

GHS Course Syllabus

General Course Information

Subject: ASTRONOMY Year: 2017-18

Department: SCIENCE Room #: 133 Periods Taught: TBD

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Website: www.AstroPhysicsGHS.weebly.com

Office Hours: 8:00 – 8:30 am & 3:30 – 4:00 pm except Mondays

Welcome/Introduction: Welcome to astronomy. Please note that astronomy is NOT spelled with an “L”.

Please complete the following statement: I am taking this class because...

- A. I am really interested in learning about the planets, stars and other features of the universe.
- B. I want to impress my girl friend or boy friend with lots of astronomical facts during those beautiful midnight strolls.
- C. I need a credit.
- D. I don't have a clue but I thought it sounded fun and interesting.
- E. I didn't sign up for astronomy, why am I here?

Whatever the answer, Welcome! This class is designed to be fun and informative and when it is all finished 18 weeks from now, hopefully you will have a better understanding of the science of astronomy and a better appreciation for the universe and all the wonders it contains such as stars, planets and the amazing photon!!!

Helpful hints for having fun and being successful in astronomy.

1. Don't miss class.
2. Don't miss class.
3. Don't miss class.
4. If you have to miss class, see hints 1-3, but seriously, if you really do need to be gone, check with me either before you are gone or the day you return for your missing work.
5. Keep all hand outs! Since we do not have a book, there are a lot of them! You need to keep them well organized. (Get a three ring binder, this is NOT a suggestion, it is necessary!)
6. Take good notes (as mentioned above, there is no text book so you must take good notes! Do not take notes on loose paper, loose paper tends to disappear into the infinite void of space (also known as the backpack). I would suggest getting a bound composition book for notes.)
7. Work together, but know what is going on. Scientists do not work in a vacuum, but they don't just let their co-researcher do all the work so don't let your partner do all the work. This is a lab class, if you don't “do” the work, you won't know what is going and you will be quizzed over the processes of “doing” astronomy!
8. Learning is a verb, that means it is an *ACTION* word, so participate, ask questions, be involved in all the activities. See hints 1-3.
9. If you have any concerns regarding class work, grades, the ultimate fate of the universe, please come and talk to me.

Note to Parents: Please contact me by email if you ever have any questions or concerns, gibbsj@hsd.k12.or.us.

Learning Outcomes & Course Objectives
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This is a rough order and timeline for the course. Since we only have 18 weeks to learn about everything in the universe (and that is a lot of stuff) the topics and timelines might change.

The State of Oregon is currently in the process of moving from the Oregon Science Content Standards to the Next Generation Science Standards. Below you will find the codes for NGSS standards that will be covered during the course. NGSS standards can be found at <http://www.nextgenscience.org/search-standards-dci>

	TOPICS	NGSS Standard
The Constellations	This is something we will start the class with and work on all term until the final test at the end of the semester. Students will learn 25-30 northern constellations.	
First quarter of the semester	<p>The first quarter we learn astronomers decipher the messages in starlight and how we learn anything from a tiny point of light in the sky.</p> <ul style="list-style-type: none"> • What is light (the electromagnetic spectrum)? • What does a star's spectrum tell us about the age, make-up, size and temperature of the star? • How do we use light to measure distances in space? • How do we measure a star's brightness? <p>This unit will end with a study of the open cluster M26. We will analyze the starlight to determine the magnitudes of the stars and also to estimate what types of stars they are and how far away this cluster of stars is from our solar system.</p> <p>Time permitting during the first quarter we will also study the Sun (our closest star). This unit will likely spill over into the second quarter of the semester.</p> <ul style="list-style-type: none"> • How does the Sun generate energy? • How did the Sun form, what will be the ultimate fate of the Sun? • How does the sun affect the Earth and other planets of the solar system? • How do we detect planets around other stars? 	<p>HS-PS4-1 HS-PS4-4 HS-ESS1-3</p> <p>HS-ESS1-1</p>
Second quarter of the semester	<p>Finishing our unit on the Sun, we will then begin to study our solar system.</p> <ul style="list-style-type: none"> • What drives the solar system? What are the mechanics of the solar system and how did people like Galileo, Kepler, Copernicus and Newton figure this out? • How did the solar system form? • What are the planets and moons of the solar system like and why are the planets so different from each other? This is when we take a tour of the solar system. • We will spend some specific time looking at the Earth/Moon system and how the two bodies interact with each other. <p>Additional topics that we may cover depending on the remaining time will be Galaxies & Cosmology, Telescopes and/or Search for Extraterrestrials.</p>	<p>HS-PS3-2</p> <p>HS-ESS1-6</p> <p>HS-ESS1-4 HS-ESS1-5</p> <p>HS-PS2-4</p> <p>HS-ESS1-2</p>

Readings & Required Text:

There is no official textbook for this course; however, there are a number of fabulous on-line resources that will be mentioned throughout the semester. Some are listed below.

