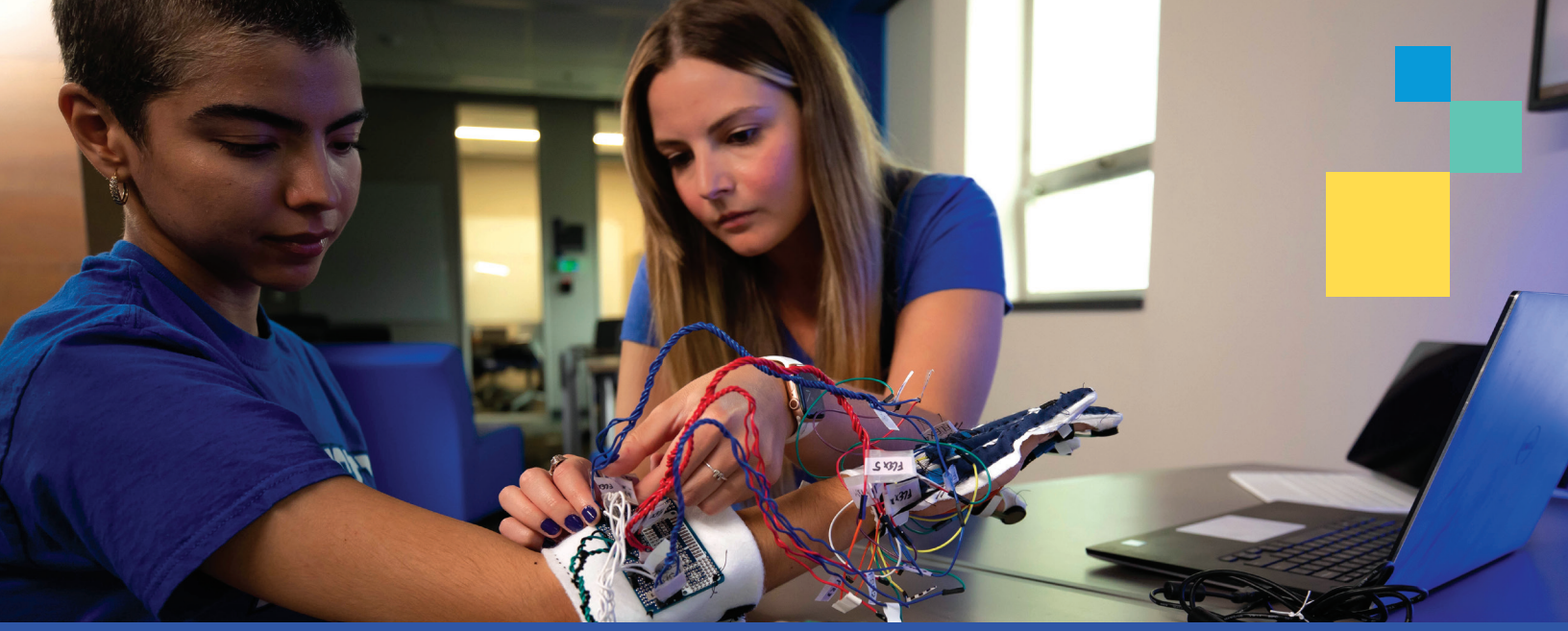

BIOMEDICAL ENGINEERING

Biomedical engineering (BME) is a multidisciplinary field that applies engineering principles and design methods to advance human health and solve healthcare challenges. The UK College of Engineering F. Joseph Halcomb III, M.D. Department of Biomedical Engineering offers a four-year bachelor of science degree in BME that provides students with a unique set of engineering skills, design-thinking know-how and immersive clinical experiences to enable them to identify unmet clinical needs and develop innovative solutions and technologies.

PURSUING BIOMEDICAL ENGINEERING AT UK

This program begins with the First-Year Engineering experience, which grounds students in foundational engineering courses. The program culminates in a unique two-semester interdisciplinary Capstone Senior Design project that challenges students to creatively engineer a solution to a healthcare issue posed by collaborating industrial or healthcare partners. BME and product design courses jointly created and taught by BME and College of Design faculty build Design Thinking into students' approach to solving healthcare problems and form the backbone of the BME major.

