

## University of Texas at El Paso

### Course Title: BME 3303: Fundamentals of Biomedical Engineering I

**Class Time:** Spring Semester  
MW 12:00 noon - 1:20 pm Room: CCSB 1.0204

**Textbook:** none, Handouts may be provided

**Instructors:** Thomas Boland, Ph.D. [tboland@utep.edu](mailto:tboland@utep.edu)

**Office hours:** Wednesdays 1 pm - 3 pm

#### **Goals:**

This course teaches the application of various engineering principles to analysis and understanding of the structure, function, and control of biological systems. Prereq: BME minor or consent of instructor.

POINTS DISTRIBUTION: In class work 10%, Home work 30%, Midterm 30% Final 30%

#### **Approximate Schedule:**

Week 1: Introduction to class, introduction to biomedical engineering

Week 2: Cells, tissues, organs

Week 3-4: Pathogens and the Immune System

Week 5: Wound healing

Week 6-8: Cardiovascular devices and their design

Week 9: Biocompatibility

Week 10: Biomaterials

Week 11-12: Orthopedic devices and their design

Week 13: FDA

Week 14: Clinical Trial design

Week 15: Translational Medicine

#### **Disability**

If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to [cass@utep.edu](mailto:cass@utep.edu), or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass)

#### **Academic Integrity**

The instructors expect a commitment to truthfulness, honor and responsibility, without which you cannot earn the trust and respect of others. Therefore, we will not tolerate plagiarism, lying, cheating, or stealing in any form.

**Honor Code:** "I, \_\_\_\_\_, hereby pledge that I have read and understood the entire syllabus for the course, BME 3303 *Fundamentals of BME I*, and I will abide by the policies described above.