

Astronomy 100 Spring 2013 Course Syllabus
Instructor: Dr. Jeanne Digel
Time: Monday from 11:10 am-12:25 pm

CRN 43391
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Place: 21-100

This course is a hybrid class, a mix of face-to-face meetings once a week with additional on-line learning assignments as described below.

Required Texts: Perspectives on Astronomy by Seeds and Backman and Lecture-Tutorials for Introductory Astronomy by Adams, Prather, and Slater.

On-line Resources

This course has a WebAccess site that can be reached at smccd.mrooms.net. Log in using your student g-number as your user ID and your birthday (as a six digit number e.g. 082407 for August 24, 2007) as your password. The course website contains the syllabus, course schedule, office hours schedule, homework assignments as they come up, and links to the course extra credit assignment. Practice exam questions will be posted before each exam.

All communications for this course will be conductive through WebAccess and through your district supplied my.smccd.edu e-mail. You must regularly check this e-mail to take this course.

How this course will work:

During the Monday lecture period the new concepts for the week will be introduced. Throughout the remainder of the week students will work to master the concepts through on-line lessons and on-line collaboration on the exercises in Lecture-Tutorials for Introductory Astronomy.

In addition to the on-line work there will be three mid-term exams and a cumulative final. The exams will be done on line. They are one hour exams, typically with a three day window for student completion.

Grading

Grades will be determined as follows:

Lecture-Tutorial Exercises (submitted on-line)	15%
On-line Lessons	15%
Best two of three mid-terms	20% each

Final exam

30%

Lecture-Tutorials: Lecture-Tutorial exercises are found in the required text by Prather et al. Students will be broken into groups of five to write answers to the Lecture-Tutorial exercises using an on-line wiki set-up for their group. The completed answers should be agreed upon by Friday evening. Starting mid-night Friday each group's results will be posted. Students will then be required, as part of the grade to comment on the work of another group using the following rubric.

2 pts. Question is answered correctly.

2 pts. Answer is complete with enough detail to understand the logic of the answer.

1 pt. Writing is clear and grammatically correct.

Students are asked to choose which evening of the week they prefer to work on the Lecture-Tutorial and will be assigned to groups accordingly. Contact the instructor if you wish to work with specific people or to be reassigned to another group during the semester.

When you are reading the work of other students (or your own work) ask yourself "Can I figure out how to solve this problem based on what is written?" A well written answer, here or in the on-line lessons can be understood by someone who didn't know the answer ahead of time.

On-line Lessons: At a rate of roughly one a week there will be lessons open on-line covering the various course concepts. The lessons consist of a series of conceptual exercises, each with a short essay portion where students are asked to describe how they solved the exercise. When you've completed the exercise it should show a final grade of about 50%. Multiple choice questions are graded automatically but I have to read and grade the essays myself. The exercises can be done more than once, in whole or in part, up until the lesson closes. Your final score will be based on the combined highest scores for each question.

Honors Contract: Honors credit for this course can be earned through completion of a technical writing project on a current topic in astronomy and astrophysics. The project should be an in-depth investigation of some aspect of a current astronomical mission such as the Mars Curiosity Rover or the Van Allen Probes. The contract must be agreed upon by the week of March 1st.

Extra Credit: Visit NASA's Astronomy Picture of the Day, on-line at <http://apod.gsfc.nasa.gov/apod/>. Write a paragraph or two describing the image and what it is about. Turn in up to 15 of these (one per week) for up to 5% extra credit. This activity is best submitted on-line using the APOD links found near the bottom of the WebAccess page.

Exam Make-ups will be available, but only to students who notify me of the need ahead of the exam. If you send me an email before the exam closes then I will give you a make-up, if you send me an 10 minutes after the exam closes I will not.

Student Learning Objectives:

- 1.) Students will be able to describe the cause of the seasons.
- 2.) Students will know the major difference between the inner and outer planets and the cause of the differences.
- 3.) Students will be able to correctly identify different classes of stars based upon their position on the HR diagram.

Accessibility: Students with disabilities who need reasonable accommodations are encouraged to contact the instructor. The Disability Resource Center (DRC) is available to facilitate the reasonable accommodations process. The DRC is located in building 5 room 303 and can be reached by telephone (650) 306-3259, TDD: (650) 306-3161 or by email (blokr@smccd.edu).

Tentative course schedule:

Updates will be posted on WebAccess

Week of:	TOPIC	REQUIRED READING
1/14	Course Introduction, Motion of the Stars in the Sky	Chapter 1, 2-1 and 2-2
1/21	Motion of the Sun. MLK on Monday, no class meeting.	Chapter 2-3
1/28	Cause of the Seasons	Chapter 2-3
2/4	Moon Phases	Chapter 2-4 and 2-5
2/11	1st Mid-Term	
2/18	Oribts, President's Day Monday, no class meeting.	Read 3-1 to 3-4
2/25	Kepler	3-5
3/4	Newton, Solar System	Chapter 13
3/11	Planets, Formation of the Solar System	Chapter 14, 12
3/18	2nd Exam,	
3/25	Sunlight and Starlight, Blackbody Radiation	4-1, 5-2, 6-1 to 6-3
4/1	Spring Break Week	
4/8	Spectral Lines, Types of Spectra, Doppler Shift	5-3 to 5-5, 6-3 and 6-4
4/15	Apparent and Absolute Magnitude Types of Stars, The HR Diagram	2-1, 6-6, 7-1, 7-2
4/22	Life Cycles of Stars	7-3, 7-4, 8-1 to 8-6
4/29	3rd Mid-term	
5/6	Types of Nebulae, Milky Way Galaxy, Light Travel Time, Other Galaxies	Chapter 9, 10
5/13	The Expansion of the Universe, High Energy Phenomena, The Early Universe	Chapter 11
5/20	Final Exam this week	