

Mechanical Cluster

Required: BE 420 or BE 436

Engineering Elective: (4 credits):

ME 302 Engineering Mechanics II
ME 305 Mechanics of Materials
ME 306 Introduction to Materials Science
ME 419 Heat Transfer

Biomedical Elective: (12 credits):

BE 420 or BE 436 (whichever was not taken in junior year)

BE 523 Mechanics of Biomaterials (*design elective*)

BE 506 Physical Chemistry of Cell Structure and Machinery
Prereq: BE 505

ENG BE 513 Biological and Environmental Acoustics

ENG BE 521 Continuum Mechanics for Biomedical Engineers/Continuum Mechanics

ENG BE 524 Skeletal Tissue Mechanics
Prereq: (ENG EK 301 & ENG ME 302 & ENG ME305 & ENG ME 308 & CAS MA 242)

ENG BE 533 Biorheology
Prereq: (ENG BE 420 & ENG EK 424)

ENG BE 535 Cell Mechanics
Prereq: (ENG BE 209 & ENG EK 424 & ENG ME 305) or ENG BE 436

ENG BE 564 Biophysics of Large Molecules
Coreq: (ENG EK 424)

Professional Electives (8 credits):

(In addition to courses from the Biomedical Electives listed above)

ENG EK 156 Design and Manufacturing (* two credits of design *)

ENG ME 311 Engineering Design I (* two credits of design *)

ENG ME 312 Engineering Design II (* two credits of design *)

One course from BME list and another from CAS physics (e.g., PY 313) or CAS mathematics (e.g., MA 411, MA 412, or MA 555).