

Class: TuTh 11:00AM – 12:15AM

Instructor: Stéphanie Plante, stephanie.plante@gcccd.edu
Office 332
Ext.: #7351

Office Hours: Mo 2:00PM-4:00PM
Tu 2:00PM-3:30PM
Th 2:00PM-3:30PM

Prerequisites and Corequisites

None.

HOWEVER, you should realize that astronomy is a science. While this course emphasizes primarily qualitative comprehension, a quantitative familiarity is vital to some concepts. As such, you will occasionally be expected to identify and explain the relationships among variables given in mathematical formulae and to perform basic calculations and/or graphical analyses with a proficiency equivalent to that encountered in high school algebra. We may briefly review necessary mathematical concepts as needed.

Materials

Required:

- Textbook: *Discovering the Universe, 7th edition*, by Comins & Kaufmann (2005, W.H. Freeman & Co., ISBN: 0-7167-6960-3);
- Workbook: *Lecture Tutorials for Introductory Astronomy 2nd edition* by Prather, Slater, & Adams, (2008, Pearson Prentice Hall, ISBN: 0-13-239226-7);
- Reliable access to the Internet (available in campus computer labs).

Suggested:

- Calculator with scientific functions;

Purpose, Objectives and Instructional Philosophy

Why do we have seasons? What causes the moon's phases? Why does the night sky look different during different times of the year? How does a telescope work? How are stars born and how do they die? How does the Sun shine? How does a planet form? What are other galaxies like? How did the Universe form and how is it now?

These are just a few of the questions we will address on our journey through the Cosmos. The overarching goals of the course are for you to

- Witness, appreciate and employ the nature and process that is science through the eyes of astronomy;
- Realize the relevance of astronomy to your everyday life;
- Comprehend the main ideas and develop the 'big picture' in astronomy; and
- Foster a lifelong interest in astronomy and relevant current events.

I hope to convey to you some of the excitement and satisfaction that astronomers derive from investigating and understanding the physical world around us, while simultaneously inspiring you to do the same!

Traditional lectures will be augmented by collaborative learning exercises such as Lecture Tutorials, Ranking Tasks, demonstrations, group discussions and presentations, and short writing assignments. Some, but not all, of these activities will be handed in and graded. There will also be periodic homework assignments and quizzes. More information on these components and how they contribute to your overall course grade follow in the next section.

Course Format and Grading

Reading assignments are given for each week. You are responsible for all material contained in the reading assignments, regardless of whether it is specifically covered in a lecture.

Your overall grade in the course will be determined by your performance in four areas:

1. Class participation and activities

Your grades on the various activities that will take place during each class are for ‘effort’ rather than correct answers. By ‘effort’, I mean that the quality and thoughtfulness of your responses and direct measures of the effort you expended learning the concepts and how seriously you took the assignment. In-class activities may include, but are not limited to:

- Lecture Tutorials: these are designed to be completed by working with classmates and by writing complete, thorough responses. While most won’t be submitted for formal grading, the questions contained in them are quite similar to actual quiz questions and the thought processes required to complete the exercises are essential to your success on other quiz questions. Therefore, you should consider these activities a CRITICAL component to your success in the course and a valuable study guide.
- Ranking Tasks: just like the Lecture Tutorials, you are expected to give thorough, detailed responses as these are also similar to actual quiz questions.
- Group Work: occasionally, we will break out into groups to discuss a particular concept, idea, demonstration, or questions designed to aid and assess your learning. Often times this will culminate in your group providing a written response to the task at hand.
- Oral Presentation: You will have to prepare a short (5-8 minutes) presentation on a specific body of the solar system. More details will be given later in the semester.

2. Homework

These assignments may consist of, but are not limited to, short essay or discussion questions, and mathematical problems. They will be collected at the BEGINNING of the class. This is very important as we will discuss the answers in class. If you miss class when it is time to turn in homework, you will receive a ZERO for this assignment.

Late homework will not be accepted for any reasons. You may send your work with a classmate so that he or she may turn it in for you (not recommended though, as there will be a quiz on the same day too, and your friends can't do it for you...). Your lowest homework grade will be dropped.

The grading rubric for the 'effort' scale utilized in grading in-class activities and homework is below.

Points	Guidelines
4	Thorough, detailed, correct response; maybe one minor science content error.
3	Major ideas present, but abbreviated or somewhat incomplete explanation/description; more than half the science content correct.
2	Thoughtful response, but major errors in the science content; or obvious incompleteness.
1	Very incomplete or abbreviated explanation/description and major errors in science content; OR unreadable.
0	No meaningful attempt worthy of grading.

3. Weekly Reading Question

A reading question will be posted on Blackboard (<http://bb.gcccd.edu>, more details on the first period of class) right after the last class of the week. You will have until 8AM on the day of the following class to answer this question. The answer to it can be found in the assigned reading for the week. The obvious objective of this grading rubric is to encourage you to READ BEFORE CLASS!

The question will be in the section "Assignments".

4. Quiz

Five (5) regular quizzes will be administered during the semester. **No makeup, early or late, is permitted for any reason.** I will drop your lowest of the five quiz scores. If you miss one, you will receive a zero and it becomes your dropped grade. The quizzes are multiple choices and you should bring a number two pencil to class those days.

Course Grade:

Your letter grade is based on your absolute score. There will be no curve, i.e. no competition. It is in your best interest to take the assignments seriously and help each other learn astronomy.

