Project 1, Paddles

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Figure 1: The Shaw and Tenney product line – functional art.

The first project is simple – make some oars.....

One of the most famous members of the Orono industrial base is Shaw and Tenney (as in Shaw and Tenney since **1858**). Well, you are young (been at it for 20 years), they have been at it since 1858, so what gives? Are they out to lunch on the materials used in the production of their oars? There must be something better than wood for oars or we would have wood rims on our bicycles and the body framing of our car would be wood. But Shaw and Tenney even have a web site (http://www.shawandtenney.com/) so maybe they are not out of date, they just have the right idea!

Your assignment is to follow the steps below and write a short report on your findings. From these results we will report to Shaw and Tenney and tell them if they are wrong (since 1858 before Abraham Lincoln was president).

You are to consider a paddle. Assume a design like the Shaw and Tenney Penobscot (see their web page or share your experiences with the rest of the class).

Step	Topics	Due
1	Define the Function and objectives (more than minimize the mass?).	1/20
2	Develop a list of constraints, we will share these in class and compare notes. Base your definition on text.	1/25
3	Define the loading on the oar in detail. Sketch the manner in which the load is applied and resisted on the paddle.	1/27
4	Select the material, reproduce the portions of the charts which are applicable and show what alternatives may be available	2/3
5	Look at manufacturing issues associated with the materials	2/8
6	Final report on project	2/10

Additional information will be provided as the project proceeds. The classes are intended to be an opportunity to share your ideas and show what you have done. Please come with questions prepared.