BME 478 – Introduction to CAD for Biomechanics

3 Credits, 3 Contact hours
Instructor: Maxine Kwan, Ph.D.
Course Coordinator: Maxine Kwan, Ph.D.

Textbook(s)/Materials Required:
Pro/Engineer Wildfire 5.0 for Designers / Tickoo / CADCIM Technologies (2010) / ISBN-13: 978-1932709803

Description:
This course provides an introduction to Computer Aided Design using the software Pro/ENGINEER. Students will be introduced to basic design elements in making 2D sketches, leading up to more complex features with 3D parts and assemblies. Students will also gain practical experience in engineering design and 3D printing fabrication.

Prerequisites:
Mech 320, BME 302

This is an elective course for the Biomechanics Track.

Course Learning Outcomes (CLO):
1. Gain experience with construction of 3D parts and assemblies using ProE.
2. Use skills gained to create a miniature roller coaster cart that meets specified design requirements and constraints.

Student Outcomes:
Student outcome C - Ability to design a system, component, or process to meet needs with realistic constraints
Related CLO - 2

Student outcome K - Ability to use the techniques, skills, and modern engineering tools needed for engineering practice
Related CLO – 1, 2

Course Topics: Sketches, Parts key features: extrude, revolve, round, shell, sweep, blend, holes, patterns, Assemblies, Drawings