

PSC 203
Elementary Astronomy
Spring 2009
Course Syllabus

Instructor information:

Dr. Jennifer Cash
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Science, CSMET
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Office: Hodge Hall 317

Office Hours:

Monday 10:00am – 11:00am
Tuesday 11:00am – 12:00pm
Wednesday 11:00am – 12:00pm
Friday 10:00am – 11:00am
Friday 1:00pm – 4:00pm
Or by appointment **

Class meeting times:

Lecture Meets Tuesday, Thursday 9:30-10:50 AM in Hodge Hall Room 219

**some lectures will meet in the Planetarium, you will be informed of these dates at least one week in advance

Textbook:

"Pathways to Astronomy" by Stephen Schneider and Thomas Arny

Course website: <http://physics.scsu.edu/~jcash/astro/>

Course Description:

This course is a conceptual, descriptive, guided exploration of the cosmos within which we live. This course should appeal to everyone with an interest in astronomy and especially to those planning to teach science on the junior high or high school levels. Students need no training in mathematics but may find knowledge of algebra, geometry, and trigonometry helpful. Areas of focus include: the history, foundations, and tools of astronomy; the solar system; the nature, variety, and formation of stars; galaxies, cosmic origins, and the search for life in the cosmos.

Course Rational and Objectives:

This course, through its content and activities, prepares the students to be "reflective decision makers" and "effective performers" in a technological society. Students will be exposed to a broad base of the science of astronomy and an understanding of how astronomers know what they know about the universe we live in. In addition, the instructor hopes the students will develop a genuine appreciation for the field of astronomy and the beauty of the universe.

Course Competencies and Expected Measurable Outcomes:

In general, the successful student will, upon completion of this course,

- have an accurate understanding of the astronomy concepts presented,
- recognize and accurately use the vocabulary of astronomy presented,
- be able to recognize and explain events related to the day and night sky,
- understand our place in the solar system, galaxy, and universe,
- describe the main characteristics of the heavenly bodies studied,
- understand the basic physics influencing astronomy such as gravity and electromagnetic waves,
- perform simple calculations related to the concepts presented,
- accurately describe the life cycle of stars and explain the variety of stellar properties seen in space,
- and explain the basic picture of the known universe.

Outline of Course Content:

The following topics will be covered this semester

1. Introduction to Astronomy
2. Observations of the Sky
3. The Sun-Earth-Moon System
4. The Solar System
5. Physical Processes in Astronomy
6. The Sun and Stars
7. Galaxies and Beyond

A more specific lecture and exam schedule for this semester will be developed based on class input at the beginning of the semester. If changes to the schedule become necessary, the instructor will inform you as soon as possible.

Library Assignments:

Reading assignments for this course come from the textbook or from the internet.

Students will also be expected to read additional information for some WAC assignments. No specific Library Assignments will be given.

Special Course Requirements:

- Students will be expected to participate in observational projects outside of normal class times. Students will be presented with a variety of projects that should accommodate the schedules of most students.
- The internet will be used in this course to facility the learning process. Students will be expected to access assignment information on the internet. Additional resources such as lecture notes and study links will also be available on internet.

Method of Evaluation:

The grades for this course will be determined according to the following breakdown. Refer to the descriptions of each item below the table.

If changes to this grading scheme become necessary the instructor will inform you as soon as possible.

| | |
|-------------------------|-----|
| In Class Activities | 25% |
| HW and Outside Projects | 25% |
| WAC Writing Assignments | 10% |
| Exams | 40% |

In Class Activities:

During most lecture sessions, students will be given various activities related to the lecture material. The purpose of these activities is to help explore, explain or review the concepts of the lecture. The activities will generally use materials provided by the instructor in class, but your textbook may also be used in these activities.

The activities may be group activities, individual assignments, or a combination of both. All activities will be completed and turned in before leaving the lecture. Since in class activities will be hand-written, students must ensure that their writing is legible.

Students who miss a lecture session may arrange to make up the in-class activity for full credit with an excused absence or partial credit if the absence is unexcused. In either case, the student is responsible for arranging the makeup work and must contact the instructor and complete the work within one week of the absence.

Homework:

Students will be given simple pre-lecture homework questions based on the reading assignments listed on the lecture schedule. These questions are designed to help the students focus their reading in the textbook to prepare them for lecture. The pre-lecture homework questions should be turned in at the beginning of each lecture. Late “pre-lecture” assignments will not be accepted without excused documentation. Students who miss a lecture should check the course website or contact the instructor prior to the next lecture to get the next pre-lecture assignment.

Most weeks, students will also be assigned a summary homework designed to focus their study of the lecture notes and prepare for exams. Students may type or handwrite their homework, but must ensure that all homework is legible to receive credit. Homework assignments will be announced in class, on the course website and posted on the instructor’s office door. Students will have one week from the date homework is assigned until it is due. Late homework submissions will receive a penalty of 10% per day and will not be accepted more than 1 week from the due date.

Outside Projects:

Over the semester, students will be expected to complete several projects outside of class. The projects are designed to give students hands on experience in astronomy and explore concepts in detail. Students will be allowed to select the projects they work on from a short list of possible topics. Two of the projects will involve observations of the Moon, Sun or stars. The instructor will carefully provide a range of observational choices to accommodate the varying schedules of students and allow for weather constraints. Other projects will be chosen by the student from a variety of topics and methods. If you have concerns about your ability to complete an assigned project, contact your instructor early and they may be able to create an alternative project that will meet your unique situation.

