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QEA

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Ninja Check in 5

Concepts and skills learned:

- Torque unfortunately comes out 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 $\frac{1}{2}$ of it).