Syllabus
MEMS101 - Introduction to Mechanical Engineering and Engineering Design, Spring 2018

COURSE DESCRIPTION (from catalog):
Mechanical engineers face new challenges in the areas of energy, materials and systems. This course introduces students to these areas through team-based, hands-on projects that emphasize engineering design, analysis, and measurement skills. The course is strongly recommended for mechanical engineering majors. Students from other disciplines are welcome and encouraged to enroll. 2 units.

INSTRUCTORS:
Dr. Ruth Okamoto (rjo@wustl.edu) Office: Urbauer Hall, Room 314C, ph 314-935-6068.
I can generally meet on Wednesday afternoons and on Tuesday or Thursday between 11:30 am and 1 pm, but please e-mail or call ahead to see if I am available.

GRADING:
Your grade in this course is based on a combination of points for ongoing (weekly) effort and specific assignments as shown below.

<table>
<thead>
<tr>
<th>Weekly effort:</th>
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<tbody>
<tr>
<td>Class attendance and participation</td>
<td>40%</td>
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<tr>
<td>Homework/quizzes/activities on out-of-class reading/viewing assignments</td>
<td>10%</td>
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<tr>
<td>Engineering Topics - virtual presentation</td>
<td>10%</td>
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<tr>
<td>Design project</td>
<td>40%</td>
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Course grades will be assigned on a standard A to F scale (lowest A- is 90%, lowest B- is 80%, lowest C- is 70%, lowest D- is 60%).

Out of class reading/viewing/homework will be assigned weekly. Short quizzes/student presentations/activities will be given in class on Tuesday about the assigned material. Your out-of-class assignment points will be averaged over all assignments. The average value will be used to determine your percentage for out-of-class activities. (e.g., if your average over all assignments is 8.5/10 you will get 8.5% out of the possible 10%).

ATTENDANCE AND PARTICIPATION:
This course will include participatory hands-on activities every class meeting. For many activities, you will work in teams. Your team's data/results will be uploaded to Blackboard after the class period. Students will be assigned to different teams each week, so your teammates will vary from week to week. Because the majority of your effort occurs during class, attendance and class participation are mandatory. Class will begin promptly at 10:10 am or 1:10 pm. Participation means that you are present, you actively work with your teammates on class activities, you follow safety rules, and you participate in end-of-lab cleanup and you submit all worksheets as requested. If you know you must miss class or lab, please contact Dr. Okamoto IN ADVANCE, or your attendance/participation grade will be affected. Please contact me if you are concerned about this portion of your grade.
ENGINEERING TOPICS – VIRTUAL PRESENTATION: The purpose of this assignment is to educate you and your classmates about a wide range of topics related to mechanical engineering. Each student will research or “sandbox” a topic of their choice. The term “sandbox” refers to developing and executing a hands-on activity and reporting on the results. Examples include building a vertical axis wind turbine from our kit parts, doing a more advanced Arduino activity, testing beam designs for 3 point bending etc. Research projects can be selected from a posted list or you may propose your own topic. In past years more than half the students have proposed their own topics. Each student will create a video slide presentation that summarizes their research project or sandbox. Starting in late February, four or five students will submit presentations each week. Students will select their preferred due dates, and I will arrange the schedule accordingly. All students will watch submitted presentations outside of class time and take an in-class quiz. After the quiz, time will also be allowed for in-class discussion about each presentation. Your grade is based on quality of the content and quality of the presentation.

DESIGN PROJECT. Following spring break, you will complete an engineering design project including concept generation, concept selection, concept refinement and prototyping. The design project will include both individual assignments (e.g. writing questions, researching benchmarks, brainstorming concepts) and team assignments (e.g., building a prototype). You will also participate in peer reviews with your classmates. The total of these assignments will contribute to 40% of your course grade. Again, the majority of the assignments are completed as a team; therefore class attendance continues to be mandatory and absences from lab or class should be requested in advance. If you miss class, your individual grade on an assignment may be lower than your team members.

--------------COURSE AND UNIVERSITY POLICIES AND RESOURCES--------------

ACADEMIC INTEGRITY:

All students are expected to adhere to Washington University’s undergraduate academic integrity policy. To review the policy, click here:

http://www.wustl.edu/policies/undergraduate-academic-integrity.html

Proper Attribution and Plagiarism: When copying text, images, equations or other materials from any website, book, article or other resource, you must provide properly cite and acknowledge the source. Failure to cite sources will be regarded as plagiarism and as a violation of academic integrity.

Violations: The first instance of an academic integrity violation will result in a zero for the homework assignment, activity or exam. The second violation will result in an F for the course.

DISABILITY RESOURCES:

Washington University is committed to providing accommodations and/or services to students with documented disabilities. Students who are seeking support for a disability or a suspected disability should contact Disability Resources at 935-4153. Disability Resources is responsible for approving all disability-related accommodations for WU students, and students are responsible for providing faculty members with formal documentation of their approved accommodations at least two weeks prior to using those accommodations. Disability Resources VISA forms will be accepted via email and personal delivery. If you have already been approved for accommodations, please provide your instructor with a copy of your VISA within the first two weeks of the semester.
ACCOMMODATIONS BASED UPON SEXUAL ASSAULT:
The University is committed to offering reasonable academic accommodations to students who are victims of sexual assault. Students are eligible for accommodation regardless of whether they seek criminal or disciplinary action. Depending on the specific nature of the allegation, such measures may include but are not limited to: implementation of a no-contact order, course/classroom assignment changes, and other academic support services and accommodations. If you need to request such accommodations, please direct your request to Kim Webb (kim_webb@wustl.edu), Director of the Relationship and Sexual Violence Prevention Center. Ms. Webb is a confidential resource; however, requests for accommodations will be shared with the appropriate University administration and faculty. The University will maintain as confidential any accommodations or protective measures provided to an individual student so long as it does not impair the ability to provide such measures.

If a student comes to me to discuss or disclose an instance of sexual assault, sex discrimination, sexual harassment, dating violence, domestic violence or stalking, or if I otherwise observe or become aware of such an allegation, I will keep the information as private as I can, but as a faculty member of Washington University, I am required to immediately report it to my Department Chair or Dean or directly to Ms. Jessica Kennedy, the University’s Title IX Director. If you would like to speak with directly Ms. Kennedy directly, she can be reached at (314) 935-3118, jwkennedy@wustl.edu, or by visiting the Title IX office in Umrah Hall. Additionally, you can report incidents or complaints to the Office of Student Conduct and Community Standards or by contacting WUPD at (314) 935-5555 or your local law enforcement agency. See: Title IX

You can also speak confidentially and learn more about available resources at the Relationship and Sexual Violence Prevention Center by calling (314) 935-8761 or visiting the 4th floor of Seigle Hall. See: RSVP Center

BIAS REPORTING:
The University has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of bias, prejudice or discrimination against a student can report their experiences to the University’s Bias Report and Support System (BRSS) team. See: brss.wustl.edu

MENTAL HEALTH:
Mental Health Services’ professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. See: shs.wustl.edu/MentalHealth