

ME 492 Lecture: Week 1 - Introduction

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What are we going to do in this course?

In ME 492 you will work in teams that were assigned at the end of ME 491. Your primary activity in ME 492 and ME 493 is to complete a major engineering design project.

The design goals of ME 492 are described in chapters 4, 5 and 6 of the textbook, which focus on these phases of the design process

- Opportunity Development
- Conceptual Design
- Subsystem Engineering

All teams begin with Opportunity Development. Some teams are working to improve existing devices and for them, the Architecture Development phase will be relatively quick. For other teams with significant conceptual challenges, the Architecture Development phase will take most of the Winter term. Teams should begin the Subsystem Engineering phase after completing the Architecture Development phase.

Purpose of Assignments in ME 492

Individual and team assignments in ME 492 will provide structure to your design activities, and will enable you to practice specific parts of the design process. All of the assignments are intended to advance your design project.

During the term, student teams will be giving short status reports to the entire class. These status reports provide impetus for your team to be making steady progress on evolving your design. Attendance at class meetings is mandatory because you will learn by watching other teams give their status reports.

At the end of the term, each team produces a progress report that summarizes the achievements toward realizing the design goals. The status reports given during class and the progress report should focus on quantifiable results produced by the team, not the activity of team members.

Reading

Read the *Voice of the Customer* article from the *Wiley International Encyclopedia of Marketing*. The HTML version is free. You can also use the “Get PDF” link to download a PDF version.

From ME 491, you should be familiar with the first five chapters in the textbook by Mattson and Sorenson. Please re-read chapter 4, *Opportunity Development* and be prepared to create an accurate Requirements matrix for your project. The requirements matrix will be part of your project contract, which is the second assignment for the course.

Announcements

Training for the Ecosystem Software

12:00 noon to 2:00 PM Thursday, 18 January, in Engineering Building room 420

Dr. Baldur Steingrimsson will be giving a training on the Ecosystem for Team Design and Assessment, software designed to support design teams, including Capstone teams.

Tentative Agenda

1. 12:00 - 12:20 PM: Refresher of Ecosystem benefits and recap of presentation on 21 Nov 2017
2. 12:20 - 1:30 PM: Software review; Requirement Gathering, Concept Design, Detailed Design, Final Design.
3. 1:30 - 2:00 PM: Questions and Answers. Students can describe their project, and ask for advice on how to fit those projects into the Ecosystem framework.

MME Faculty Coaches for ME 492-493

Faculty coaches for 2018 are listed on the [projects]({{ “/projects/” | absolute_url }}) page.

Capstone teams should contact their faculty coach to arrange a meeting time and place for weekly meetings. For every meeting with your faculty coach, prepare a meeting rubric as described on the [assignment page]({{ “/assignments/” | absolute_url }}).

Results of the ME 491 Design Competition

1st place | | Orcas (tie) |
1st place | | Quails (tie) |

2nd place | | Coyotes |
3rd place | | Nighthawks |

You can view [slides describing the results]({{ "/pdf/ME491_design_competition_results.pdf" | absolute_url }}).

Homework

1. Team Contract: Due Jan 19
2. Project Contract: Due Jan 26
3. Create a repository for digital design artifacts for your team. This assignment will not be collected or graded. However, start now to organize the shared filing system for your team.

Lecture Slides

- [Overview of ME 492]({{ "/pdf/ME492_slides_course_overview.pdf" | absolute_url }})
- [Identifying Customer needs]({{ "/pdf/ME492_slides_client_needs.pdf" | absolute_url }})

NOTE: After class I updated the slides by cleaning up a couple of typos adding slides on interviews, surveys and focus groups.

[PDF version]({{ "/lecture/pdf/ME492_lecture.01.pdf" | absolute_url }})