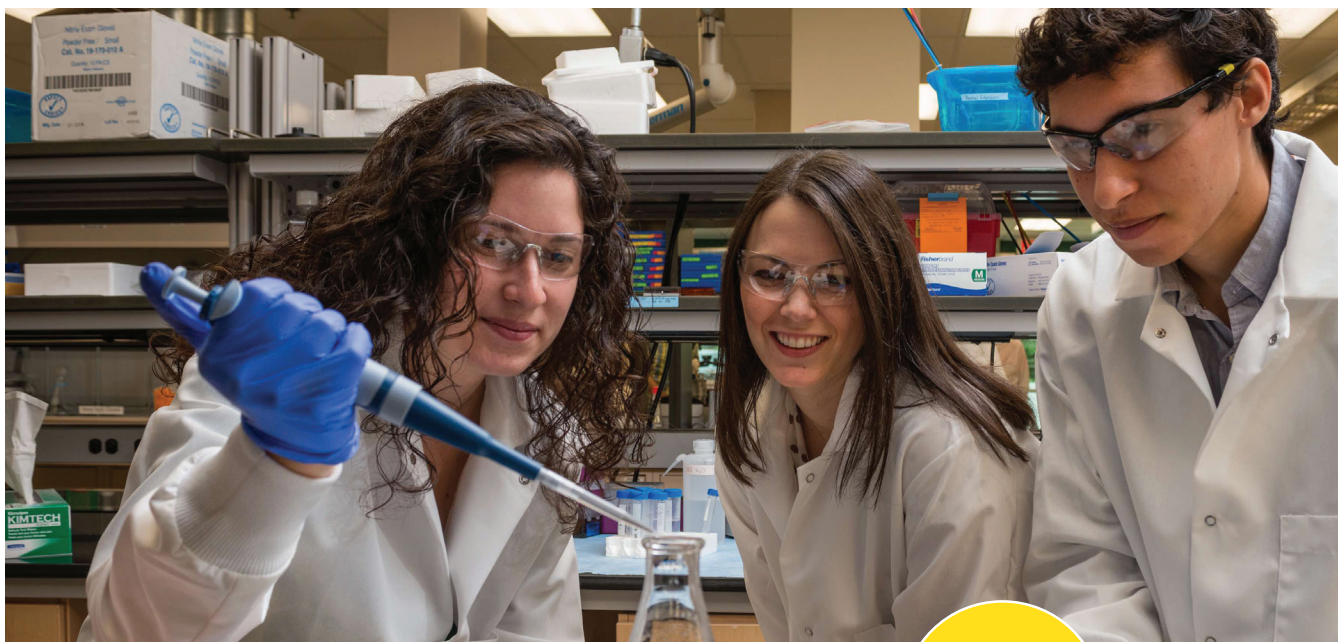




College of Engineering BIOMEDICAL ENGINEERING

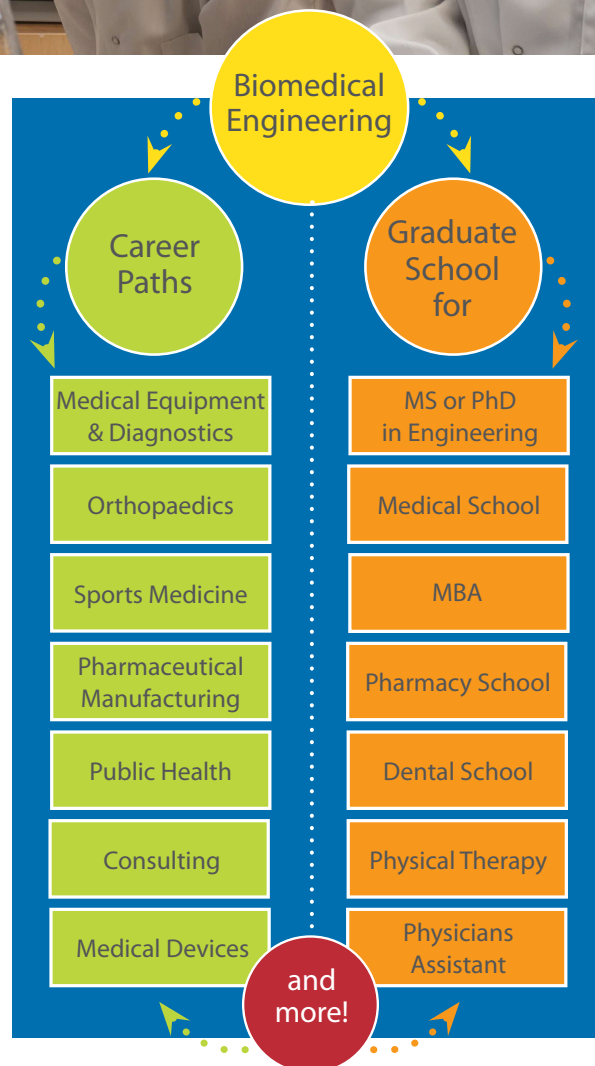


Engineering Meets Biology and Medicine

Biomedical engineering applies quantitative engineering analysis and design to biological and medical, and behavioral health problems. It is a field dedicated to revealing basic knowledge of disease mechanisms to improve human health, and to developing new technologies and therapies to improve the quality of life.

Biomedical Engineering at UD provides students with the training necessary to bridge the gaps between medicine, engineering and biomedical research. With a broad background in chemical, mechanical, materials science and electrical engineering, students are prepared for careers in biomedical research with a quantitative engineering emphasis. A degree in biomedical engineering opens the door to positions in universities, hospitals, labs, industry and regulatory agencies.

The outlook for biomedical engineers is incredibly promising. In 2010, the Bureau of Labor Statistics identified biomedical engineering as the fastest-growing occupational field, with anticipated job growth of 72% over the next decade. In both 2012 and 2013, CNNMoney named this the number one job in America because, along with the higher than average salary, it is a career that helps make the world a better place. CareerCast.com also rated biomedical engineering second in its list of top 10 jobs of 2013, recognizing it as a career with a bright future.





College of Engineering BIOMEDICAL ENGINEERING

BME @ UD

Our education program enables students to apply quantitative engineering design and analysis to biomedicine. Beginning freshman year, students are exposed to the engineering design process and coached through building their technical excellence and soft skills, making them desirable candidates for a variety of career paths. Equipped with a strong foundation in mathematics, the life sciences, and engineering analysis and design, students learn to identify, formulate and solve engineering problems based on fundamental biomedical concepts; to design and conduct laboratory experiments; and to critically analyze and interpret data.

