University of Portland
School of Engineering
ME481/482 Mechanical Engineering Project I/II
Guidelines for Industrial Advisors

Thank you for agreeing (or considering) to be an Industrial Advisor for a student senior project at the University of Portland. The purpose of this document is to provide general information about senior projects and to clarify your role as Industrial Advisor.

Please keep in mind when reviewing this document that it is a "work in progress." Any feedback about this document (or anything else associated with the project) is always appreciated. During the Annual Assessment and Evaluation meeting (May 7, 2008), it was determined that the role of the Industrial Advisor should be increased significantly within the Mechanical Engineering program. This document reflects that decision.

Mechanical Engineering Projects

ME481 and ME482 are the "capstone" project courses in Mechanical Engineering at the University of Portland. These courses are taken in the fall and spring semesters, respectively, of the senior year. Students are free to choose their own project, but obviously the projects must have mechanical engineering content. Students are encouraged, but not required, to work in groups with other ME's and/or students from other disciplines. They are not required to build or construct their design, but many do so. If they choose not to construct their design, then expectations for the "paper" design are greater.

Industrial Advisors

Industrial Advisors play a significant role in projects by providing "managerial" and technical guidance. Although ultimately the faculty are responsible for directing projects, Industrial Advisors provide a perspective that faculty cannot. General comments regarding your role can be summarized as follows:

- Provide technical and "managerial" guidance.
- Provide a "real world" perspective.
- Help students learn to solve engineering and project problems, but avoid solving problems for them. Allow them to make mistakes. And in fact, encourage them to start making mistakes early when mistakes are less "expensive."
- Focus on the learning aspects and not so much on the "end product" of the project. Remember, this is a learning experience.
- Provide feedback at anytime to students or faculty regarding the project as you see the need.

Specifically, we ask Industrial Advisors to:

- Meet with the team at least once each semester. Ideally, these meetings should be face-to-face but may be teleconference or web-based if your schedule does not allow face-to-face. It is the student's responsibility to set the dates and times that

work for everyone. Students are expected to set the location most convenient for the advisor.

- Read their concise weekly progress updates, provide feedback as you see fit. If you wish more details, request it of them.
- Review the written documents described below and provide feedback to faculty and students.
- Provide feedback at the end of each semester to the faculty regarding student performance on the project. Students are to provide forms for you to fill out and return to them (softcopy or hardcopy). They will provide a copy to the instructor.

Schedule of Events

Below is a list of significant documents and meetings that involve Industrial Advisors. Feel free to meet, call, or email your team or faculty at any time.

Weekly Updates: Nearly every week the "team captain" or "lead engineer" on each project is required to provide to all constituents a project update. Updates will be sent via email. Updates are to be very concise statements regarding recent accomplishments and near-term tasks to be completed. If you desire more detail, please request this of the team.

Project Plan (early October): The project plan is meant to be a detailed document with a thorough background discussion. The project scope, objectives, and criteria should be established and a plan should be included (schedule and budget). Students should send you a soft copy.

"Kickoff" Meeting (early first semester): Students are to meet with you to discuss their project goals and deliverables. Agreement should be reached during this meeting as to what the deliverables for the project will be for both semesters. Faculty Advisors may be present at this meeting.

Prototype Demonstration: by mid-first semester (end of October), students are to have produced some sort of physical artifact or prototype and tested it. It can be quite simple, but it is to help them overcome some major obstacle. They are to submit a 1-page memo describing this process (plus attachments).

First Semester Progress Memo: near the end of the first semester (mid-December) they are to submit a one page memo (plus attachments) describing their work for the semester. Students are to provide evaluation forms for you to fill out and return to them (softcopy or hardcopy).

Optional Design Review Meeting (late November or early December): It is advised but not required that students meet with their advisors near the completion of the first semester. If you see a need to have a meeting (in-person or teleconference), please contact the team via email and cc the course instructor and faculty advisor.

Final Design Review (April): The emphasis of the meeting is to determine the engineering quality of the project. You should discuss with the team your perspective of how well the project goals were met and to offer them advise to improve as they enter the profession. If at all possible, this meeting should be face-to-face.

Final Project Report: These reports are due towards the end of the second semester (mid-late April). These are full, formal reports discussing the project in detail. Students are to provide evaluation forms for you to fill out and return to them (softcopy or hardcopy).

Oral Presentations: Formal oral presentations are given towards the end of the semester (December and April). You should receive specific times and locations from your group a few weeks in advance. If they do not provide these details for their presentation, please ask them to do so if you would like to attend. You are welcome to attend, **but please do not feel obligated**. The first semester presentation should focus on the work to-date as well as plans for the following semester. The second semester presentation should focus on the final design and the engineering decisions involved. Time will be very limited and students will be unable to discuss all details fully. Technical details are to be fully addressed in the previous Final Design Review meeting.

Feel free to contact the faculty at any time for any reason. Again, thank you for contributing to our students' education in a significant and meaningful way.

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