

University of Texas at El Paso Syllabus

Course Title: BME 3303: Biomaterial Implantology

Class Time: Thursdays 3:00pm-7:00pm
Fridays 9:00am-1:00pm

Room: C 202

TA: Beu Oropeza
boropeza@utep.edu

Office Hours: Thursday 9:00am-1:00pm

Course Description:

This is a research course where student teams will work on a tissue engineering research problem. They will use materials provided to them by researchers at UTEP implant the materials into SCID mice, and evaluate the tissue response after 4 weeks. Students will learn to conduct basic surgery, harvest tissues, conduct basic histologic analysis and interpret results.

Course Objectives:

1. Understand the role of animal protocols in ethical research
2. Know many modern biomaterials
3. Learn aseptic technique
4. Gain an intuitive understanding of wound healing in presence of materials
5. Learn to conduct basic surgery on mice
6. Learn how to conduct tissue harvesting, processing, staining, imaging and interpretation
7. Learn basic histological technique
8. Acquire experience in designing a biomaterials experiment, conduct an in vivo assessment of said biomaterial and interpret, trouble-shoot the results

ABET Learning Outcomes:

“K”: An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice: Outcome will be met via research report.

POINTS DISTRIBUTION:	Participation:	20%
	Lab Notebook:	20%
	Midterm:	20%
	Research Project:	40%

Schedule:

Week	Topic
Jan 20	CITI Training
Jan 21	Vivarium Orientation
Jan 27	Surgical Training
Jan 28	
Feb 3	Non- survival Surgeries
Feb 4	
Feb 10	Survival Surgeries
Feb 11	
Feb 17	Project Lecture
Feb 18	
Feb 24	Histology Lecture
Feb 25	
Mar 3	Scientific Writing Lecture
Mar 4	Midterm Assigned
Mar 10	Tissue Extraction
Mar 11	
Mar 17	Spring Break
Mar 18	
Mar 24	University Closed
Mar 25	Midterm Due
Mar 31	Tissue Processing/Histology
Apr 1	
Apr 7	Imaging
Apr 8	
Apr 14	University Closed
Apr 15	
Apr 21	Interpretation of Results
Apr 22	
Apr 28	Final Presentation
Apr 29	Final Report Due
May 5	University Closed
May 6	

Disability

If you have or suspect a disability and need accommodations, please let me know and we can work out a plan that works well for your situation. Additionally, I encourage you to 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/dsso/.

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, EL 3103: Biomaterial Implantology, and I will abide by the policies described above.