PHYS 102 – Introductory Astronomy of the Solar System, Spring, 2005

Class Schedule	M, T, W, Th	1:00 - 1:50 PM	Lind 215
Instructor	Bruce Palmquist	Lind 201	963-3142
Information		e-mail	palmquis@cwu.edu
Office Hours	M, T, W, Th	1:50 - 2:50 PM	
		Other times by appointment	

Course Description

The purpose of this course is two-fold. Obviously, the primary goal is to help you learn astronomy. As much as possible, we will look at the universe from the point of view of an educated person who looks up into the sky and wonders how things work "up there." You should not be concerned with memorizing a lot of facts. Obviously, an educated person must memorize some things. However, you should be more concerned with obtaining a general understanding of celestial phenomena than knowing precise details about celestial objects. For example, it is important to know the relative motions and positions of the planets. It is not as important to know their exact orbital and equatorial radii. The secondary goal of this course is to help you reason through problems in science.

I will not resort to lecturing very often. Instead, you will take an active role in your learning by solving "problems" and working on activities on your own, in small groups or as an entire class. Since I will not be following a strict lecture outline, and since we are using a field guide rather than a traditional textbook, the schedule below is only an approximate schedule. If we need to spend more or less time on a topic, the schedule will change. Also, the course calendar may be adjusted

Students are expected to attend each class meeting. Tests and other assignments in the course will be directed toward those concepts that are emphasized in the class sessions. It is very difficult to succeed in this course without regularly attending class.

Broad course goals

1. Use a star chart or planisphere to predict motions and positions of celestial objects.
2. Describe and/or explain, using words and pictures, certain celestial motions and phenomena.
3. Describe a variety of astronomy concepts.
4. Describe how we know certain characteristics (such as distances, compositions, motions) of celestial objects.
5. Display familiarity with a variety of celestial objects such as stars, planets, etc.

Required Resource Materials

Horizons, 8th Edition by Michael Seeds
Lecture Tutorials for Introductory Astronomy, 1st Edition by J. Adams, E. Prather & T. Slater
The Night Sky Planisphere, a star chart available in the SUB bookstore

Final Grades for the course will be calculated as follows:

		A	92 - 100%	A-	90 - 91%
B+	88 - 89%	B	82 - 87%	B-	80 - 81%
C+	78 - 79%	C	72 - 77%	C-	70 - 71%
D+	68 - 69%	D	62 - 67%	D-	60 - 61%
		F	<60%		

Grading Scheme

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Midterm exams (4/21, 5/19)	30%
Final exam (June 7, noon-2:00 PM)	20%
In-Class work/homework (various due dates)	25%
Project (due 5/26)	15%
Current topics summaries (due 4/14 and 5/12)	10%
	100%

General Schedule (Tentative)

Week of:	Assigned reading from "Horizons	Topics for the week
March 29	Chapters 1 (skim) and 2	Introduction to the sky
April 4	Chapters 3	Sky motions and models
April 11	Chapter 4	Foundations of astronomical science
April 18	Chapters 5	Astronomical tools
April 25	Chapter 6	Atoms and light
May 2	Chapter 7	The Sun
May 9	Chapter 8 (p. 132-136, 142-154) Chapter 9 (skim)	Properties and processes of stars
May 16	Chapter 16	Origin of the solar system
May 23	Chapter 17 and 18	Inner and outer planets
May 31	Chapter 19 and 20	Small solar system objects Life on other worlds

Explanation of assignments

Homework/In-class work: There will be a variety of homework and in-class assignments in this course. About once or twice a week, we will do an in-class activity that may or may not require some work outside of class. You will also get a few homework assignments. While you will not be explicitly graded down for missing class, missing class may result in losing in-class and homework assignment points. Late homework will be graded down 33% for each class day it is late. You may make up two in-class or homework assignments without penalty. It is your responsibility to find out what we do in class each day.

Generic scoring rubric for homework and in-class assignments.

- Assignment is complete and correct, nearly all relevant physical and astronomical principles appropriately applied, nearly all relevant steps described in complete sentences, all necessary and relevant sketches clear and complete (3 points)
- Assignment is partially complete, some relevant physical and astronomical principles applied, some relevant steps described, some complete sentences, some sketches (2 points)

- Assignment is incomplete and/or unclear, few or no relevant principles applied, single word answers (1 point)

Summary of a current topic in astronomy: You will write a summary of a current topic in astronomy. The summary can be based on public lectures (other than class lectures), articles in the press (newspapers/magazines/journals/internet), television programs, or videos published or presented since April, 2004. When you have found something to summarize, submit a portfolio approval slip to the instructor for approval. Your score will be reduced by 10% if you do not include an approved portfolio approval slip.

Current Topic Summary Rubric (10 points)

_____ Brief summary and citation of what was read, heard or watched.
One-two sentence abstract of the content, complete citation (1-2 points)

_____ What was learned
Clearly states what was learned, explains new facts and concepts, clearly relates to material from class or text (i.e., with page numbers or class dates), well written, learned something new (7-8 points)
Clearly states what was learned, explains new facts and concepts. Summary does not clearly relate to other class work. OR writing is somewhat unclear and hard to follow (5-6)
Clearly states part of what was learned OR writing is very unclear (3-4)
Brief, unclear statement of what was learned (1-2)

Project: You (and a partner, if you wish) will develop a brochure or written report describing the characteristics of a celestial object (other than the Earth), including the characteristics of life that would be needed to survive on that celestial object. There will be more information about this assignment in class.

Tests: The instructor will distribute a study guide before each exam. The final test will be comprehensive. Each test will have a variety of short, medium and long answer items. All tests will be closed book and closed note except for use of a planisphere.

Tests **can not** be made up unless you have made arrangements with the instructor before the test starts. Call and leave a message if you get in trouble in route to class.

Administrative notes: Any late assignment will be penalized 33% of the possible points for every class day that it is late unless you make arrangements with the instructor in advance of the due date. If you miss class, it is your responsibility to find out what assignments were made. Being absent on a day an assignment was made does not excuse you from turning it in when it is due.

Unless stated otherwise, assume the audience for your assignments is an educated person who is unfamiliar with the concepts you are trying to explain. It helps to have someone in mind such as another college student who is not taking this course. A good rule of thumb in writing is if you had trouble understanding something, your audience probably would, too. Thus, do your best to make the concept clear.

Honesty: You are individually accountable for the work you submit in this class. Any instance of cheating on an assignment or test will result in a grade of zero for that assignment or test. This policy on cheating includes, but is not limited to, using unauthorized resources on exams, copying another student's exam, copying another student's assignment, submitting someone

else's work as your own, and using information from outside sources without proper citation.

ADA Statement: Students who have special needs or disabilities that may affect their ability to access information and/or material shared in this course are encouraged to contact ADA Affairs and Students Assistance on campus at 963-2171 for disability related educational accommodations. No one should be excluded from learning in this course.

Assignment Diary

Homework/In-class work (various due dates)

Assignment name/due date	Score	Assignment name/due date	Score