BIOMEDICAL ENGINEERING BME

College of Engineering

401 Quantitative Human Biology
Spring. 3(4-0) Interdepartmental with Human Anatomy and Materials Science and Engineering and Radiology. Administered by Biomedical Engineering. P: (MTH 235 and PHY 184) and ((PSL 250 or concurrently) or (PSL 431 or concurrently) or (ANTR 350 or concurrently)) and (CEM 141 or CEM 151) RB: (CSE 131 or concurrently) or (CSE 231 or concurrently) or PSL 410
Qualitative description and quantitative engineering analysis of selected, tractable human-biological systems. Multi-disciplinary problem-solving among medical and engineering professionals.

425 Biomaterials and Biocompatibility
Spring. 3(3-0) Interdepartmental with Materials Science and Engineering. Administered by Materials Science and Engineering. P: (PSL 250 or concurrently) and MSE 250 SA: MSM 424, BME 424, BME 324, MSE 324
Materials science of human implants. Design requirements imposed by the human body, and need for bodily protection.

490 Independent Study
Fall, Spring. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.
Individualized reading and research in biomedical engineering or bioengineering.

490A Independent Study in Clinical Biomechanics
Fall. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Individualized reading and research in the application of biomechanics to clinical cases.

490B Independent Study in Biomaterials
Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Individualized reading and research in the application of biomaterials.

491 Special Topics
Fall, Spring. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
Special topics in biomedical engineering or bioengineering.

495 Tissue Mechanics
Spring. 3(3-0) Interdepartmental with Mechanical Engineering. Administered by Mechanical Engineering. P: (ME 222) R: Open only to students in the College of Engineering. SA: MSM 441
Application of solid mechanics to understanding mechanical responses of biological tissues. Microstructure and biological function for soft and hard connective tissues and muscle.

497 Biomechanical Design
Spring. 3(3-0) Interdepartmental with Mechanical Engineering. Administered by Mechanical Engineering. R: Open only to juniors or seniors in the College of Engineering. SA: BME 491A, MSM 445
Biomechanical product design with application to people or animals. Synthesis, prototyping, and analysis of designs. Project management. Market research.