Bioengineering (BNG)

Minor in Bioengineering
Department of Biomedical Engineering, College of Engineering and Applied Sciences
CHAIRPERSON: Clinton Rubin  UNDERGRADUATE DIRECTOR: Danny Bluestein  UNDERGRADUATE PROGRAM ASSISTANT: Marilynn Cute
Minors of particular interest to students majoring in Bioengineering: Biochemistry (BCH), Biology (BIO), Chemistry (CHE), Optics (OPT)

The Bioengineering minor is designed for College of Arts and Sciences students who wish to obtain a more thorough understanding of how physical forces in the natural world influence the development and history of plants, animals, and single cell organisms on earth. Coursework introduces these concepts and shows how an engineering approach can be useful in dealing with the natural world. The program serves as an excellent background for students who wish to prepare for graduate study in bioengineering or a related field, or for a career in which an understanding of engineering concepts would provide an advantage.

Requirements for the Minor in Bioengineering (BNG)
All courses for the minor must be passed with a letter grade of C or higher.
Completion of the minor requires 21-23 credits.

A. Required Courses
1. BIO 201 Fundamentals of Biology: Organisms to Ecosystems
   or BIO 202 Fundamentals of Biology: Molecular and Cellular Biology
   or BIO 203 Fundamentals of Biology: Cellular and Organ Physiology
   (depending on courses chosen to satisfy Requirement B. Electives)
2. BME 100 Introduction to Biomedical Engineering
3. One 200-level BME course and two 300-level BME courses (excluding BME 300)
   or three 300-level BME courses (excluding BME 300)

B. Electives
Two courses chosen from:
- ANT 350 Medical Anthropology
- ATM 397 Air Pollution and Its Control
- BIO 311 Techniques in Molecular and Cellular Biology
- BIO 328 Mammalian Physiology
- BIO 335 Animal Physiology Laboratory
- BIO 350 Darwinian Medicine
- BIO/GEO 353 Marine Ecology
- BIO 356 Applied Ecology Laboratory
- CHE 310 Chemistry in Technology and the Environment
- ENS 443 Environmental Problem Solving
- ESM 353 Biomaterials: Manufacture, Properties, and Applications
- EST 330 Natural Disasters: Societal Impacts and Technological Solutions
- GEO/MAR 318 Engineering Geology and Coastal Processes
- HMC 331 Legal and Ethical Issues in Health Care
- MAR 334 Remote Sensing of the Environment
- MEC 381 Transport and Fate of Pollutants
- PSY 384 Research Lab: Human Factors

Notes:
1. Students are strongly encouraged to complete two from BIO 201, 202, and 203.
2. Other electives may be substituted for Requirement B. Electives, with permission of the director.