Schematics, Vectors, and Project 3 Kickoff

FIND YOUR NAME on the list of Project 3 teams, find your partner and a comfortable seat, and read through the rest of this document.

Today's Agenda

Today we'll back up a few steps and work through vector operations and schematic diagrams in more detail. Then we'll kick off Project 3!

Schematics

Draw a schematic diagram for the Earth–Sun system. Be sure to include axes, objects, dimensions, and forces.

Vectors

Example 1: Given the velocity of a baseball (`v`), compute the drag force. What are its magnitude and direction?

Example 2: Given the position of the Earth relative to the Sun (`p`), compute the gravitational force exerted on the Earth by the Sun. What are its magnitude and direction?

Project 3 Ideation

When prompted, work with your partner on the Project 3 ideation activity. Once you have converged to an idea you want to explore in more detail, capture your thinking as fully as you can on the Preliminary Proposal handout. If you want to work through another idea at a similar level of detail, feel free to complete a second handout.

Reflection Questions

How confident are you in your ability to successfully complete a project based on your preliminary proposal? How confident are you in this assessment? What do you see as the major risks, and how might you address them?

Next Steps

Before class in the studios on Monday, November 26, please do the following things:

- ☐ Write your name here: _____
- ☐ Write your partner's name here: _____
- ☐ By tonight: Scan this worksheet and submit it on Canvas.
- ☐ By Sunday night, November 25: Chapter 24 and complete the reading quiz. Run the Chapter 24 notebook.
- ☐ Please also use the break to catch up on any work you've missed, including worksheets that still need to be submitted. Note that your Project 3 final proposal will be due on Tuesday, November 27 and your orbital mechanics notebook will be due on Wednesday, November 28. Feel free to work on these things as well.
- ☐ Get some rest and enjoy your Thanksgiving!