CAREER PROSPECTS IN BIOMEDICAL ENGINEERING

Our undergraduate BME program is designed for students who aspire to engineer innovative technologies, devices and processes to help patients. The program develops competencies and cultivates lifelong learning habits in students at the interface of engineering and medicine. Students will be prepared to embark on careers in the medical industry, healthcare professions, government agencies, nonprofit foundations and advanced studies in biomedical engineering.

UNDERGRADUATE RESEARCH IN BIOMEDICAL ENGINEERING

Biomedical engineering undergraduate students can work side-by-side with BME faculty and graduate students as well as UK's clinicians on innovative, pioneering research projects. These opportunities allow BME students to apply their classroom education to real-world biomedical engineering problems. Such time-intensive projects allow the undergraduate researcher to make a meaningful contribution, sometimes reflected in the presentation of abstracts at regional and national meetings and submission of manuscripts for publication.

CO-OPS

UK provides opportunities to co-op with many companies. Students can co-op during the fall, spring or summer terms. Those who complete three co-op rotations will receive formal recognition upon graduation with a special cord (beginning with May '23 graduates). Students work with the co-op director and their academic advisor to determine the best timing for their co-op experiences.

PROGRAM FACTS

Enrollment: 150

Common Minors: Computer Science, Mathematics and Neuroscience

Student Organizations: Biomedical Engineering Society and Society for Biomaterials

GRADUATE STARTING SALARIES

Median full-time starting salary info for 2021 new college graduates

National Association of Colleges and Employers - Summer 2022

$65,774

MEDIAN SALARY

INDUSTRY SECTORS:

- Clinical Engineer
- Research & Development Engineer
- Design Engineer
- Product Development Engineer
- Healthcare Services Analyst

College of Engineering

For more information, visit:

engr.uky.edu/explore/biomedical-engineering

BIOMEDICAL ENGINEERING
Curriculum Synopsis

This list is a synopsis of classes that a student will take to pursue a degree in biomedical engineering. As part of the biomedical engineering curriculum, students must complete the pre-engineering requirements, major requirements and general education coursework, called UK Core.

Note: This synopsis represents one of several paths to a biomedical engineering degree. More paths are under development to meet the demands of students' specific needs and interests.

- Major-specific
- Other
- Science
- Math
- General Education

YEAR ONE	YEAR TWO	YEAR THREE	YEAR FOUR
Engineering Exploration I and II	Human Anatomy for Design	BME Basic Elective I	BME Advanced Elective I and II
Fundamentals of Engineering Computing	Introduction to Biomedical Engineering	Computer-Aided Design: Solidworks	BME Basic Elective II, III and IV
Chemistry I	Introduction to User Experience for Product Design	Computer Modeling of Complex Systems	Integrated Entrepreneurship in Product Design
Introduction to Biology I	Guided Engineering Elective I and II	Design Strategies for Biomedical Engineering	Senior Design Project in Biomedical Engineering I and II
Physics I and Lab	Chemistry II	Ergonomics	Principles of Human Physiology
Calculus I and II	Physics II and Lab	Experimental Methods in Biomedical Engineering	UK Core Course
Composition and Communication I and II	Principles of Biology II	Materials and Processes	
	Calculus III and IV	User Experience & User Interface for Product Design	
	UK Core Course	Guided Engineering Elective III	
		Engineering Statistics – a Conceptual Approach	
		UK Core Courses	

TAKING CO-OPS?
When you participate in semester co-ops, the above schedule can adjust.

Detailed Curriculum Information: **engr.uky.edu/explore/biomedical-engineering**

As a new academic offering, the BME program will be eligible to apply for accreditation following the first graduates of the program. Once accreditation is received, it will apply to any student who has gone through the program within two years of the accreditation being awarded.

Revised August 2022. Information subject to change. For the most up-to-date information on the UK College of Engineering, visit www.engr.uky.edu.

College of Engineering

F. JOSEPH HALCOMB III, M.D. DEPARTMENT OF BIOMEDICAL ENGINEERING
522 Robotics and Manufacturing Building
Lexington, KY 40506-0108
(859) 257-8101
engr.uky.edu/bme