## PHARMACOENGINEERING

**BMME 485**
Biotechnology

**BME 490**
Data Science + Machine Learning in Medicine

**BMME 495**
Undergraduate Research in Biomedical Engineering

**BME 498**
Undergraduate Research in Biomedical Engineering

**BMME 511**
Genetic Engineering

**BME 516**
Advanced Drug Delivery

**BMME 523**
Biomolecular Engineering

**BMME 524**
Biomolecular Sensing Technologies

**BMME 527**
Engineering Principles in Targeted Photomedicine

**BME 570**
Immunoengineering

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## JOINT BIOMEDICAL ENGINEERING UNDERGRADUATE PROGRAM: SPECIALTY ELECTIVES

BME students take 4 Specialty Electives from one or two areas during their Senior year.

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## REGENERATIVE MEDICINE

**BIT 4\*\*** Biotechnology Course and
**BME 483** Tissue Engr. Tech.

**BMME 420**
Intro to Synthetic Biology

**BME 429**
Cellular Engineering

**BMME 435**
Biological Physics

**BME 448**
Functional Tissue Engineering

**BMME 470**
Analysis of Tissue Engr. Tech.

**BME 484**
Fund. of Tissue Engineering

**BME 490**
Data Science + Machine Learning in Medicine

**BMME 495**
Undergraduate Research in Biomedical Engineering

**BME 498**
Undergraduate Research in Biomedical Engineering

**BMME 511**
Genetic Engineering

**TE 463**
Polymer Engineering

*Fluids:*
**CE 282** Hydraulics
*or* **MAE 308** Fluid Mechanics
*or* **BMME 455**
Biofluid Mechanics

*Thermo:*
**MAE 201** Engr. Thermo I
*or* **MSE 301** Intro to Thermo
*or* **BMME 441**
Thermal Physics

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## REHABILITATION ENG

**BMME 405**
Biomechanics of Movement

**BME 418**
Wearable Biosensors

**BME 425**
Bioelectricity

**BME 438**
Bone Mechanobiology

**BME 444**
Orthopedic Biomechanics

**BME 456**
Rehabilitation Robotics

**BME 490**
Data Science + Machine Learning in Medicine

**BME 490**
Neural Engineering

**BMME 490**
Applied Instrumentation for Movement Analysis

**BMME 495**
Undergraduate Research in Biomedical Engineering

**BME 498**
Undergraduate Research in Biomedical Engineering

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## BIOSIGNALS AND IMAGING

**BME 412**
Biomedical Signal Processing

**BME 418**
Wearable Biosensors

**BME 425**
Bioelectricity

**BMME 461**
Intro to Medical Imaging

**BME 463**
Biomedical Optics and Lasers

**BME 464**
Microscopy

**BME 490**
Data Science + Machine Learning in Medicine

**BMME 490**
Super Resolution Imaging

**BMME 495**
Undergraduate Research in Biomedical Engineering

**BME 498**
Undergraduate Research in Biomedical Engineering

**BMME 575**
Machine Learning

**BMME/COMP 576**
Mathematics for Image Computing

**ECE 455**
Industrial Robotic Systems

**ECE 456**
Mechatronics

**ECE 505**
Neural Interface Engineering

**MA 501**
Advanced Math. for Engineers and Scientists I
**MATH 528**
Math. Methods for Physical Scientists and Engineers

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## MEDICAL MICRODEVICES

**BME 412**
Biomedical Signal Processing

**BME 418**
Wearable Biosensors

**BME 490**
Data Science + Machine Learning in Medicine

**BMME 495**
Undergraduate Research in Biomedical Engineering

**BME 498**
Undergraduate Research in Biomedical Engineering

**BME 522**
Medical Instrumentation

**BMME 575**
Machine Learning

**E 304**
Intro to Nano Science and Tech.

**ECE 436**
Digital Control Systems

**ECE 505**
Neural Interface Engineering

*Fluids:*
**CE 282** Hydraulics
*or* **MAE 308** Fluid Mechanics
*or* **BMME 455**
Biofluid Mechanics

*Thermo:*
**MAE 201** Engr. Thermo I
*or* **MSE 301** Intro to Thermo
*or* **BMME 441**
Thermal Physics

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