MEC 441 Mechanical Engineering Design II  
(Spring 2016)

Instructors: 

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(Senior Design Lab)

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Spring Classroom (s):  
Javits Lecture Hall 111  
Senior Design Lab 202A HE

Spring Class Meetings:  
Tuesdays and Thursdays  
1:00PM - 2:20PM

Electronic Submissions Address  
mec440.2015@gmail.com

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<thead>
<tr>
<th>MEC440</th>
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<tr>
<td><strong>Prerequisites:</strong></td>
<td>MEC 300, 310, 317, 320, 325/125; MEC major; U4 standing</td>
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<td><strong>Co-requisites:</strong></td>
<td>MEC 410 and 411</td>
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**Textbook:** No textbook is required.  
Course Learning Objectives

1) Conduct detail design and analysis incorporating engineering standards and manufacturing constraints.
2) Identify and acquire new knowledge/information that are required for the project but not taught in classroom.
3) Use modern engineering tools to implement the project.
4) Conduct experiments and analyze the data based on the requirements of the specific project.
5) Gain a better appreciation of how engineering solutions can have impact on the society and people’s lives.
6) Prepare design reports and give oral presentations with visualized materials.
7) Develop an ability to function on multidisciplinary teams.

Team Rules

1) The design project should be a team work. Each design team should consist of 3-4 people based on the need of the chosen project. No single-person team is allowed.
2) Each team must choose an advisor among the faculty, and maintain regular meetings with the advisor based on a schedule discussed between the team and advisor.
3) Each team must schedule meetings with the machinist in each design phase, including project selection, conceptual design and detail design, to discuss about the feasibility of their project, and work under the machinists’ advice during the phase of prototyping.

Grading

The letter grade will be issued at the end of the spring semester. The fall and spring semesters will have the same grade. Each team has 100 points. A(100-94), A-(93-90), B+(89-87), B(86-82), B-(81-79), C+(78-76), C(75-72), C-(71-68), D+(67-64), D(63-60), F(59 or below). The following is the breakdown:

1. Reports

   MEC 440
   1) Project Proposal Accepted
   2) Progress report 1 (market/user needs analysis) 10%
   3) Progress report 2 (conceptual design) 10%
   4) First Semester report (updated market/user needs analysis + updated conceptual design + preliminary detail design) 15%
   5) Fall Semester Presentation 5%

   MEC 441
   6) Progress report 3 (design review) 10%
   7) Quality of Prototype 15%
   8) Spring Final Report 20%
9) Semester Presentations 5%
10) Class attendance (class lectures, presentations and small group meetings) 10%

- In order to get a valid grade, **a working prototype must be finished** by the end of the spring semester. If the prototype is not finished, no grade will be given to the team. If your project is under external funding, you should be responsible to the project requirements.

- Each report will be submitted and graded on a team basis. **Late submission of your report will cost 5% of that report per calendar day, and will not be accepted with a delay of 3 or more days.**

- The grade for each student will be adjusted on the basis of his/her team score according to his/her contribution to the project. Team members will have clear delineation of tasks as part of their documentation. Work that is not submitted by assigned deadlines will be reflected in a reduction of the team grade with additional reductions possible for work not completed by an individual team member who was responsible for that phase of the work. **If any member misses 1/3 of project team activities as documented by their teammates, no grade will be given to him/her. If this happens in the first semester, he/she cannot continue on with MEC441.**

- The final report will be graded by both of the instructors and the project advisor. These grades will be used to calculate semester grades. It is your responsibility to make sure that you submit these reports to your instructors and your project advisor by the deadline.

- Your attendance of class presentations, small group sessions, and guest lectures is a part of your final grade. **If you miss 1/3 of them, you will not be credited for class participation.**

**Project budget and reimbursement policy**

1) **The budget limit for each student is about $175.**
2) The reimbursement of project related purchase covers only materials and components.
3) Reimbursement can be requested at any time after the design review has taken place.
4) The last day of requesting reimbursement will be two weeks before the end of the spring semester.
5) To request a reimbursement, you need to fill up a purchase requisition form, attach the original receipts (if paid by a credit card, also attach the credit card statement), let the instructor sign it, and submit it to the department office.
6) **Sales tax cannot be reimbursed.**

7) **There is additional funding that is available for assistive technology projects, through University and NSF grant funding for these projects.**
TENTATIVE SCHEDULE FOR GROUP MEETINGS WITH INSTRUCTORS
Please see separate posting on the course website.

FINAL PROJECT PRESENTATION SCHEDULE
April 28, May 3 and May 5 (1PM-2:20PM) and May 16 (5:30PM-8PM)
PPT for your presentations are due 4pm the day before the presentation (uploaded to website).

FINAL REPORT DUE DATE
Due by 4pm May 6 (Friday). E-copy uploaded to website and hardcopy due in 113 Light Eng. The report is considered on time only when both versions are submitted on time. Late penalty applies. It is your responsibility to provide one hardcopy to the instructor and another hardcopy to your project advisor at the same due date.

DISABILITY SUPPORT SERVICES (DSS) STATEMENT
If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: [http://www.stonybrook.edu/ehs/fire/disabilities]

ACADEMIC INTEGRITY STATEMENT
Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at [http://www.stonybrook.edu/uaa/academicjudiciary/]

CRITICAL INCIDENT MANAGEMENT
Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.