

**BME 181 Biomedical Engineering Seminar I**  
Spring 2012, Section 3, Monday 3:00-3:50 pm, Kelley 102  
**Course Webpage: [www.ele.uri.edu/Courses/bme181](http://www.ele.uri.edu/Courses/bme181)**

**Credits and Contact Hours:** 1 Credit, 1 session/week, 50 minutes/session

**Instructor's Name:** Ming Liu, Adjunct Assistant Professor, Dept. of Electrical, Computer & Biomedical Engineering; Email: [liumingmech@gmail.com](mailto:liumingmech@gmail.com); 401-874-2462 ;  
Office: Resource Development. Laboratory 103

**Textbook:** None. The students are allowed to use a) online resources and b) journal papers (recommended).

**Course Information**

Catalog Description

Seminar series given by instructor, invited experts, and students with focus on biomedical electronics, medical devices, rehabilitation engineering, medical instrumentation, and biomedical ethics.

Prerequisites (Credit or concurrent enrollment in MTH 141) or permission of instructor.

**Goals for the Course**

Course Objectives

- To Understand – Understand a broad range of biomedical engineering solutions in healthcare, contemporary issues, professional and ethical responsibility, the need for life-long learning.
- To Question – Develop an ability to identify questions, find solutions, and engage in life-long learning.
- To Communicate – Develop oral and written communication skills to deliver succinct but comprehensive presentations.

Specific Outcomes of Instruction

- Knowledge of a broad range of biomedical engineering solutions in healthcare [H\*], contemporary issues [J\*], professional and ethical responsibility [F], the need for life-long learning [I\*].
- Ability to identify questions, find solutions, and engage in life-long learning [I\*].
- Oral and written communication skills to deliver succinct but comprehensive presentations [G\*].

Data Provided for Assessed Student Outcomes A-L

Outcome F, H\*, I\*: specific sections in the summary report.

Outcome G\*: oral presentation, abstracts, summary report.

Outcome J\*: presentation topics and specific sections in the summary report.

**Course Assessment Methods**

Abstracts (25%), oral presentations (25%), attendance (15%), notes (15%), summary report (20%)

**Topics Covered**

1. Seminars (1-2) given by the instructor related to faculty research within the department.
2. Each student will give two presentations. Each presentation consists of a written abstract and a talk. A long talk and a short talk will be given by each student. Depending on the class enrollment, the long talk is usually 12 minutes and the short talk 6 minutes. The topics are chosen from, but not limited to, the areas of physiological system modeling, biomechanics, biomaterials, tissue engineering, artificial organs, biosensors, and technologies for health care.
3. Each student will write a summary report after the conclusion of all seminars with special sections addressing **a) biomedical engineering solutions in a global and societal context, b) biomedical engineering related contemporary issues, c) professional and ethical responsibility, d) the importance and skills learned to engage in for life-long learning.**

Any student with a documented disability is welcome to contact me as early in the semester as possible so that we may arrange reasonable accommodations. As part of this process, please be in touch with Disability Services for Students Office in Memorial Union, room 330 or phone 874-2098.

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Week	Date	Talks
1	1/28	Introduction: presentation format, procedure, topics
2	2/4	Introduction: URI faculty research in biomedical engineering
3	2/11	Snow cancelation
4	2/18	Round 1 (12-minute talk): MichaelC, JonG, RyanD, MihirS
5	2/25	Round 1 (12-minute talk): SierraO, CharlesF, KelseyF, RobertB
6	3/4	Round 1 (12-minute talk): VictorG, TimothyL, CoreyG, LukeW
7	3/11	Spring Break
8	3/18	Round 1 (12-minute talk): AlanG, ThaejeS, CameronE, RoryM
9	3/25	Round 1 (12-minute talk): MichaelL, JayP, MitchelA
10	4/1	Round 2 (10-minute talk): MichaelC, JonG, RyanD, MihirS, SierraO
11	4/8	Round 2 (10-minute talk): CharlesF, KelseyF, RobertB, VictorG, TimothyL
12	4/15	Round 2 (10-minute talk): CoreyG, LukeW, AlanG, ThaejeS, CameronE
13	4/22	Round 2 (10-minute talk): RoryM, MichaelL, JayP, MitchelA
14	4/29	Conclusions (summary report due)

Oral presentation: Round 1 is 12 minutes total with a 8-minute talk followed by a 4-min Q&A.  
Round 2 is 10 minutes total with a 6-minute talk followed by a 4-min Q&A.

Paper: The one-page paper should be prepared by using the DOC template from the course webpage. It should not go over the one-page limit. Create a PDF file or use online DOC to PDF converter. Email PDF to both <liumingmech@gmail.com> and Prof. Ying Sun <sun@ele.uri.edu> **two days before your talk**. Use the following file name format: "3\_LastnameFirstinitial\_talknumber.pdf". For example, if your name is MichaelC: 3\_MichaelC\_1.pdf for the 1st talk and 3\_MichaelC\_2.pdf for the 2nd talk. (The first number "3\_" is the section identifier to avoid confusion because we have three sections of BME 181.)

Slides: Prepare your PowerPoint slides use either OpenOffice or MS Office. Save the sides in PPT format (not PPTX). Fancy slide transitions, sounds and video clips are discouraged. Use common fonts such as Times or Arial. Email your PPT file to both <liumingmech@gmail.com> and <sun@ele.uri.edu> **one day before your talk**, using the same file name format, e.g. 3\_MichaelC\_1.ppt and 3\_MichaelC\_2.ppt.

Notebook: It is required to take notes for round 1, but not for round 2. Submit your notebook to Prof. Fred Vetter at the end of round 1. Prof. Vetter will be in charge of grading the notebooks from all three sections. Make sure you have your name and course/section number marked in your notebook. Please use a separate notebook for this class.

Summary report: The summary report is a digest of what you have learned in this class. There is no specific format requirement. Identify the course/section and your name. A cover page is not necessary. The report must be a minimum of three single-spaced pages. Use specific examples from your classmates' talks to address what you have learned. You do not need to cover every talk in class, but only the ones that most impressed you. **The following four topics must be covered in clearly labeled, separate paragraphs:** a) global and societal context, b) contemporary issues, c) professional and ethical responsibility, d) life-long learning (also see "Topics Covered" item 3 on the previous page). The **summary report must be submitted** by email as a PDF attachment **by the last day of the class** to <vetter@ele.uri.edu>, <sun@ele.uri.edu> and Dr. Ming Liu <liumingmech@gmail.com>. Dr. Liu will be in charge of grading the summary reports from all three sections.