

## MEE487/488 Web Page

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The web page is the primary means of communicating your work for the capstone class to your professors, but it ultimately can be accessed by anyone in the world, including university administrators, ABET teams, prospective students, etc. Therefore, the web page should be professional and should only contain material that represents you, your group members, the department, and the university in a professional manner.

In addition, a well-designed and maintained website will make writing your final design report a good deal easier.

While the look, feel, and “energy” of your website is open to your design choices, all of the home pages must give the reader easy access to the same types of information. The home page must have a menu at either the top of the page or the left side. The menu items include:

**Home, Milestones, Scope of Project, Design, Fabrication, Test Results, Team Members, Reports, Other**

For each of these sections clear content is required as a part of the final grade. Each of the pages is described below:

**Home:** This page will contain a project overview – an approximately 500 character or less description of the problem your project sets out to solve, what your design objectives are, and who will benefit.

One or two representative/inspiring images might also be on this page, along with a head banner with your project title on it, and the menu of buttons that lead to the other sections...

**Milestones:** The milestones are the measurable deliverables for the semester. They are normally presented as a list of items with due dates for delivery. Examples of such deliverables might be the completed and approved mechanical drawings or a video of operational results

Where proof that a milestone has been met can be presented as a file, provide the link directly on the milestones list, like this:

<https://sites.google.com/site/cnginjectorbench/milestones>

For instance, one of the milestones is a drawing package due by a specific date. It would be linked to the milestones page like

[http://mickpeterson.org/2013design/Groups/Eff4/EffME4\\_pdfs/EME4\\_DrawingSet\\_SubcoolerUnit.pdf](http://mickpeterson.org/2013design/Groups/Eff4/EffME4_pdfs/EME4_DrawingSet_SubcoolerUnit.pdf),

Some operational results might also be in the form of a video linked to the milestones page

[http://mickpeterson.org/2013design/Groups/CSC/may\\_results.html#Run\\_on\\_Snow](http://mickpeterson.org/2013design/Groups/CSC/may_results.html#Run_on_Snow)

or some of the results might be in the form of a presentation video

[http://mickpeterson.org/2013design/Groups/HIV\\_Video/Team3/HIV\\_Grp3\\_revised.wmv](http://mickpeterson.org/2013design/Groups/HIV_Video/Team3/HIV_Grp3_revised.wmv)

Written reports can also be linked directly to the miles stones list

[http://mickpeterson.org/2013design/Groups/HIV3/Final\\_report.pdf](http://mickpeterson.org/2013design/Groups/HIV3/Final_report.pdf)

Also on this page will be linked the ABET outcomes which give examples of work which represents each of the class outcomes. Your infrastructure project must also be included as a milestone, as should be your project's final written report.

ALL OF THE DELIVERABLE RELATED FILES SHOULD BE LINKED DRIECTLY FROM THIS PAGE, EVEN IF THEY ARE ALSO LINKED FROM ANOTHER PAGE ON THE SITE.

**Scope of Project:** Please see the separate page below on this section, but in general, it will contain an explanation of the immediate context for your project, the specific customer performance requirements, and the technical challenges related to meeting each of the customer's requirements. Note that these last two items might be presented in a table you design, or as a House of Quality matrix, or in some other visual display that relates performance objectives to design challenges.

**Design:** Please see the separate page at the end of this section on how to design this section of the website. In general, though, this page includes all of the preliminary planning drawings, final drawing package, budget, vended parts list, bill of materials and the calculation documentation required for the design of the system. In general system design is completed at the end of the fall term, so this is primarily results from the first term.

Please note, some of the items on this list will also link to the milestones page. That is not unusual for items on a web site to link to multiple locations. All of the items on this page should be downloadable for local review and revision, including the budget.\*\*

**Fabrication:** Once fabrication starts in the spring semester, use this area to document through photographs the various fabrication stages. Use just enough text before each image to explain what is going on in the picture.

**Test Results:** This web page presents the results from LabIII, MEE443. The results include the experimental plans, uncertainty, and the testing results.

**Reports:** This page will include a link to your Final Design Report and to your open house presentation poster. Both of these must be downloadable, the report in .pdf and the poster in PowerPoint. It might also contain links to things like any PowerPoint presentations you make for other special presentations.

**Other:** You may have other documentation you would like to share with the website viewers that do not fit easily into the spaces described above – press releases, grant proposals, sponsor acknowledgements, links to background websites, etc.

### **\*The “Scope of Project” Page of your Website**

**Background:** Here you will give the immediate (not far-reaching) contextual background for your project. For instance, the autonomous all-terrain vehicle projects are all going to compete with each other to see how well they complete a set course. All teams are given the same specific engine to begin with and have access to the same funding and machining equipment. The Algae team’s context is that it is working with a specific sponsor or sponsors in another department at UM who need help condensing their Algae slurrp for a specific reason. Their background section would make the specifics of those arrangements clear.

**Customer Requirements and Performance Objectives:** This is a crucial part of your early planning. Each team should have firmly in mind a definition of its “customer.” A customer is the person or organization driving the design parameters. For the unmanned aerial vehicle teams, for instance, the customer might be thought of as the competition judges who have set “rules” for the contest. The judges want aerial vehicles that have certain specific characteristics and that can perform specific feats, and they will not be pleased with designs that fall short of these. In this section then, the UAV team would document that set of vehicle characteristics and performance objectives that have been defined by their “customer.” For the desalinization unit, the immediate customer might be Professor Peterson, who needs a filter cleaning system designed to fit an existing portable desalinization unit. The team will need to define with Professor Peterson exactly what characteristics and performance objectives he wants to see in the finished product and write those down in this section of the design page.

**Technical challenges:** Once the team has a well-defined set of customer expectations for their project, the next challenge is to define the relevant technical challenges related to those expectations. For instance, the smaller of the planes in the UAV challenge must be able to be disassembled and reassembled easily and when disassembled must fit into a certain defined area. A key technical challenge, then, is designing the assembly connection points. A customer objective is that it should be able to fly a full Gatorade

bottle around the course, which raises the technical issue of what combination of engine power and wing design can create enough lift to accomplish that goal. For every customer aesthetic or performance goal, there is one or more technical issues that must be addressed. Having this full list in front of you as you begin your preliminary designs will focus your work and save you lots of time and wasted effort.\*

### **Design Team Organization**

“Chunk” your design work into logical units and explain them here. Say who on the team has primary responsibility for each chunk.

### **\*\*The “Design” Page of your Website**

**Preliminary Design Concepts:** This section will have appropriate sub-sections for the “chunks” of work and will be developed as you proceed through the project. The concepts you share here should be mostly visual through well labeled images – hand drawn or CAD – with just enough text to make it clear to a viewers what they are. Once an idea is posted, it will stay there. If a particular idea doesn’t work and the idea changes, the new idea is posted with a very brief description of why it was changed.

**Final Drawing Package:** By the end of this semester (at a due date Professor Peterson will announce) a final drawing package is due. This must be completed before any parts for fabrication and assembly can be ordered.

### **Budget**

### **Vended Parts List**

### **Bill of Materials**

### **Calculation Documentation**