

**Course number** : ME 273W

**Course title** : Senior Design Project II

**Number of Credits** : 3

**Initiating Dept .:** Engineering Undergraduate Programs

**Contact Person** : Marty Wood

**Unit Number** : 3187

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**Existing Course** : YES

**A current GEN ED?:** NO

**Dept Approval Date** : -10/07/03

**School/College Approval Date** : -10/14/03

**Year of First Offering** : - Spring 05

**Proposed Cat Cop:** -

273W Senior Design Project II

Second semester. Three credits. Prerequisites: ME 3260 or 3264, 3262 or 3263, and 4972; ENGL 1010 or 1011 or 2011 or 3800.. Projects which have started in the previous semester will be completed. The project analysis, design, and manufacture stages will take place. Both written and oral reports are required.

**Course Information** : - This course is the final course of a two course sequence which consists of integrated design, synthesis of knowledge, fabrication, testing, redesign if necessary, four oral and two written reports that Mechanical Engineering students must complete to graduate. The course enables engineering students to solve real-world corporate problems. The course has two major modes of delivery. There is a classroom presentation mode of delivery and then a team of students (2 students per team) meet, scheduled as group meetings, at least weekly with a Mechanical Engineering faculty member. The classroom component covers the topics listed in the attached syllabi. The writing components of the course are generated out of these meetings. Each written document is reviewed, critiqued and graded by the team's faculty advisor (student to faculty ratio of 2:1) then reviewed, critiqued and graded by the teacher of record. The above procedure applies to both ME 272 and 273W; therefore, the combination of these two courses fulfills the W-requirement definition of a course.

**W Criteria:** - ME 273W, Senior Design, coupled with the prerequisite course ME 272, requires students to develop a personal resume and a job application cover letter, a project solution and approach proposal, four oral presentations, two term reports and documentation for demonstration day. The class meets 4-hours per week. All submitted written documentation is reviewed, critiqued, evaluated and returned to the student for revision prior to the next required written work. The final report is submitted to the project faculty advisor. The advisor reviews the report for both technical and written content. The report is then reviewed by the instructor of record. It is then returned to the students for revision. After revising the report, it is resubmitted for evaluation and grading by both the project faculty advisor and the teacher of record. Each student identifies their work by annotations in the header/footer. This enables the faculty member and teacher of record to assess each student's writing level. Each student will normally submit 40 pages of formal engineering reports, worth in excess of 35% of their term grade. Failure to pass the written component of the course will result in failing the course.

The primary modes of written instruction to the students are:

- Formal classroom instruction supplemented by a handout prescribing a format or an example.
- Written commentary from the team's faculty advisor and the teacher of record.
- Individual/group conferences
- Oral presentation instruction is both formally presented and by example.

**Role of Grad Students :** -The TA functions as an engineering mentor during office hours, assists in the organization and logistics of the classroom presentations, assists in the organization and logistics of the demonstration day and supports the teacher of record. Graduate Assistants will not provide feedback on written reports unless they attend the W course training provided by the University. They are supervised by the faculty instructors.

**Supplementary Information :** - This senior year major design series of courses has been the norm for mechanical engineering students for many years. There has always been a teacher of record for the course and each mechanical engineering faculty member is assigned a minimum of one team. This procedure makes the student to faculty ratio for all W-course work submitted during the class 2:1. Restating from above, the faculty advisor reviews, critiques, evaluates and assigns a grade and then the teacher of record reviews, critiques and assesses each written document so that each student's grade is normalized due to varying faculty evaluating student's written work. Additionally, each student's work can be evaluated because the header/footer will identify the author.