



University of Washington

ASME

Human-Powered Submarine Contest



University of California, San Diego

What is the Human Powered Submarine Contest (HPS)?

The intent of the contest is to provide an extracurricular activity that will foster a real-life engineering opportunity and generate a competitive spirit among young engineers. The contest winner will also be recognized in The Guinness Book of Records as a World Speed Record.

What are the criteria of the competition?

Each submarine team may elect to participate in one or all of the eight competition events: an oral presentation on the design of the submarine, best submarine design, most innovative submarine, most safety-conscious team, best operating team, overall engineering award, best manufactured submarine, fastest one- and two-person submarine, or fastest non-propeller driven submarine.

What is the scope of the project?

The HPS Contest can be as big or small as the team wants. Some universities have a multidisciplinary team composed of Mechanical, Aerospace, Civil, and Electrical Engineering students. Some teams have up to 50 people working on the sub and others have only eight. The team works on the submarine all year long until the contest in July.

The submarine can cost up to \$30,000 or as little as \$8,000, depending on how much work the team puts into the project and how many sponsors they obtain. Most of the funding comes from corporate donations of various parts of the submarine. The technical sophistication varies; for instance, some teams have electronic pressure meters that control the submarine depth by monitoring the pressure and adjusting the bow planes appropriately.

What is the standard for handling the submarine team?

Competing universities handle the competition in different ways. Some universities have a dedicated class in which students work on the project. Some universities have the Senior Design classes design a subsystem and the best design team for the class joins the HPS team. Still other universities offer no class credit and the team is strictly an extracurricular activity. However, the universities offer some support either through monetary means or faculty participation.

The HPS team at the University of Florida

The Mechanical Engineering Department would benefit from this activity by offering students another way to gain experience in mechanical engineering design. Some students like mechanical engineering, but not cars or other vehicles. This would greatly benefit those students allowing them to gain practical engineering experience and interact with universities all over the United States. Students would be involved in every aspect of the project including conceptual design, detailed design, construction, and testing. Students would also gain experience in being part of a team. As this project lends itself to many forms, perhaps a multidisciplinary team could be formed at UF to encourage interaction between different engineering fields. Possibly this could be offered to the IPPD class as another way to promote multidisciplinary team, similar to their existing model except with an added bonus to be able to actively compete in a contest with other distinguished universities.

Where can I find more information on the HPS?

If you would like more information on the Contest, including pictures, please visit the following sites:

Overall Contest Rules/Guidelines:

<http://sections.asme.org/sandiego/hps2006.htm>

<http://www.isrsubrace.org/>

Other University Websites:

<http://www.hps.vt.edu/>

<http://courses.washington.edu/uwsub/>

<http://kahuna.sdsu.edu/%7Eamarumoto/>

<http://acs.ucsd.edu/%7Easme/sub.htm>



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