

University of Texas at El Paso

Course Title: BME 3303: Foundations of Biomedical Engineering I

Class Time: Fall Semester
TTR 12:00 noon - 1:20 pm Room: LART 207

Textbook: none, Handouts may be provided

Instructors: Thomas Boland, Ph.D. tboland@utep.edu

Office hours: by appointment

Goals:

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

POINTS DISTRIBUTION: In class work 10%, Home work 20%, Midterm 30% Final 30%

Approximate Schedule:

Week 1: Introduction to class, introduction to biomedical engineering

Week 2: Ethics and Research Design

Week 3: Overview of Molecular & Cellular Principles

Week 4: Cells, tissues, organs

Week 5: Orthopedic devices and their design

Week 6-7: Wound healing

Week 7-9: Cardiovascular devices and their design

Week 10: Biocompatibility

Week 11-12: Biomaterials

Week 13: Sterilization

Week 14: Wound closure

Week 15: Ophthalmic devices/ device regulation

Disability

If you have or suspect a disability and need accommodations, you should contact [The Disabled Student Services Office \(DSSO\)](#) at 747-5148. You can also email the office at dss@utep.edu or go by the Union Building East, Room 106. For additional information, visit the DSSO website at www.utep.edu/dss/.

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 *Foundations of BME I*, and I will abide by the policies described above.