Course topics you will explore:

- Bioinstrumentation
- Systems Physiology
- Biomaterials
- Biomechanics
- Biomedical Modeling
- Experimental Design and more!

Contact us:

Department of
Biomedical Engineering
161 Colburn Laboratory
Newark, DE 19716
Phone: 302-831-4578
Email: bmeg-info@udel.edu
Web: bme.udel.edu

Biomedical Engineering Curriculum:

To earn a bachelor's degree, students must complete 126 credits and meet specific requirements as outlined in the online catalog. See UD Catalog for additional details.

FIRST YEAR

FALL

BMEG 101 - Introduction to Biomedical Engineering (FYE)

BISC 207 - Introductory Biology I

CHEM 107 - General Chemistry for Life Sciences I

MATH 241 - Analytic Geometry & Calculus A

SPRING

CHEM 104 - General Chemistry II

CISC 106 - General Computer Science for Engineers

ENGL 110 - Seminar in Composition

MATH 242 - Analytic Geometry & Calculus B
Breadth Requirement Elective 1

SECOND YEAR

FALL

BMEG 211 - Cell & Tissue Laboratory I

BMEG 301 - Quantitative Cellular Physiology

CHEM 321 - Organic Chemistry I

CHEM 325 - Organic Chemistry Lab I

MATH 243 - Analytic Geometry & Calculus C

PHYS 207 - Fundamentals of Physics I

SPRING

BMEG 302 - Quantitative Systems Physiology

MATH 305 - Applied Math for Biomed, Chem & Biomol Eg.

PHYS 208 - Fundamentals of Physics II

ELEG 305 - Signals and Systems

Breadth Requirement Elective 2

THIRD YEAR

FALL

BMEG 310 - Bioengineering Mechanics I

BMEG 330 - Biomedical Instrumentation

BMEG 340 - Biomedical Modeling and Simulation

MSEG 302 - Materials Science for Engineers

Technical Elective 1

SPRING

BMEG 311 - Bioengineering Mechanics II

BMEG 341 - Biomedical Experimental Design and Analysis

BMEG 360 - BME Junior Design

BMEG 420 - Biological Transport Phenomena

Technical Elective 2

FOURTH YEAR

FALL

BMEG 450 - Biomedical Engineering Design (DLE)

Technical Elective 3

Breadth Requirement Elective 3

Breadth Requirement Elective 4

SPRING

PHIL 444 - Medical Ethics

Technical Elective 4

Technical Elective 5

Technical Elective 6

Breadth Requirement Elective 5