

MS&E 108 SENIOR PROJECT 2009-2010
COURSE INFORMATION SHEET
Five Fridays, 10:00 a.m. 200-205
 (Class times might be different for final presentations.)
<http://msande108.stanford.edu>

MS&E 108 FACULTY

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COURSE DESCRIPTION

This course is devoted completely to your senior project. You must form four-person teams, preferably by December 11, 2009, but no later than January 8, 2010. Each team is responsible for locating an organization with a project that can be approached using methodology learned in your MS&E courses. MS&E faculty have contacts at a number of local organizations with potential projects. Contact Prof. Shachter as soon as possible for details if you anticipate needing assistance identifying a project. (You must form a four-person group before requesting project leads.)

The MS&E 108 faculty must approve your project. Following approval, your team will be assigned to a faculty advisor who will serve as a combination consultant and taskmaster throughout the quarter. Both a written and an oral final report are required. You will be working with the Communications Program in the School of Engineering for advice on oral reports. Finally, just as in the "real world," deadlines are crucial, and missing them bears consequences.

MEETINGS AND GRADING: STANDARDS FOR PROFESSIONAL BEHAVIOR

The course is about how to apply the concepts of our department as professionals and to prepare our students for careers. Students should think of 108 as training for the real world. In that light tardiness and absences reflect on the student's qualifications.

Part of this course's goals is to help prepare students for professional norms of behavior - that includes being proactive and assuming responsibility rather than making excuses for progress not made. Being punctual for meetings with your faculty advisor and industry clients, attending all class and group sessions, and delivering quality written materials on time are part of these norms. If you fail to meet these norms, you can expect your grade to suffer.

Scheduled class meetings and weekly individual project team meetings with your team's faculty advisor will be held throughout the quarter. These meetings are not numerous, but they are very important. **Each member of the class is expected to attend every scheduled class meeting and be on time. Students are responsible for checking the course website for updates on scheduled class meetings. Students must keep the class meeting time free on their schedules for the entire quarter. Absences will be considered in determining a student's grade in the course.** Only one absence is allowed without affecting your final grade. After that, you lose *half a grade for each absence*. For example, if your team receives an A but you were absent for two class sessions, you will receive an A- (the first absence is permitted, the second absence costs half

a grade). Also important in determining individual student grades will be their contribution to the overall success of the project, quality of the oral presentation, quality of the written report, and attendance at individual project team meetings with the team's faculty advisor.

GUIDELINES FOR WRITTEN PROJECT DESCRIPTION

The written project description is due by 11:59 p.m. on Tuesday January 19, 2010, submitted via the course web site. The purpose of the project description is to describe the problem your team will be tackling, what you plan to do, how you plan to do it, and what you expect your results to be. The primary goal is to communicate to your advisor (in the "real world," your manager, director, or vice-president) what you plan to do. Be sure to include a dated timeline that maps out exactly what steps you plan to take during the progress of the project. The project description will also serve to organize your project, providing a base from which you will begin your work. The description should be two to three pages long, and must include the following sections:

1. Project title
2. Administrative information (names, telephone numbers and emails of the four team members; organization name; organization contact person name, telephone, and email);
3. Statement or description of the problem;
4. Proposed approach (steps to be taken in investigating and evaluating the problem);
5. Data requirements (anticipated information needed to analyze the problem);
6. Data sources (where you anticipate getting the data you need);
7. Anticipated results (make sure that you understand all aspects of the problem so you can realistically predict the kinds of results you will achieve - show that you have really thought about the problem!);
8. Schedule of work (detailed timeline); and
9. A schedule of 5-6 available meeting times (one hour blocks between 9am-6pm, Monday-Friday) when your **entire team** can meet with a faculty advisor. (Note that your team is assumed to be available during class time, Fridays 10 am to 12:30 p.m.)

PROJECT TEAM MEETINGS

All teams will be responsible for scheduling weekly meetings with their faculty advisor at a mutually convenient time. Each team member is expected to attend each weekly meeting with the team's faculty advisor. In preparation for each meeting, your team must submit a one or two page written summary at least 24 hours prior to the meeting. The summary should contain these items:

1. A review of work accomplished since the last meeting
2. A description of what work will be done next, and
3. A list of questions and issues to be discussed at the meeting

To facilitate preparation for your team's meeting with your faculty advisor, you should schedule a **second, working meeting** with your team once each week, approximately two to three days prior to the meeting with your faculty advisor.

COMMUNICATION PROTOCOLS

Please use the following formatting standards for all weekly communications with your advisor, where X is your assigned team number and n is the week in the quarter:

email subject line for weekly report: 108 Team X Week n Report

Title of weekly report: 108 Team X [Shortened Project
Title] Week n Report

name of electronic file for weekly report: 108 Team X Week n Report

For all other reports, please use a similar format in which you replace "Week n Report" with the appropriate report name (i.e., Project Description, Introduction, Outline, Draft, Final Report).

In addition, please include page numbers in all reports and make sure to copy everyone on the team on each email sent to the advisor.