Optional/Suggested Text:

On-line textbook: http://en.wikibooks.org/wiki/General_Astronomy
Free Open Source planetarium software: <http://www.stellarium.org/> HIGHLY RECOMMENDED!

Grading, Grading Categories & Percentages:

Student grades will be based primarily on their test and quiz scores (80% Test/Quiz/Projects, 20% Assignments/Lab Activities). Assignments and laboratory activities are designed to help students understand specific skills and/or concepts. Some students need more practice than others to become proficient at each skill and as such it is up to the student to decide how much practice they need to meet each standard. There will be frequent quizzes (typically once a week) each covering one or two specific concepts or skills related to the daily work which includes labs, activities, notes, videos, and anything else we do in class. **Some but not all** of the quizzes may be open note, so don't count on it. I will let you know beforehand. There will be a comprehensive test at the end of each unit that will generally be worth three to five quiz scores. Student scores will be averaged at the end of the grading period and assigned a grade according to the scale below.

Grading Scale:

GRADE	Earned Score	Equivalent % (Balanced)
A	90 – 100%	90 – 100%
B	80 – 89.9%	80 – 89.9%
C	70 – 79.9%	70 – 79.9%
D	60 – 69.9%	60 – 69.9%
F	0 – 59.9%	50 – 59.9%

Earned scores of less than 50% will be adjusted to 50%.

Reassessment:

Students may retake quizzes according to the new retake policy.

A student is allowed to retake any summative assessment and receive full credit, up to ten (school) days after the original summative assessment has been graded and the score communicated to the student. After ten days, the eligibility of the retake will expire unless prior arrangements have been made with the teacher. The teacher may require evidence of learning/additional practice prior to the retake. The testing center will be available during the school day.

It is important for students and parents to understand that test and quiz retakes are there as a safety net and should not become a habit. It is the student's responsibility to use the initial quiz and assignments as a guide to learning the material BEFORE retaking a particular concept quiz. Students are also encouraged to come in for additional help as needed. Remember, YOU, YOU, YOU are responsible for your learning and your grade. If you are gone, check with me to see what you missed. Missing work receives a zero and that is the one reason people will do poorly in this class. If you are present and actively involved in YOUR learning, you should do fine.

Make-up & Late Work Policy:

Students need to do the work in a timely manner. Students who are absent will have extended time to make up work, but not unlimited time. Students who have been absent should talk to the instructor when they return to class to make arrangements for make-up work.

Incomplete/No Grade Policy:

Since retakes on tests and quizzes are offered throughout the semester, a No Grade (N or NG) designation will only be considered for extenuating circumstances. A contract of expectations must be agreed to and signed before the end of the semester which indicates what the student needs to do, and a timeline in which to accomplish remediating an NG to a letter grade.

Cheating/Plagiarism Policy:

Cheating/plagiarism will not be tolerated. Any student caught cheating will face disciplinary action. See student handbook.

Cell phone Policy:

As a general rule, students should not use their cell phones in class. Students are expected to turn off their cell phone/electronic device and stow it in their backpack, purse or pocket at the start of class for the duration of the class. The first violation the student receives a reminder warning, the second violation the phone will be confiscated and locked up for the student to pick up at the end of class and parents will be contacted. Subsequent violations result in the phone being sent to the administration. There will be times when cell phones may be used during class for class work, however, if the cell phone is not being used appropriately during these times the above rules will apply. *Students need to learn when it is and is not appropriate to use their cell phones and as a general rule, class time is not the time for cell phone use.*

Attendance:

Please see student handbook for the current attendance policy as they have changed this year. Two specific changes are summarized below:

- 1) The expectation of Glencoe High School is that all students are punctual to all classes. If a student arrives to a classroom after the tardy bell, within the first 10 minutes of the class period they will be considered tardy.
- 2) The consequence for any *unexcused* tardy, is one day of After School Detention, to be served from 3:45-4:30pm. Detention will begin no later than three days after the detention is assigned.

ASTRONOMY

Students and Parents/Guardians – Please provide your signature below indicating you have read and understand the requirements and expectations listed above for Astronomy.

Student Signature & Date

Parent/Guardian Signature & Date

Please print student name

Please print parent's or guardian's name

Please read the syllabus carefully, print a copy of the fourth page, sign it and return it to Mr. Gibbs