

PISCATAWAY TOWNSHIP SCHOOLS
COURSE SYLLABUS

Course Title: Astronomy

Textbook: Investigating Astronomy: Slater/Freedman

Teacher: Mrs. Bontempo

732-981-0700

ebontempo@pway.org

Extra help Wednesday after school, other days/times by appointment.

Course Description: **Astronomy** is a 2.5 credit, half year course for students in grades 11 and 12. This course consists of the study of various celestial objects and their movement. Some topics include: Kepler's and Newton's Laws; the sun and the moon; stars; stellar evolution; galaxies; comets; and cosmology. The planetarium facility will be used to supplement resources.

Course Schedule: Scope and Sequence	
Approximate Time Frame	Topic
First Marking Period	<p>Topics: The Scale of the Cosmos, The earth and sky; Modern Astronomy</p> <p>Specific Content: Discuss the Big Bang Theory and Doppler Shift Identify parts of celestial sphere and use it to locate objects and describe motions and appearance of the night sky Describe how the night sky is different in different locations Explain the change of Seasons Explain the moon's appearance and motions in the sky Explain and show the phases of the moon Identify Scientists who made a contribution to Modern Astronomy Explain ellipse geometry and eccentricity of planetary orbits Apply Kepler's three Laws of Planetary Motion Name the major regions and differences between parts of the electromagnetic spectrum</p>
Second Marking Period	<p>Topics: The Stars; Stellar Evolution</p> <p>Specific Content: Explore fusion and how it powers the Sun Describe how Parallax is used to measure the distance to the stars Give a general description of stellar spectra and explain how they divide into spectral class Explain the difference between apparent and absolute brightness Describe the H-R Diagram Compare Red Giants, White Dwarfs with our sun Define stellar evolution List the stages in a stars life cycle Describe energy balance and pressure balance in a main sequence star Compare and Contrast what happens in the advanced stages of life of large, average and small stars</p>

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Materials Provided:

- Textbook

Materials needed for every class:

- A Folder
- Pencils, pens, and a highlighter

Computer access and Web Resources:

Students will need access to a computer to complete assignments and access web resources in and beyond the classroom. Students can access computers outside the classroom at various locations within the school during homeroom and after school. Students can also access computers at the public library.

Class Rules

1. Be on time and prepared to learn with materials, pens, folder, etc.
2. Be respectful of the teacher, students and classroom with your language and actions.
3. Follow directions the first time they are given.
4. No personal electronic devices should be used or visible during instruction unless given permission by the teacher. Phones should be put in assigned locations for participation points.
5. No food or drink, this is a science laboratory.

*Observation of all Piscataway High School rules and regulations as noted in the official student handbook.

Classroom Procedures:

Entering classroom:

- Put any homework assignments, labs, etc. in correct class bin
- Put Phone away
- Write down any homework assignment
- Begin Do Now

Leaving Classroom:

- All materials cleaned up and put back where they were
- Log off computers (if used)
- Stay in seat until bell
- Wait to be dismissed

Disciplinary Action:

- First offense- warning
- Second offense- 15 minute teacher detention (before/after school, during lunch if needed)
- Third offense- Phone call home
- Fourth and each additional offense- Administrative write up

Absences and Assignment Deadlines:

The class is based on in class group investigation. Absences should be avoided at all costs. Sometimes an absence is unavoidable. Students are then required to investigate the missed material on their own time. Papers will be left in the period folder on the bulletin board by the back door. It is the students responsibility to get the work they missed.

Meeting deadlines is an important demonstration of responsibility. Students are encouraged to hand in all assignments when due. However, some assignments will be accepted late for reduced credit.

- If absent on an assignment due date, the assignment due date is extended by the number of consecutive days missed per school policy. Students missing only "test day". Should be prepared to take the test on the first day of return.
- Missed quizzes, labs and tests must be made up within 1 week.
- Homework is not accepted after the date checked.
- Lab reports and projects will be accepted late but at reduced credit. (-10 points) All assignments after 1 week late require a note from home upon submission for grading. No assignment will be accepted after 2 weeks or the announced last due date for the assignment or marking period.

Grading Distribution:

Students will be assessed on a variety of assignment (labs, projects, homework, class work), exams (tests and quizzes), and class participation. Each graded assignment will have points assigned. A student's grade for the marking period is determined by the percentage of points earned /points available within a particular category. While an individual marking period may vary, the target point weights for each category is given below.

- Class Participation: 15%
- Classwork/Homework: 15%
- Tests/Quizzes: 40%
- Projects/Labs: 30%

*Extra credit assignments are available relating to Astronomy in our daily lives, current events or science careers upon need for pass only. Extra credit will not be given out within a week of the end of the marking period. If you are in danger of failing- take action EARLY.

NOTE: PLEASE do not wait to ask for help! I am here to help YOU understand and learn. Asking for help shows me that you are a serious student, concerned about learning, and that goes a long way. If you are planning on staying for extra help, please let me know in advance.

Please return form for HW grade.

Please note student and parent email addresses are very important!!!

Student Name: _____ Class Period _____

I have read and understand the syllabus for Astronomy.

Student name printed

Student signature

Parent/guardian name printed

Parent/guardian signature

	Preferred number during school hours	Parent/Guardian 1 Information Name	Parent/Guardian 2 Information Name	Student Information
Home phone number				
Work phone number				
Cell phone number				
Email address *important				

Does student have Asthma or Allergies? _____

For the students:
What do you like most about science?

Complete the sentence:
In Astronomy class I hope to _____.

What extracurricular activities are you involved in? (Jobs, sports, clubs, etc.)?

What are you planning on doing after you graduate from high school?

What are you planning on doing for a career?

Please share any additional information you feel pertinent to this science class.

I am glad you are in my class and I am looking forward to helping you achieve your goals.

Sincerely,

Mrs. Bontempo