Component	Contribution	Score Range (%)	Grade
Class Participation and Activities	15% (5% for presentation)	90 – 100	A
Homework	25%	80 – 89	B
Weekly Reading Question	15%	70 – 79	C
Quizzes	45%	60 – 69	D

Incomplete will not be issued nonchalantly and can only result from 'incomplete academic work for unforeseeable, emergency, and justifiable reasons.' See the College Catalog for further information.

Class Conduct

Cell phones, pagers, PDAs, any electronic communication devices, headphones radios, CD players, iPods, etc. are all prohibited during **examinations**. If you bring any of these items to any of the exams, you must leave it with me while you take the quiz and can retrieve it when you are finished. Any deviations from this policy will result in an automatic zero. Cell phones, pagers and alarms must be **TURNED OFF** during class; not even the vibration mode is allowed! Eating and drinking anything else than **WATER** is prohibited in the classroom.

Attendance

Attendance is mandatory and will be recorded at each class meeting. As this class is built around daily activities, group work, and discussions that supplement the lectures and text, your attendance and participation in class will be an essential component of your success in the course and will contribute to your overall course grade.

Do not be late to class, as this will make you lose participation points for this class!

Not only is tardiness disrespectful to the rest of the class, but is deprives you of valuable information and the active engagement learning environment.

There is no makeup work (see the section on 'Course Format and Grading'). Missed in-class assignments will result in zeros. In accordance with College policy, students may be dropped after missing three hours of class. Students who miss more than 4 class meetings or 2 quizzes will be dropped regardless of the reason for the absence.

Academic Integrity

Cheating and plagiarism (using as one's own ideas, writings or materials of someone else without acknowledgement or permission) can result in any one of a variety of sanctions. Such penalties may range from an adjusted grade on the particular exam, paper, project or assignment to a failing grade in the course. The instructor may also summarily suspend the student for the class meeting when the infraction occurs, as well as the following class meeting. For further clarification and information on these issues, please consult with your instructor or contact the office of the Assistant Dean of Student Affairs.

Collaboration

Science is a collaborative effort. Therefore, you are expected to work with your classmates, share ideas, discover together, and learn from each other. However, you must adhere to the rules:

- Clearly indicate your partner's name(s) at the beginning of all collaborative work;
- Distribute work fairly with each person making an equal contribution to all parts;
- Everyone writes his or her own notes, reports, homework, etc. (unless otherwise instructed);
- Everyone turns in his or her own work (unless otherwise instructed).

Students with disabilities

Students with disabilities who may need accommodations in this class are encouraged to notify the instructor and contact Disabled Students Programs and Services (DSP&S) **early in the semester** so that reasonable accommodations may be implemented as soon as possible. Students may contact DSP&S in person in room 110 or by phone at (619) 644-7112 (voice) or (619) 644-7119 (TTY for deaf).

Supervised Tutoring Referral

Students are referred to enroll in the following supervised tutoring courses if the service indicated will assist them in achieving or reinforcing the learning objectives of this course:

IDS 198, Supervised Tutoring to receive tutoring in general computer applications in the Tech Mall;

English 198W, Supervised Tutoring for assistance in the English Writing Center (Room 70-119); and/or

IDL 198T, Supervised Tutoring to receive one-on-one tutoring in academic subjects in the Tutoring Center (Room 70-229, 644-7387)

Tentative Class Schedule

Details will be given at the beginning of each class!

Week	Date	Topic	Chapters covered
1	Tue 1/29	Introduction to course; powers of ten, distances. The constellations. ADT.	1-1 and 1-2
2	Tue 2/5	Motion of objects in the sky. Celestial Sphere.	1-3 to 1-6
3	Tue 2/12	Solar vs. Sidereal Day; Seasons; Moon Phases and Eclipses.	1-7 to 1-13
4	Tue 2/21	Quiz 1 Homework 1 due	
5	Tue 2/26	From the Greeks to Tycho Brahe; Kepler's and Newton's Laws.	2
	Fri 2/29	Last day to apply for credit/no credit grade.	
6	Tue 3/4	Light. Optical Telescopes. Non-optical telescopes	3
7	Tue 3/11	Blackbody radiation, atoms, spectra, Doppler shift.	4
8	Tue 3/25	Quiz 2 Homework 2 due The Earth and Moon. Presentations on the Solar System.	6, 7, 8, 9
9	Tue 4/1	Presentations on the Solar System. Comets and minor bodies; The Sun.	6, 7, 8, 9, 10

10	Tue 4/8	Solar System: formation and models. Stellar distances and magnitude system.	5, 11-1 to 11-3
11	Tue 4/15	Quiz 3 Homework 3 due Stars physical parameters and HR Diagram.	11-4 to 11-14
12	Tue 4/22	Stellar evolution. Death of stars.	12, 13, 14
	Fri 4/25	Last day to withdraw from course.	
13	Tue 4/29	The Milky Way and galaxy classification.	15 16-1 to 16-5
14	Tue 5/6	Quiz 4 Homework 4 due Other galaxies; distance indicators. Peculiar galaxies and galaxy clusters.	16-6 to 16-13 17
15	Tue 5/13	Expansion of the Universe and the Big Bang.	18
16	Tue 5/20	Review; ADT.	
Exam Week	Tue 5/27	Quiz 5 (Final, cumulative) Homework 5 due <u>11:30AM-1:30PM</u>	