

Week #

Milestones (updated  
Sept. 20)

1

- Form Groups
- Brush up on Vector arithmetic
- Understand Gravitational and Newton's laws
- Derive Equations of motions to determine trajectories
- Write simple programs in your chosen language that use these equations of motions to determine the trajectories of simple rockets in the Earth's gravitational field.
- Determine how accurate the trajectories are

2

Weekly Report

3

- Learn how to plot trajectories
- Plot trajectories of rockets thrown in the Earth's gravitational field.

Weekly Report

4

- Put a simple rocket in Earth's and Moon's orbit
- Determine escape velocities of Earth and Moon

Weekly Report

5

- Crash a simple rocket on the a stationary/moving moon
- Make a rocket just skim a stationary and moving moon
- Use front thrusters for breaking to make a rocket loop the moon

Weekly Report

6

- Presentations week

5th Week Report

7

- Use front thrusters (for breaking) and cook up a recipe that will enable the rocket to orbit a stationary moon at least 15 times

Weekly Report

8

- Use front thrusters (for breaking) and cook up a recipe that will enable the rocket to orbit a moving moon at least ten times.

Weekly Report

9

- No class meeting
- Optional: Use front thrusters and automate the recipe to make the rocket orbit the moon any number of times
- Prepare a comprehensive final report and presentation

10

- Presentations week

Final Report