

## ENGR 310

### Introduction to Engineering Design

*Spring 2008*

**Instructor:** Durward K. Sobek II, Ph.D.  
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**Office Hours:** MF 3:10-4:00 p.m., W 1:10-2:00 p.m.

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**Class Meetings:** MF 2:10-3:00 p.m., 101 Roberts Hall  
W 2:10-3:00 p.m., 105 Reid Hall  
Recitation sections TBD

**Required Text:** None. However, you will purchase a design journal (\$11.50 at the bookstore), and you will be expected to contribute towards the purchase costs of materials needed for your project.

**Prerequisites:** Junior standing

#### Objectives:

This course introduces students from technical fields to design topics such as design process, creative design, project management, teamwork, and technical leadership while highlighting the skills needed to work in a multi-disciplinary environment. The primary purpose of the course is to better prepare students for professional practice in a multi-disciplinary team environment by acquiring basic design, communication, and project management skills.

**Course Website:** [www.coe.montana.edu/engr310](http://www.coe.montana.edu/engr310)

#### Rules:

1. Be considerate of others — Be on time. Pay attention. Listen.
2. Actively participate, and do your part.
3. Be honest.
4. Complete assignments on time.
5. Have fun!

**Course Listserv:**

An email listserv has been created for this class in MSU's MyPortal system. Since I will periodically post messages to the listserv (such as clarifications on assignments), all students should check their MyPortal email accounts at least every 2-3 days. If you'd like to add another email address to the listserv (perhaps one that you check more regularly), send a message from that account to [listserv@listserv.montana.edu](mailto:listserv@listserv.montana.edu) with the following as the only text in the body of the message:

SUBSCRIBE ENGR31001  
QUIT

You should receive a message from the listserv manager that you've been successfully added to the ENGR 310 listserv.

**Course Structure:**

The course will have two major components. The lecture component of the course will cover theoretical topics related to design methods and tools along with practical topics on managing design projects and teamwork. You are expected to attend every class, pay attention, take notes, and participate in class exercises. The second component will be a semester-long team project in which you will work with individuals from majors different than your own to complete a significant design challenge.

You will have three scheduled class meetings a week, except for University holidays. Once projects are underway, one of those class meetings will usually be a recitation meeting with your team advisor.

Graded assignments will be made periodically throughout the course. Most assignments will be completed in the context of your team project. In addition, you will be expected to keep an individual design journal for the duration of the course. In the journal, you will record all the activities, information, hair-brained ideas, analyses (both good and bad), reflections, and anything else pertaining to your project.

**Grading:**

Grades will be determined by each student's percentage score, according to the following weights:

60% Design Project (includes all assignments and Design Fair poster)  
15% Journal  
15% Midterm exam  
10% Final exam

**Design Project:**

You will complete a team design project with 2-3 students from different majors. Teams will complete assignments that require them to apply concepts and tools from class to their selected project. They will meet weekly with a team advisor in a recitation section to report status and to receive feedback and guidance. See the course website for more details.

**Journals:**

Purchase a blank, 9" x 12" journal with numbered pages from the bookstore (AMPAD #22-157 is recommended, since it lays flat. AMPAD #22-156 is also acceptable. No lab composition books!). In the journal, keep record of all class-related activities and information: class notes, team meeting notes, individual brainstorming, web or library research activity, sketches of design ideas, user interview notes, contact information, analyses, reflections, etc. Journals will be periodically assessed throughout the semester on journal check dates. See the course website for more details.

**Examinations:**

There will be one midterm exam on or around March 31 to assess your understanding of core topics covered in the course to-date. The final exam is scheduled for 8:00-9:50 a.m. on May 9. It is mandatory, and will assess what you learned from your design project.

**Policies:**

- I expect each student to make full effort to attend every class. If you miss class, you are still responsible for knowing the material covered in class that day. If you know you will miss class, try to see me beforehand.
- Assignments are due on the assigned due date at the assigned time, period. Do not be late.
- There will be no make-up exams unless you notify me before exam day. Exceptions may be granted for extenuating circumstances.
- The final exam time is set by the registrar's office. Attendance is mandatory.
- If you have a documented disability for which you are or may be requesting special accommodation, please contact Disabled Student Services as soon as possible, and discuss your specific situation with the instructor.
- Students who enter or are readmitted to MSU in fall 2005 or later are subject to the University's minimum competency requirement. According to the policy, a grade of C-or better is required for any course needed to complete a major, minor, or certificate program and for all core requirements.
- All records related to this course are confidential and will not be shared with anyone, including parents, without a signed, written release. Before giving such authorization, you should understand the purpose of the release, to whom, and for how long the information is authorized for release.
- Chronic tardiness is unprofessional and unacceptable, and may result in you being asked to leave class. The same holds for disruptive or disrespectful behavior.
- Lying, cheating, plagiarism, or any other form of dishonesty will not be tolerated. Students who engage in such behavior will be subject to University sanctions, even for a first offense. Students should be familiar with MSU Student Conduct Guidelines, particularly sections 300, 400, and 600  
(see: [http://www2.montana.edu/policy/student\\_conduct/student\\_conductc-code\\_2006-2007.htm](http://www2.montana.edu/policy/student_conduct/student_conductc-code_2006-2007.htm)).