

ASTRONOMY 101 Honors, Section AH (43447): SYLLABUS – Spring 2015

Course Schedule: Tue, 2:10 PM – 4:50PM in 8-8304.

Instructor: Prof. G. R. Grist

Office: 7-7320

Office Hours: 12:35 – 1:55PM and Thurs 12:35 – 1:55PM

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Required Materials: Miller Planisphere, Sextant Kit, suitable 3-ring binder, and a basic calculator.

Suggested Material: Any current college level astronomy text, such as *Astronomy: A Beginner's Guide to the Universe*, by Chaisson and McMillan or others.

Course Description and Prerequisites: This is an introductory course in astronomy laboratory practices for non-science majors. Topics covered will include the night sky and its apparent motion, the nature of light and its uses in astronomical investigation, stellar properties, distance measurements and foundations of cosmology. During the semester the student will work on a special project related to astronomy, to be completed by the end of the semester. The only prerequisite is Astronomy 100, which can be taken concurrently. As an introductory science course, this course requires no scientific background and no mathematical skills beyond basic algebra.

Course Goals and Student Learning Outcomes: The goal of this course during the next sixteen weeks is to introduce you to the field of astronomy and to the sciences in general. I will provide you with the basis you need for an understanding of the scientific method and a foundation in critical thinking. I want each student to walk away from this course with a new appreciation for astronomy and for modern scientific practices.

By the end of the term, students will...

1. Understand and be able to use the scientific method.
2. Use common tools to identify and determine the visibility of astronomical objects for a given location and time.
3. Have a descriptive understanding of the phases and motion of the Moon.
4. Exhibit a conceptual understanding of distance measurements for astronomical objects.

Help Sessions (Office Hours): Help sessions are the time to come and clarify your thinking, ask questions, kick ideas around, check on your answers on your lab exercises, and make sure that you understand the material. Posted times are drop-in, come and see me often. Other times may be available, just ask me!

Communication: Email is the one way to contact me outside of office hours. To protect student privacy you must use the college email system to communicate with me; I will do the same, as will the college. If you do not have a forward on your school email, go and do it now; see me if you need help. Be sure to list your name and section on all emails (e.g. Brian May, Lab X).

Course Activities: These are designed for you to get the most out of this experience.

Lab Write-ups - There will be approximately one lab exercise done in class each week; I will give you a handout/worksheet each week. These will be completed and turned in at the end of each class period. Your work must be neat and legible - if I can't read it, points will be lost. There are no make-ups, but I will drop your lowest exercise score. Once graded and returned, you must correct them and keep in an organized fashion in your lab binder.

Observations - There will be several observing assignments during the term. These are to be done outside of class on your own time. Two assignments will require you to visit an observatory and do observing with telescopes. The other assignments will require general field observing that can be done almost anywhere.

Honors Project - You will select a project to be completed over the course of the semester. See Honors Section handout for details.

Final Exam - There will be a final exam taken from some of the lab exercises. I will give you time to review the week before and you will be able to use your lab write-ups - this is why you will want to keep a complete and organized lab binder.

Attendance: Attending lab is required; completion of each day's lab exercise is done in class. If you miss three or more labs you cannot pass the course. Your presence in class is the only way for you to participate in class discussions, hear other student's questions or ask your own, participate in group work and take in-class quizzes. You are responsible for all material presented in class, including announcements about class procedures and scheduling.

Grading: The course grade will be based on the accumulated number of points weighted according to the following percentages:

Lab Exercises	55%
Observation Projects	15%
Honors Project	15%
<u>Final Exam</u>	<u>15%</u>
Total	100%

To do well in this course, you are expected to participate fully in the course activities. This includes three completed field observations which are done outside of the scheduled class hours. This is a college level course. College level work is expected for all assignments.

Your final letter grade is based on the percentage of the total number of points, rounded to the nearest integer. I reserve the right to bump your final grade up a bit if you show marked improvement during the course. The cutoffs are as follows:

A: 88% B: 75% C: 62% D: 50% F: <50%

Class Environment: I try to create a class environment that is enjoyable, safe, and conducive to learning. Towards this end, it is essential that all of us show respect for one another. Specifically:

1. **Be on time for class.** When class is ready to start, I will close the lab door; you must be in your seat when the class starts. There will be no late seating; if you are late you will miss that lab. If you miss three or more labs you cannot pass the course.
2. **Be prepared for class.** Any work that is due (i.e. lab report) must be turned in before class starts. Bring required materials with you (i.e. lab binder, calculator, planisphere).
3. **No electronic devices are allowed in class;** this includes, but is not limited to, phones, iPods, and laptops. Violators will be asked to leave. If you have a special situation that requires you to use such a device during class, see me ahead of time.
4. **Be respectful of others.** Do not talk during lectures. Do not interrupt another student - only one person talks at one time. No sleeping in class.
5. **No make ups.** In class work that is missed (i.e. lab exercises, quizzes, etc.) will count as zero. Due date assignments (i.e. observation reports, etc.) are marked down 25% the first day late, then 50% the second day late, and if more than two days late will be counted as zero. None of these assignments can be made up; you have to take the zero. If you have a valid and verifiable excuse, stop by my office and we'll talk.
6. **Do your own work.** I want you to work in groups and help each other to understand the material, but what you turn in must be your own unique work; what you think and what you understand is important. If you turn in any work that indicates copying, you will receive a grade of zero. If you receive or give help on an examination or quiz you will receive a grade of zero. All such cases will be referred to the Dean.
7. **Smoke Free Policy.** Smoking is restricted to designated parking lot areas.

Special Arrangements: If you have a verifiable condition that will make it difficult to complete the course without special arrangements, please notify me as soon as possible.

The following dates (deadlines) are administered by the college; if you need to drop the course you must do so by the last day to drop. After that date I will have no choice but to assign you a grade, and that grade cannot be a **W** or, except in rare circumstances, an **I**. If you have concerns about your progress, let's talk; I may be able to help you find a strategy that will be successful for you.

Some Important Dates – See Schedule for Others

4 Feb: Last day to request a refund

30 Apr: Last day to drop with a "W"

16 Feb: Last day to drop without a "W"

9 Jun: Final grades available on WebSMART

☺ FINAL EXAM: 2:10 PM, Tuesday 19 May ☺
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Spring 2015 Tentative Schedule

Day	Topics
27-Jan	Administration
3-Feb	The Planisphere
10-Feb	Sextant & Kepler's Laws
17-Feb	Equinox & Solstice*
24-Feb	Lunar Phases and Motion*
3-Mar	Spectroscopy
10-Mar	Comets
17-Mar	Satellites*
24-Mar	Spring Break
31-Mar	The HR Diagram*
7-Apr	Stellar Parallax
14-Apr	Spectroscopic Parallax
21-Apr	Cepheid Variables
28-Apr	Deep Sky Objects (Summer)*
5-May	Deep Sky Objects (Spring)*
12-May	Review
19-May	Final Exam