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QEA

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Ninja Check in 5

**Concepts and skills learned:**

* Torque unfortunately comes of the page and is not in a circle (right hand rule)
* Vectors have hats
* Mathematica is very useful when it works
* Distributed forces
* Double integrals
* Center of mass
* 3D surfaces and volumes

**How you feel about where you're at in QEA**; your understanding of the concepts and material from Module 1, and feelings moving towards Module 2 (eigenengineering!)

I did learn a lot about math and some about physics, and a lot about Mathematica and doing computation for a real-life problem, but I still feel like I failed in some way because my boat at the end worked exactly the same as my boat at the beginning (floated flat, universally stable). I think I am ok with the math, as long as I have plenty of reference (I would not do well if you gave me a piece of paper and a pencil and told me to calculate the draft on a boat at a certain heel angle, but I could do so if I had my notes and Mathematica.) I am excited for next module. I don’t know much about matrices but I am excited about how the module is more computer programming based, and how the end product is a piece of software not a piece of hardboard.

**Biggest process-based struggles and successes this module**

Struggle: spending an entire class debugging the program only to find there was nothing wrong with it, and our AVS curve really did go back over the x axis twice. Also our boat did not work.

Success: I turned in all the homework on time, and did not spend too long on it.

**What resources you think you used well, and what resources you think you could benefit from taking more advantage of/using better?**

I did almost all my homework either at Ninja hours or office hours, but I wish I had done more of the project work during those times. I also could have worked more alongside other students (going at around the same pace as them).

**One main concrete action item you want to focus on improving during the next module!**

I kind of want to get more in-depth on things, and go beyond because the work we are doing is really interesting, but I also don’t want QEA to take over my entire life (only like ½ of it).