Final Report on the
Fabrication and Testing of a Centrifugal Pump
EAS 199A Fall 2011
Due: Day of Final

The final report for the pump project should be a brief document that includes the content described in the following sections. The entire report should consist of no more than three pages of text, which does *not* include diagrams, photographs, plots, and sample calculations. However, figures, tables, etc. that are a part of the report must be cited in the text and discussed in a manner that clarifies or condenses your report. The objective of using graphics is to speed, deepen, or otherwise improve the uptake of your work by the reader.

Title Page

The cover sheet should be plain paper with the title of project, team members, team name, course, date, and location (Portland State University). Please do not use a plastic report cover.

Pump Design

Provide Solidworks drawings of your pump body and impeller along with your completed assembly of the pump components. Photographs of your pump would be helpful, though not required.

Pump Fabrication

Discuss the two or three steps that you think were most important. This should be brief: one paragraph per important step. Discuss any particular difficulties that you encountered and how you overcame those difficulties.

Pump Performance

Briefly describe the experimental setup and the two or three most important aspects of the procedure you used. Schematics and photographs would be very helpful. Provide the equations used to quantify the performance of your pump. Show plots of head (meters) versus flow rate (L/min) and pump efficiency (%) versus flow rate (L/min). Make sure your plot axes are labeled. If there are irregularities, then why do you think they occurred, discuss the trends, etc.

In an appendix, show a sample calculations for one operating condition, i.e. pump head and flow rate. In a second appendix, provide a printout of the spreadsheet used for analyzing all of the data. With the exception of the plots, this spreadsheet should fit (neatly!) on a single side of a single sheet of paper.

Suggestions for Improvement

Provide suggestions for how you think the pump could be improved. What should be changed to eliminate the problems you encountered? What would you do if you had a week to re-do the entire design, fabrication and testing?