



# Faculty of Engineering

## COURSE OUTLINE

### BME 481/MECH 481 – Biomaterials and Tissue Engineering

Term – **SPRING 2016 (201601)**

Instructor	Office Hours
Dr. Sahar Sam	Days: Tuesday, Wednesday, Friday
Phone: 250-721-8882	Time: 12:30-2 pm
E-mail: samm@uvic.ca	Location: EOW 235

List prerequisites required if not recorded in Calendar:

#### Lecture Schedule

Section: A01 <b>CRN24165/22232</b>	Days: TWF	Time: 11:30 am-12:20 pm	Location: CUN 146
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#### Tutorial Schedule

Section: T	Days:	Time:	Location:
	Fridays	11:30 am-12:20 pm	CUN 146

#### Lab Schedule

Section: B (Multiple)	Days:	Time:	Location:
Insert additional rows if required	(or leave blank and state how/when labs will be scheduled)		
Lab #1:			
Lab #2:			
Lab #3:			
Lab #4:			

Lab times and locations are also available from the [timetable](#) through Sign in to UVic, My Page.

#### Attendance

Students are expected to attend all classes in which they are enrolled. An academic unit may require a student to withdraw from a course if the student is registered in another course that occurs at the same time....

An instructor may refuse a student admission to a lecture, laboratory, online course discussion or learning activity, tutorial or other learning activity set out in the course outline because of lateness, misconduct, inattention or failure to meet the responsibilities of the course set out in the course outline. Students who neglect their academic work may be assigned a final grade of N or debarred from final examinations.

Students who do not attend classes must not assume that they have been dropped from a course by an academic unit or an instructor. Courses that are not formally dropped will be given a failing grade, students may be required to withdraw and will be required to pay the tuition fee for the course." UVic Calendar, (2015)

<http://web.uvic.ca/calendar2015-09/FACS/UnIn/UARe/Atte.html>

TA Name	E-mail	Office
Preethy Wilson	preethy.wils@gmail.com	ELW B306

Required Text	Optional Text
Title: Biomaterials : The Intersection of Biology and Materials Science	
Author: Johnna S. Temenoff and Antonios G. Mikos	
Publisher/Year: 2008	

**COURSE OBJECTIVES:** Verbose description of the material being covered in the course. How does the course build/relate to other courses in the program.

- Discuss the different types of materials used in medical devices and for tissue engineering.
- Discuss methods of characterizing materials.
- Overview of cells, tissues and organs along with a discussion of the immune response.
- How to evaluate biomaterials in the context of the immune response.
- Considerations when designing artificial organs and tissues.

**LEARNING OUTCOMES:** At the end of this course, students will be able to:

- Be able to identify the various classes of biomaterials along with their advantages and disadvantages for medical applications.
- Understand the issues when implanting materials in the human body and how these materials interact with living tissues.
- Gain an appreciation for the design principles necessary for medical devices and artificial tissues.

**ASSIGNMENTS (Including Assignment Schedule):**

Every Tuesday. Due date is next Monday at 5:00 pm

**MIDTERM(S):**

There are two midterms for this course:

- 1- After reading break
- 2-End of March 2016

**FINAL EXAMINATION:**

No final

Assessment:	Weight	Due Date
Assignments:	20%	See above if applicable
Labs	NS	
Mid-term	60%	Date:TBA
Project	20%	Date: TBA
Final Exam	NA	Date: TBA

**NOTE:**

Failure to complete all laboratory requirements will result in a grade of N being awarded for the course.  
Failure to pass the final exam will result in a failing grade for the course.

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

**There will be no supplemental examination for this course.**

## REFERENCES

### Note to Students:

Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

### Accommodation of Religious Observance (AC1210)

<http://web.uvic.ca/calendar2015-09/GI/GUPo.html>

### Discrimination and Harassment Policy (GV0205)

<http://web.uvic.ca/calendar2015-09/GI/GUPo.html>

### Faculty of Engineering, University of Victoria Standards for Professional Behaviour

*"It is the responsibility of all members of the Faculty of Engineering, students, staff and faculty, to adhere to and promote standards of professional behaviour that support an effective learning environment that prepares graduates for careers as professionals...."*

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour which contains important information regarding conduct in courses, labs, and in the general use of facilities.

<http://www.uvic.ca/engineering/current/undergrad/index.php#section0-23>

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the Undergraduate Calendar for the UVic policy on academic integrity.

### Policy on Academic Integrity

<http://web.uvic.ca/calendar2015-09/FACS/UnIn/UARe/PoAcI.html>

## Course Lecture Notes

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.