

Requires completing **130 Credits**=General/Liberal Education Courses **24 Credits** + Major Required Courses **77 Credits** + Major Elective Courses **29 Credits**

Required Courses

General/Liberal Education Courses

Chinese (3)
 Freshman English/Second Foreign Language (3)(3)
 Fields of General Courses: A1~A5(15)
 Service Learning a (0)
 Service Learning b (0)

Core Required

Calculus 1 (2) Calculus 2 (2) Calculus 3 (2) Calculus 4 (2) General Physics b (3)
 General Physics Lab. I (1) General Chemistry c (3) General Chemistry Lab. (1)
 General Biology c (3) General Biology Lab. (1) Biomedical Engineering Lab. (1)
 Biochemistry (3) Organic Chemistry (3) Organic Chemistry Lab (1)
 Advanced Engineering Mathematics 1 (3) Advanced Engineering Mathematics 2 (3)
 Engineering Mechanics (3) Mechanics of Materials (3)
 Cell and Molecular Biology (3) Physiology (4) Basic Anatomy (3)
 Introduction to Computer Science (3) Programming Languages (3)
 Microelectronics and Experiments I (3) Circuitry and Experiments (3)
 Introduction to Material Science (3) Medical Device Innovation and Design (3)

Major Required

Introduction to Biomedical Engineering 1 (1)
 Introduction to Biomedical Engineering 2 (1)
 Seminar on Biomedical Engineering for Undergraduate 1 (1)
 Seminar on Biomedical Engineering for Undergraduate 2 (1)
 Undergraduate Research in BME I (1)(1)(1)
 Undergraduate Research in BME II (1)(1)

Elective Courses

Planned in Collaboration with Personal Interests and the Guidance of Student's Advisor

Interdisplenary Studies

- Digital Engineering Signal and Systems
- Disease-oriented and Transdisciplinary Program oof Clinical and Basic Science
- Biomedical Innovation and Commercialization
- Principle and Application of Radiotherapy

Biomaterials

- Biotransport: Principles and Applications
- Introduction to Tissue Engineering
- Biomedical Polymers
- Introduction to Mechanobiology
- Introduction to Biomaterials
- Drug Delivery Systems
- Advanced Biochemistry
- Regenerative Medicine: Principle and Application
- Applications of Mems for Cell and Tissue Physiology
- Optical Nanomaterials
- Biomedical Sensors

Biomechanical Engineering

- Engineering Graphics
- Fluid Mechanics
- Biomechanics of the Human Neuromusculoskeletal System
- Experimental Method of Biomechanical Engineering
- Biomedical Wave Propagation
- Computer Aided Design and Manufacturing
- Computational Modeling and Analysis in Engineering
- Human Movement Analysis
- Machine Learning in Human Motion Analysis

Biomechanical Engineering

- Microelectronics and Experiments II
- Microprocessor Applications
- Introduction to Biophotonics
- Principle of Medical Imaging System
- Medical Microsensor
- Design of Medical Electronic System
- Electrophysiology
- Medical Electronics
- Medical Devices Quality System
- Neurophysiology
- Applications of Mems for Cell and Tissue Physiology
- Engineering Signal and Systems
- Digital Logic Circuits

Biomedical Informatics

- Fundamentals of Data Structures
- Algorithms
- Database
- Microcomputer Applications
- Principle of Medical Imaging System
- Fundamentals of Biomedical Image Processing
- Machine Learning
- Medical Image Analysis
- Next Generation Electronic Health Record and Smart Healthcare Ecosystem