

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

REGENERATIVE MEDICINE

BIT 466 Animal Cell Culture 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

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

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

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

UNC BIOMEDICAL ENGINEERING UNDERGRADUATE PROGRAM - SPECIALTY ELECTIVES

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