Professor: Greg Watkins, Ph.D., PE

Office: O’Connell 416 / 898-4388 / gkwatkins@csuchico.edu

Course Description: Continuation of the capstone design project from MECH/MECA 440A. Implementation of the capstone design project, including fabrication, testing, and evaluation of a working prototype. Must be taken the semester immediately following MECH/MECA 440A.

Prerequisites
MECH 440B: MECH 440A. Recommended: CIVL 302, MECA 380, MECH 308, & MECH 338

MECA 440B: MECA 440A. Recommended: CIVL 302 & MECA 380

Course Objectives:
1. A understanding of the impact of engineering design in a global, economic, environmental, and societal context
2. Learning and practicing prototyping of engineering designs
3. An ability to design test methods and procedures for evaluation of engineering solutions
4. Recognize the need for, and acquire an ability to engage in lifelong learning

Class Meetings:
Section 01 – Lecture – Tuesday 5:00 to 5:50 – O’Connell 254
Section 02 – Supplement – Tuesday 6:00 to 8:50 – O’Connell 254
There are five scheduled class meetings for MECH/MECA 440B plus the Design Expo. Required meeting dates are detailed below.

Blackboard Learn:
This course will make use of the Blackboard Learn course management system. All PowerPoint lectures, handouts, homework solutions, grades, announcements, etc. will be available on the course Blackboard page.

Email: In the event I need to contact members of the class or make urgent announcements regarding presentations, class cancellations, etc., it will be done via your WildcatMail email account. I do not plan to use this method of communication frequently, but I do expect that information sent this way will be received. University policy requires students to monitor their WildcatMail accounts. If you have another preferred email provider, you may set up automatic forwarding of your WildcatMail to that address. Details are available at www.csuchico.edu/itss.
Office Hours: My office hours are not determined until senior project group meetings for the current semester have been scheduled. Once set, they are posted on the schedule card outside my door and may also be viewed at this link: 

Kindergarten Points: Professionalism and organizational behavior are topics that are intertwined throughout this course. As senior students, professional behavior, similar to that expected in the workplace, is expected here. That includes following instructions, submitting documents on time, in the correct format, and to the correct place. It also includes attending, and being on time for, all class meetings, events, and presentations. Failure to exhibit professional behavior will result in the assignment of Kindergarten Points which correspond to a deduction in the student’s course contribution grade. These points are so named because everything you need to know to avoid them, you learned in Kindergarten.

Senior Exit Survey: Graduating seniors (defined as students enrolled in MECH/MECA 440B) are required to complete an exit survey. Data from the survey are used in program improvement plans and are an integral part of our accreditation process. To encourage participation, students must complete the survey in order to receive a grade in 440B. Students that have not completed the survey by the deadline will receive an “I” (incomplete) for 440B and will not graduate.

Americans with Disabilities Act: If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Accessibility Resource Center (ARC) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations. ARC is located at Student Services Center 170 and may be reached at 530-898-5959 or arcdept@csuchico.edu.
Grading: | Topic | % | T/I | Comment |
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<tr>
<td>Individual Test Procedure Assignment</td>
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<td>Content, organization, style, and format</td>
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<td>Testing</td>
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<td>Overall success of testing, data collection, reporting, etc...</td>
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<tr>
<td>Final Project Presentation</td>
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<td>Poster</td>
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<tr>
<td>Spring Design Report</td>
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<td>Overall Project Quality</td>
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<td>Quality of solution relative to difficulty of project; evaluated by faculty advisor.</td>
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<td>Contribution to Project</td>
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<td>Peer review &amp; logbooks; evaluated by faculty advisor</td>
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Note: If warranted, the course instructor, with input from the faculty advisor, may issue a failing grade regardless of a student’s computed final average.

Semester Schedule

Tuesday 1/24 | Lecture 1 – MECH/MECA 440B Overview |
Tuesday 1/31 | Lecture 2 – Test Plans  
Sharing Day Instructions |
Tuesday 2/14 | Individual Test Procedure Assignments due (no class meeting) |
Tuesday 2/28 | Lecture 3 – Return of individual test procedure assignment  
Group comprehensive test plan document  
Conference and competition opportunities  
Sharing Day One |
Tuesday 3/28 | Group Comprehensive Test Plans due (no class meeting) |
Tuesday 4/4 | Sharing Day Two |
Tuesday 4/25 | Lecture 4 – Presentation and Report |
Friday 5/12 | Design Expo and Final Presentations |
Tuesday 5/16 | Design Reports due |