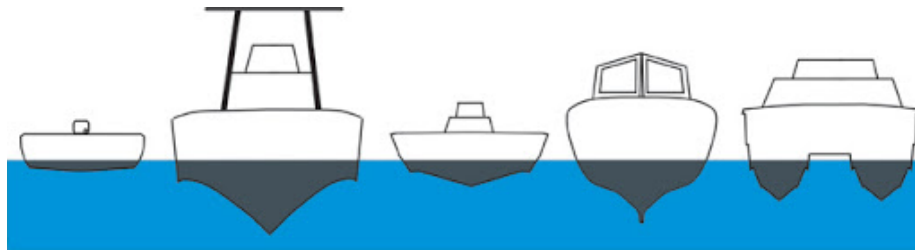


Boat Hull Design Challenge (Hydrodynamics)
AENG 101 Introduction to Engineering
Dr. John Wright

Directions: In small teams, the groups are to design and construct a boat that will transport a given weight through a gutter. The boat hull will be made of Styrofoam (limited amount provided by the instructor), but additional materials may be used (Team supplied).



<http://www.floridasportsman.com/2015/12/15/right-tool-job/>

All boats will have a mounting point on the front of the boat to attach to the test fixture (Gutter Apparatus) – this is typically a paperclip secured into the front of the hull. Paperclips are provided. An 8oz weight will be used to pull each boat through the gutter using a pulley system. Each boat will be required to transport another 8oz weight provided by the instructor. If a boat fails to transport the weight (e.g. it is dropped), that run would be disqualified and a time of 5 min will be recorded for the failed run. All boats must fit within the starting gate of the gutter to qualify. A stop watch will be used to record the time of each boat. The gutter dimensions are 59”L x 7.5”W. Each team will have three runs and the times will be averaged. Performance will be evaluated as follows:

Fail to Qualify	0pts
8 th place	65pts*
7 th place	70pts
6 th place	75pts
5 th place	80pts
4 th place	85pts
3 rd place	90pts
2 nd place	95pts
1 st place	100pts

**Must meet full design criteria stated above to score >0pts.*