

Astronomy - Astronomy Honor

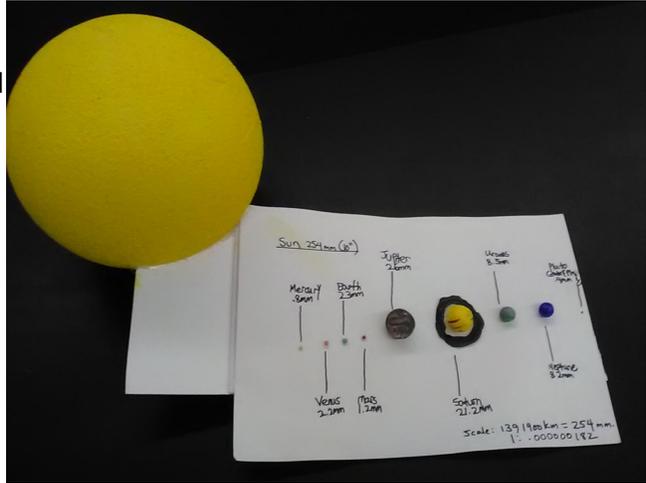
Brief Description

First Semester:

We start the year talking about constellations, the moon and the phases of the moon, how the sun moves, what causes the seasons, and the earth's orbit. A lot of time is spent going through the solar system, looking at each of the planets, and learning about their various properties. We learn a bit about the laws of physics that explain planetary motion - we talk about gravity and Kepler's laws.

Second Semester:

We start looking at the sun, what it is, the different properties like the layers of the sun and the fusion process. Then, we learn about star formation and the life cycle of a star. We end the year talking about galaxies.



Grade Level: 12

Number of Meetings per week: 4

Full year or half year: Full year

Number of Credits: 1

Prerequisite/helpful classes: Physics I, Chemistry I, Biology I

Class Structure

About twice a week, we do powerpoint lecture notes and students ask questions. Then, for the other days of the week, students will be working on something, like using a computer simulation to look at how the planets move or doing a simple paper-and-pencil lab where we plot the orbit of Mars.

An Interesting Assignment

We did a project where students investigated an exoplanet. From observatory-collected data, they figured out the mass and size of the exoplanet. They learned a bit of how astronomers detect exoplanets and can say "this planet is this size".

Homework / Honors Assignments

They will have one written assignment per week that might be answering a few questions about the topic. The honors students will have to do some math calculations. Then generally, we will try to have at least 2 projects per quarter. There is usually a quiz every week.

Who should take this class?

Anyone. There are some kids in the class that are taking AP science classes, but there are also other students who are on the other end of the academic spectrum. There's something for everyone - we do stuff that satisfies the hard-core science people like "I get to do a calculation!" and there are kids that are like "The pictures are cool and I want to do it". There's also a creative

aspect to the class - one of our first projects was to design a scaled solar system and one of the project choices was to create a children's book about the topic.

STUDENT PERSPECTIVES

“My favorite part of the class is definitely watching movies. For example, we have watched movies like *Interstellar* or *The Martian*. Also, most of the homework is projects which tend to be pretty fun and don't take a lot of time since you work on them a lot during class”

- Caleb L. '19

“It's not a ton of work, but it's pretty interesting to learn something that is not taught in a traditional physics or chemistry class. Sometimes, we do little research projects, like on a particular astronaut or a probe - you get to pick something and learn about it or make a video. There's lots of creative projects.”

- Emma W. '19