Astronomy 105 - Descriptive Astronomy
Spring 2015
VVO 110, MWF 10am
http://kflaherty.web.wesleyan.edu/Site/Astr105.html

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Course Description
This course unveils the universe and how we have come to understand our place in it. We will touch on a full range of astronomical topics, including stars and their evolution, planets, the Milky Way Galaxy, the formation and evolution of galaxies, the big bang and the fate of the Universe. We will also discuss some of the physical principles that allow astronomers to study the universe and understand how it works.

At the end of this course you will have a familiarity with astronomy and be able to understand the context of astronomical research you may see reported in newspapers and magazines. Science plays an important role in modern society and scientific issues are under public discussion; this course will help you develop critical reasoning and complex problem solving skills necessary to critically evaluate the positions in these debates and form independent conclusions.

Style of Instruction
Class time will consist of short lectures, followed by discussion and activities, many of which are drawn from your textbook. These breaks will serve as opportunities to work through the topics on your own or in groups. Don’t be afraid to be wrong! Understanding what you don’t know helps as much as understanding what you do know.

Textbook
The textbook for the course is:
Lecture Tutorials for Introductory Astronomy 3rd ed by Prather et al.

This is not a traditional textbook, but instead contains a collection of activities, many of which we will work through in class. Make sure to bring the book with you to every class. Two useful online resources that cover much of astronomy in the same way as a traditional textbook are:

http://www.teachastronomy.com
http://www.astronomynotes.com/index.html
Other resources are available, but as with all things on the internet, be wary of the content if the source appears less than reputable. If you have any questions, feel free to ask me or Colin.

**What goes into your Grade**

Your final grade will be determined based on a number of in and out of class activities
- *Communicating science to a 10-year old:* Four total, due once a month (32% of final grade)
- *Labs* (Observing, Zooniverse, Expanding Universe): Four activities throughout the semester (32% of final grade)
- *Quizzes:* Four quizzes, one per month throughout the semester. Half of each quiz will consist of collaborative questions. You and a partner will work together to answer these questions. You will each turn in a separate solution for these questions. You will then complete the second half of the quiz on your own. (32% of final grade)
- *Attendance:* see discussion below (4% of final grade)

If you ever have a question about how you are doing in the course, don’t hesitate to ask.

**Observing**

You will be required to complete two observing sessions throughout the semester. These will consist of visiting the observatory and using the 16” telescope, the portable 10” telescope, the binoculars or your naked eye to observe a handful of astronomical objects. There are four possible observing weeks spread throughout the semester. During the first clear night of each of these observing weeks you will receive an email from me saying that observing is happening. If you decide to complete the assignment that night, you need to visit the observatory between 9 and 11pm. The time will be shared with the other astronomy intro classes, so don’t be surprised if there are people you don’t recognize. Fill out the accompanying sheet, viewing up to three objects (you can of course look at more, but there is only space for three) and answer the follow-up questions. Return the completed sheets as soon as you are done.

**Attendance**

Attendance is strongly encouraged and will count toward your final grade. If the lectures and discussions are operating as intended, the interactions between us will be far more valuable to your success in this course than whatever time you could save by skipping class. Your presence will be recorded based on an email you send me within 2 hours of the end of class. In this email you will write one thing you learned in class, along with one question you had about the topic of that day’s lecture. In recording what you learned, be as specific and detailed as possible (e.g. ‘I learned that the Sun is five billion years old and has a surface temperature of 6000K.’ NOT ‘I learned about the Sun’ the latter not being very helpful). These are valuable for me because they show me what you are learning, and let me address any concerns you may have in subsequent
lectures. Attending 75% of the lectures is good enough for full credit on this portion of your grade, so you don’t need to worry if you forget one or two emails, or have to miss a class.

Late Assignments
Homeworks and labs are due at the beginning of class. If you do not turn in an assignment by the beginning of class, you will lose points. This is especially important for the communicating science homework, which you might try to turn in online. If you get it to me by the beginning of the next class, you can receive at most 75% full credit. If you get it to me by the beginning of the class after that, you can receive at most 50% full credit. After this I will not accept the assignment and you will receive a zero for the assignment.

Students with Disabilities
Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since the accommodations my require early planning and generally not provided retroactively, please contact Disability Resources as soon as possible. If you believe that you need accommodations for, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860-685-2332 for an appointment to discuss your needs and the process for requesting accommodations. The procedures for registering with Disabilities Services can be found at:

http://www.wesleyan.edu/studentaffairs/disabilities/index.html