

Chapter 0

Syllabus and Overview

Just getting warmed up...

Algorithm Design and Analysis (Fall 2021)

Christian A. Duncan
School of Engineering
Quinnipiac University



Objectives

- 1 Describe expectations of course (as laid out in syllabus)
- 2 Identify the Foundational, Primary, and Secondary Skills



Warm up

- Suppose we have a satellite in Medium Earth (Circular) Orbit at 12,500 miles above sea level.
- If we move it one mile further away, how much longer is its orbital path around the Earth?



Warm up

- Suppose we have a satellite in Medium Earth (Circular) Orbit at 12,500 miles above sea level.
- If we move it one mile further away, how much longer is its orbital path around the Earth?
- What would it be if the satellite were orbiting Mars at that same altitude?



- Suppose we have a satellite in Medium Earth (Circular) Orbit at 12,500 miles above sea level.
- If we move it one mile further away, how much longer is its orbital path around the Earth?
- What would it be if the satellite were orbiting Mars at that same altitude?

Breakout Time:

- *Group size: about 4-6*
- *Time: 5 minutes*



- Suppose we have a satellite in Medium Earth (Circular) Orbit at 12,500 miles above sea level.
- If we move it one mile further away, how much longer is its orbital path around the Earth?
- What would it be if the satellite were orbiting Mars at that same altitude?

Solution: 2π miles (on any planet). Why? Let r be the radius (in miles) of the current orbit. That makes the circumference $2\pi r$. Now increase the radius by one mile and we get a circumference of $2\pi(r + 1) = 2\pi r + 2\pi$ so the circumference increased by 2π miles!



Syllabus and Course Overview

Look over the syllabus. Focus particularly on:

- Skill Sets
- Using the textbook
- Grading Policy regarding Skill Sets
- Academic Integrity (especially regarding assessments)
- Flipped classroom approach (initially anyway), face masks

