

1. Course number and name: BMED 3410 Introduction to Biomechanics
2. Credits and contact hours: (2-2-0-3)
3. Prepared by: Cheng Zhu
4. Textbook: None
5. Specific course information
 - a. Catalog description: This is an introductory course covering mechanics applied to biomedical engineering problems.
 - b. Prerequisites or co-requisites: COE 2001 and MATH 2551
 - c. Required
6. Specific goals for the course
 - a. Draw free body diagrams and solve for forces and moments in a muscular skeletal system (Student Outcome 1)
 - b. Obtain stress and strain distributions in bone and other simple structures under tension, compression, torsion, and bending (Student Outcome 1)
 - c. Describe the mechanical properties of biological tissues (Student Outcome 1)
 - d. Apply Newton's laws to predict the motion of rigid particles (Student Outcome 1)
 - e. Analyze the dynamics of rigid bodies and solve for velocities, acceleration, or forces (Student Outcome 1)
 - f. Apply basic mechanics to biomedical engineering problems (Student Outcome 1)
7. Brief list of topics to be covered:
 - a. Statics review
 - b. Mechanics of materials
 - c. Dynamics of rigid bodies