

Hover Wolf Team Summary

The members of our team are Marques Miles, Noah Prezant, Maggy Wielgus, and Jordan Hatch. We are working on the hovercraft project and our team name is the Hover Wolf (go wolfpack). We meet about once a week up until this point. During the research phase and blueprint designing, we met once a week to plan. As the pre-event is coming up quickly, we are now meeting at least twice a week. Every Wednesday night at 7:00 pm, we meet in DH Hill. In addition to Wednesdays, we will also meet on Sunday afternoons. These dates and times are always subject to change, but they have worked out thus far.

Currently, we are starting our building phase. We have gathered all our materials except the propellers, which we have decided to 3D print. The base, middle propeller and skirt will be assembled this Wednesday. The rest of the hovercraft should be finished during this weekend. The reason for the delay is the fact that we aren't sure how to get the second propeller to rotate. After building, we plan to test our hovercraft on a homemade course. Lastly, we will create the presentation for FEDD.

The biggest challenge we have run into is programming. Programming is new to the majority of us; none of us have ever used an Arduino, a microcontroller that is cheap and easy to use. We are all learning how to use one and some of us have worked on researching pre-written codes. We are overcoming this struggle, however, and should stay on track for the upcoming weeks. Another issue, strangely enough, is building. We are a group of thinkers and it can be a little difficult to leave the safety of paper and jump into physically putting a model together. We are a bit behind in that aspect, but this is what the project is supposed to do: get us out of that comfort zone and learn how to go back and forth between thinking and doing. Choosing dimensions, for instance, is difficult since we have to scale everything to fit just right. We don't have the luxury of time and money to undo mistakes and build prototype after prototype. We were able to get past these obstacles with the help of on and off-campus resources, though. The issues we've had will definitely help us in the future throughout our engineering classes and upper-level projects.

Some lessons that we have learned from working on this project is where we can find resources. We have utilized on and off-campus resources, from the Maker Space in the library to online shopping sites such as Amazon and Ebay (2 day shipping is a beautiful idea, we have come to realize). We have also taken advantage of the resource room right down the hall. We are able to borrow components we *think* we may need for our hovercraft, test them, and then make a decision regarding whether or not we need to buy our own. This allows us to use a trial and error method to build our hovercraft which is ideal considering the monetary and time-related constraints. While this is an obvious lesson each group should learn regarding their own project, we've also learned a lot about hovercrafts and the idea of keeping design simple. Before we did any real research, we all had this futuristic vision of a hovercraft that would be very difficult to create. In reality, the design is simple enough that the inventor was able to create his first prototype out of household objects. Of course, it's still not something we can all build in our sleep (as we have run into our own struggles as stated previously), but it's interesting to see how a simplistic design can accomplish so much.