作为一名生物医学工程师，你可能正在设计先进的军事头盔原型，预测肾病问题以挽救生命，或者开发用于骨移植的合成替代品。

研究

 Wayne State University 早于大一就开始支持本科生研究，工程学院也不例外。事实上，学院最近启动了本科生研究奖助学金计划，为学生提供支持和导师指导，为广泛的研究项目提供支持。

在每一年级，BME 学生都作为一个小组来应对现实生活中的挑战。第一届 BME 学生，那时还是大一新生，设计了允许用一只手的糖尿病患者独立检测血糖的设备。

师资力量

你会从生物医学工程的教师中学习，这些教师被联邦政府、大型公司和国际机构一致认可，因为他们具有专业知识。Wayne State 大学的教师们在军事伤害和汽车安全的预防方面取得了巨大进展。正在进行的开创性研究也在研究组织工程神经元和心脏瓣膜，以及改进脑损伤和癌症成像技术。

为什么选择Wayne State 大学的工程学院?

- 实习：在毕业前就开始在领域工作，并且有机会获得大量实习机会。
- 实践经验：打破课堂界限，与团队合作设计和制作为残疾人士设计的设备，混凝土独木舟，混合动力车，等等。
- 奖学金：学院每年提供高达 100 个工程奖学金。大学提供更多的奖学金。
- 留学：拥有全球视野，适合雇主。
- 本科研究：加入专家导师在研究中。”

— Nigil Valikodath, 生物医学工程

马修·克雷格 (Matthew Craig) 在通用汽车公司工作十年后，于 2007 年获得了生物医学工程的博士学位，并加入国家公路交通安全管理局 (NHTSA)。他最近被任命为办公室的车辆耐冲击性研究业务部门的首席官。