

ENGINEERING, BIO (ENBI)

ENBI 3500 Biofluids (4 Credits)

The application of fluid dynamics theory and design to problems within the biomedical community. Specific topics covered include the mechanics of inhaled therapeutic aerosols, basic theory of circulation and blood flow, foundations in biotechnology and bioprocessing, and controlled drug delivery. Cross listed with ENBI 4500. Prerequisites: ENME 2661.

ENBI 3510 Biomechanics (4 Credits)

An introduction to the mechanical behavior of biological tissues and systems. Specific topics covered include analysis of the human musculoskeletal system as sensors, levers, and actuators; joint articulations and their mechanical equivalents; kinematic and kinetic analysis of human motion; introduction to modeling human body segments and active muscle loading for analysis of dynamic activities; mechanical properties of hard and soft tissues; mechanical and biological consideration for repair and replacement of soft and hard tissue and joints; orthopedic implants. Cross listed with ENBI 4510. Prerequisites: ENME 2410, ENME 2520, and ENME 2541.

ENBI 3800 Topics in Bioengineering (1-4 Credits)

Special topics in bioengineering as announced. May be taken more than once. Prerequisite: varies with offering.