TECHNICAL COMMUNICATIONS PROGRAM MEETINGS

All teams are expected to schedule and attend **at least two** tutorials with the staff of the School of Engineering's Oral Communication Program. Sign-ups are in Terman 105. The first tutorial should be at least **a week** before your presentation in class. The second tutorial should be at least **three** days before your talk. Additional tutorials (in which your team could be videotaped) are highly recommended.

FINAL WRITTEN REPORT

You will submit your final written report to your faculty advisor (in hardcopy), to the organization that sponsored your project, and to the course archives. Your written report should contain these items:

- letter of transmittal to the company (attached to the report)
- cover page
- one-page Executive Summary
- one-page table of contents
- report sections as follows (modified to suit your particular project):
 - introduction (including company background, nature of the problem, and project description)
 - methods (including any model and data collection)
 - results
 - conclusions and recommendations
 - technical appendices

Please use at least 1.5 line spacing and reasonable font size for readability; number body pages 1, 2 ... and Appendix pages A-1, B-1, B-2, C-1, ... and use those numbers when referring to material in an Appendix.

There is no minimum or maximum number of pages in the body of the report or in the appendices. Typical reports will have a body length of between 10 and 20 pages and between 5 and 15 pages of Appendix material.

Discuss the content with your faculty advisor. Ideally, you should prepare sections of the report (e.g., project description, methods, etc.) as you progress along the project timeline. Your grade will almost surely suffer if you leave all the writing to the end.

WRITTEN REPORT GRADING: The Written Report will comprise the majority of your course grade, as modified by your attendance. In grading reports, faculty members evaluate both technical content and presentation style (including such things as appropriate organization, use of headings, clear explanations and charts, and absence of grammatical errors or misspellings). The report should clearly reflect the effort you exerted during the quarter as well as the quality of your solution; in other words, it should represent your achievement. You may ask your advisor to discuss with you specifics of what he or she expects in the context of your particular project.

You should submit the final written report to your faculty advisor, your client organization, and the course archives at the same time (March 12, 2010).

ORAL PRESENTATIONS

Near the end of the quarter, each team will make a 12-minute oral presentation to the class. All team members should participate equally, both in time and effort. You must finalize your presentation by 5:00 p.m. on Thursday before the start of Oral Presentations, and submit it to the course archives. We'll load all presentations onto a single laptop to avoid delays between presentations. Bring your presentation to class on a memory stick as a backup.

Dress code for Oral Presentations: Professional Attire (e.g., coat & tie or equivalent).

Please inform the people you have worked with at the organization that sponsored your project that they are welcome to attend our final oral presentations. They truly enjoy being invited, being introduced to the class, and listening to the results of projects. You also may wish to volunteer to present your findings orally at the organization.

AWARDS FOR OUTSTANDING ORAL PRESENTATIONS

Accenture has generously agreed to sponsor monetary awards to be split between the top two senior project oral presentations in MS&E 108. A panel of judges will determine the winning teams, and the awards will be presented at commencement.

ORAL REPORT GRADING: The Oral Report will be used to determine which groups' presentations win the Accenture award for Best Oral Presentation of their Senior Project. Criteria employed in judging the presentations include ample motivation for the problem, clarity of exposition, sufficient support for the methodology, clear explanation of the results, degree to which the client might be expected to be satisfied, and soundness of presentation skills (e.g., appropriate organization, good visual aids, proper pacing and pitch, professional demeanor, and so forth).

SCHEDULE OF CLASS MEETINGS AND DELIVERABLES

The class meets only five times during the quarter, on Fridays in 200-205.

The first three meetings will be held at 10 a.m. for about an hour.

The other two meetings, at the end of the quarter, will be at least two hours, but the times might change to accommodate all team presentations.

ALL team members must be present and on-time at each meeting marked in bold.

You are expected to attend all the weekly meetings with your faculty advisor, and to submit all materials by their due dates as noted above.

- 1/10/10** **Brief Meeting: Announcements and Team Identification**
Finalize teams and, if possible, projects.
- 1/17/10** **Brief Meeting: Additional Announcements and Team Formation Review Meeting**
- 1/19/10 (Tues) By 1159pm, you must submit your Project Description on the web.
- 1/21/10 Assignment of Project Faculty Advisors
- 1/29/10** **Communications Presentation by School of Engineering Staff**
- 2/5/10 Submission of Introduction to Final Report to Advisor:
Email a first draft of your final report introduction to your faculty advisor by 5 p.m. Include material from your Project Description, expanded as appropriate.
- 2/19/10 Submission of Final Report Outline to Advisor:
Email the outline of your final report to your advisor by 5 p.m.
- 2/26/10 Submission of Final Report Draft to Advisor:
Hand in a first draft of your complete final report to your advisor by 5 p.m.
- 3/5/10** **Oral Presentations (in class)**
- 3/12/10** **Oral Presentations (in class)**
- 3/12/10 Submission of Final Report to Advisor:
Hand in your complete final report to your advisor by 5 p.m.; also submit a copy to your Client Organization and to the course archives.