

Syllabus
ASTRON0086
Observational Astronomy
Spring 2019
(3 Units)

Instructor: Dr. John W. Stein **Teaching Assistant:** Mr. Louis Coban
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Lecture Component:

Location: 104 Thaw Hall
Time: 6:00 - 6:50 PM Mon & Thur

Observing Component

Location: Allegheny Observatory (Bus is provided to & from)
Time: 7:30-10:30 PM Mon & Thur (You sign up for **one evening only**)
Bus Departure: 7:05 From O'Hara entrance to Allen Hall

Class Dates:

Jan 07 - Apr 25

Materials:

Text: None. Readings/Study Guides are in Course Web

Course Description:

Catalog: This course is for students who have a desire to become familiar with the nature and motions of celestial objects in the night sky and techniques to observe them. The course will be given at a level suitable for both science and non-science majors who want to learn how to use a telescope and enjoy observational and practical astronomy.

More Specifically: The Department of Physics and Astronomy offers a number of introductory astronomy courses that satisfy science distribution requirements, this is one of them. These courses all cover the basic topics of introductory astronomy, but differ in the emphasis given to the various topics and in topics covered. The emphasis of this course is hands-on astronomical observing. It is the only course in the set in which the students actually are trained in the use of several of the telescopes located at the University's Allegheny Observatory (a 20-minute bus ride from campus). Students learn to operate the telescopes, locate astronomical objects by their celestial coordinates, learn to use the Starry Night program to identify the objects seen in the telescope's field of view, learn to use CCD cameras to image the objects observed through the telescope, learn to operate an image processor program (MIRA) and to use this program to enhance

image detail, create tri-color images, create time-lapse movies of celestial events observed through the telescope and to measure the heights of lunar mountains based upon data gathered from moon images they have taken. Additionally, we review the origins and development of astronomy and of our knowledge of the solar system.

Grading Policy:

Course grades will be based upon test scores (40%), Research Project (30%), Workbook Exercises (10%) and attendance (20%)

Project/Observing scheduling will depend on the weather and cannot be specified in advance.

Tests: Unit tests will be given in class on the class following the completion of the unit. The schedule of test dates will be completed as the term progresses. There will, however, be 6 unit tests they will be...

Unit Test Scheduling			
Test Number	Unit Covered	Unit Subject	Test Date
1	1	Overview of Observational Astronomy	28 Jan (Mon)
2	2	The Night Sky	TBA
3	3	Telescopes	TBA
4	4	Astronomical Imaging	TBA
5	5	Image Processing	TBA
6	6	Project Background Lectures	25 April (Mon)

Project Talks:

Research Project Presentations..... Apr 25 (Thur)

While it is strongly recommended that you attend all the campus lectures, your attendance is required at the observing sessions. You are permitted one un-excused absence from the observing sessions. Afterward 10% will be deducted from your total course grade for each additional observing session you miss.

Course grades will be computed according to the following formula:

$$Grade = [0.4 \times T] + [0.3 \times R] + [0.1 \times W] + [20\% - 10\% \times O]$$

Where:

T = The average of your test grades

R = Your research project grade

W = The average of your workbook exercise grades

O = The number of observatory sessions you have missed over the allowed limit.

Example:

Suppose T= 87%, R= 92%, W= 90% and W= 80%. If you missed 3 observing sessions (O=2), then your course grade would be...

$$Grade = [0.4 \times 87\%] + [0.3 \times 92\%] + [0.1 \times 90\%] + [20\% - 10\% \times 2]$$

$$Grade = [34.8\%] + [27.6\%] + [9.0\%] + [20\% - 20\%]$$

$$Grade = 71.4\% (= C^-)$$

Which would give you a “C-” in the course.
(note: You would have had an A- (= 91.4%) were it not for the missed classes.)

The conversion from % grade to letter grade will be as follows:

97% - 100%	A+	77% - 79%	C+
93% - 96%	A	73% - 76%	C
90% - 92%.....	A-	70% - 72%	C-
87% - 89%	B+	67% - 69%	D+
83% - 86%	B	63% - 66%	D
80% - 82%.....	B-	60% - 62%	D-
59% or Less	F		

Academic Integrity:

Students in this course will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam

Driving yourself to the observatory (rather than taking the bus) is permitted. **For Directions to the observatory, see the next page...**

Observatory

Perrysville Ave