"Writing Across the Curriculum" Assignment (WAC):

Throughout the semester, you will be working on a several writing assignments to fulfill the University requirements of WAC. The assignments serve the dual purpose of assessing your understanding and developing your communication and writing skills. If you are unclear on what the instructor expects for any writing assignment, it is your responsibility to contact the instructor for clarification. The assignments will be given in class and posted on the course website and instructor's office door. You will have a minimum of one week from the assignment until the due date. Late writing assignments will receive a penalty of 10% per day and will not be accepted more than 1 week from the due date. Some writing assignments will include an optional second revision stage where you can rework your paper for a higher grade. All writing assignments must be typed.

Copying someone else's words (either exactly or with modifications) is called plagiarism and will result in an automatic grade of zero on the assignment.

Exams:

In this course, you will be tested on lecture and readings materials throughout the semester as well as a comprehensive final exam at the end of the semester. The instructor will provide the dates and topics for each exam at least one week before the exam. The lecture exams will be given during a regular class period and will be mostly multiple choice and short answer. The final exam will be held during the officially scheduled time block in finals week and will cover material from the entire semester and may include multiple choice, short answer, or essay questions.

Any student who has an excused absence that will prevent them from taking an exam on the normally scheduled date must contact the instructor before the exam. In the case of an emergency, the student should contact the instructor no later than the day of the exam or be prepared to provide documentation for both their absence and inability to contact the instructor in a timely manner. Students with excused absences who contact the instructor on or before the exam date will be allowed to take a makeup exam without a penalty to their test score. Students who do not have an excused absence or contact their instructor after the exam date may still complete a makeup exam but will have an automatic 20% penalty on their test score. ***In either case, excused or unexcused, students must complete the makeup exam within one week of the original exam date.***

Grading Scale:

| Percentage | Grade Earned |
|-------------------|---------------------|
| 90.0% - 100% | A |
| 80.0% - 90.0% | B |
| 70.0% - 80.0% | C |
| 60.0% - 70.0% | D |
| less than 60% | F |

Class Policies:

Classroom Behavior:

Students are expected to conduct themselves in a professional manner conducive to the learning environment. Please remember that the students around you are paying for the opportunity to be in this class and learn. Students that are disruptive will be asked to leave the classroom. Specifically:

- Cell phones should be turned off during class (see specific policy below)
- Students who must come in late or leave early should do so quietly
- Discussion in class should be limited to the material in the lecture during specified discussion times
- Students who have questions or wish to answer a question should raise their hands to be called on
- Inappropriate language including profanity, harassment, or degrading statements will not be tolerated

Cell Phones:

The use of cell phones, beepers, or electronic devices during class is prohibited. Turn them off. If for some reason you need to bring a cell phone or other item to class, discuss your situation with the instructor ahead of time.

*** For exams: Since all kinds of information can be stored on or transmitted to an electronic communication device, the use of any such device will be considered cheating. If you answer or look at the display of your cell phone or other electronic communication device during an exam, I will take your exam immediately and you will get a grade of zero for the exam. ***

Attendance:

Attendance is very important to your success in this course. You should avoid arriving late or missing an entire lecture if at all possible. If you must miss a class, it is the student's responsibility to get notes on the material covered in lecture and contact the instructor as soon as possible (see the further details under the excused and unexcused absences sections).

Excused Absences:

If you miss a lecture, contact the instructor as soon as possible to determine if the absence may be considered excused. Absences that may qualify as excused include: official school activities, medical emergencies, a death in the immediate family, and court appearances. Other reasons may also qualify as an excused absence at the sole discretion of the instructor. You will need to provide documentation to receive an excused absence. An excused absence will allow you to makeup any missed work for full credit without penalty provided you complete the missed work within one week of the absence. If a student has an extended excused absence, such that they are unable to complete missing work within the one week time period, they must contact the instructor as soon as possible to make arrangements regarding the missing work. If the student does not contact the instructor within one-week of the excused absence, they will not be allowed to makeup the work that they missed.

Unexcused Absences and Unexcused Late Work:

If you miss a class for any reason not qualifying for an excused absence, you should still contact the instructor as soon as possible. You will be allowed to makeup any in-class activities or exercises you missed for partial credit, provided you complete the missed work within one week of the absence. A summary of all class assignments will be posted with the due date on the course website. Late submissions will receive a penalty of 10% per day and will not be accepted more than 1 week from the due date. Students with extended unexcused absences may contact the instructor about submission of late work; however, it remains solely within the instructor's discretion if the work will be accepted for partial credit.

Academic Dishonesty:

No cheating or attempts to cheat will be tolerated. If anyone is caught cheating or attempting to cheat, the penalty is an immediate ZERO on the work involved. This grade of zero will not be dropped. A second offense will result in an automatic grade of F in the course. This policy includes in-class exercises, homework, writing assignments, and tests.

Additional Assistance:

If you are having any difficulties in this course, please contact the instructor as soon as possible. This includes missed work, questions on grading or your status in the course, and difficulties with either the concepts or technical aspects of the course. Ask questions and be active in your education. I am available to you in class, during office hours, by email and phone, and outside of office hours by appointment. The earlier we address your difficulties, the more options will be open to you.