

Syllabus: ASTR 202 Spring 2013
Life in the Universe
Section 002: MWF 2:00-2:50pm
Steward Observatory N210

1. Instructor

Name	Office Hours	Room	Phone	Email
Professor Walker	TuTh 2-3	S.O. 211	621-8783	cwalker@as.arizona.edu
T. A. Jenna Kloosterman	Tu 11 - 12 W 10:30-11:30	S.O. 341	621-2026	jkloost@email.arizona.edu

Office hours can also be made by appointment.

The course website can be found at <http://www.d2l.arizona.edu>.

2. Course Goal

The goal of this course is for the student to gain a better understanding of life in the Universe and insight into the inter-relationship between different fields of scientific exploration (e.g. astronomy, geology, biology, anthropology, and engineering). We hope that your exposure in this course to different areas of science will make you feel more comfortable encountering these areas in the future, continue your interest in them and facilitate your understanding of them.

3. Prerequisites

Two tier courses from the Natural Sciences with course numbers 170A, 170B, or 170C.

4. Course Work and Grading Policies

Grading will be based on a percentage of final points as follows:

90-100%	A
80-89.9%	B
70-79.9%	C
60-69.9%	D

The percentage breakdown will be as follows:

2 midterms	40%
1 final exam	25%
in-class readiness quizzes	5%
1 creative project	10%
4 takehome lab exercises	20%
extra credit	$\frac{1}{2}\%$ each, up to 3%

4.1. Required Exams

There are **three midterms and a final**. Every student *must* take each exam. The lowest midterm score will be dropped. The top two midterm scores are each worth 20% of your final grade. The final exam is worth 25%.

Dates:

Midterm 1: Friday, February 8, 2013, 2:00-2:50 pm

Midterm 2: Friday, March 8, 2013, 2:00-2:50 pm

Midterm 3: Friday, April 12, 2013, 2:00-2:50 pm

Final Exam: Friday, May 3, 2013, 1:00 - 3:00 pm

4.2. Creative Project

An important component of the class is the **creative project**. The creative projects will be chosen by the student, with prior approval by the instructor. We make two suggestions. The first suggestion is that these projects relate to your foremost area of academic interest, as well as the course theme. For instance, if you are an education major, you may want to develop a lesson plan for grade school and implement it. Our second suggestion is based on past observation and that is the best projects are usually term papers. **Abstracts** stating the nature of your project are due in the lecture or to d2l on or before **March 6, 2013**. Failure to submit an abstract will result in a letter grade reduction from your final project score. The **final project** is due **April 17, 2013**.

4.3. Lab Exercises

There are 4 take-home **lab exercises**. Every student is expected to do each lab exercise. Each lab exercise will be worth 5% of your final grade. **If you work with one or more students in doing the labs, their names must appear under the heading 'Collaborators' at the top of your lab and each student must turn in his or her own work.** The midterms and final will have questions on them pertaining to the lab exercises,

so you should be sure to understand what you turn-in. These labs will be assigned in class and are to be turned-in on the date specified in class. Should you miss class on that day you may take a high quality scan of your work and turn it into the drop box on d2l. **NO LATE WORK WILL BE ACCEPTED.**

4.4. Readiness Quizzes

A short **readiness quiz** will be given at the beginning of most classes. The quiz will contain 1 or 2 questions covering the material presented in the previous lecture. The top 20 quizzes will be counted toward 5% of your final grade.

4.5. Extra Credit

For extra credit students may attend the Steward Observatory Public Evening Lecture Series, which are listed online at http://enterprise.as.arizona.edu/~taf/pubeve/pub_lect.html. These lectures are held at 7:30 pm on the date specified and last about an hour. They are located in your classroom, N210, in Steward Observatory. Each extra credit event comprises up to 0.5% added on to your final grade for a total of up to 3% added on to your final grade. To get credit for an extra credit event, you will be required to hand in notes from the lecture and a **one page typed summary of the lecture**. If you cannot make the lecture, or would like to review a part of it, they are available online at <https://www.as.arizona.edu/pubevelec.html>. The write-up and all of your notes will be due in class or to the d2l drop box within one week of the lecture.

Following the talks, there are opportunities for viewing the night sky (weather permitting) with the use of the 21-inch telescope. All lectures and the use of the telescope afterward are free of charge.

Another lecture series you may want to consider attending are lectures from the LPL evening lecture series, which are posted on their website at <http://www.lpl.arizona.edu/calendar/lecture.php> as they are planned.

As an alternative to attending an outside lecture for extra credit, students may propose to write a short (~2 page) report on a course related lecture they attended, article they have read, or site (e.g. observatory, archaeological, NASA Center, etc.) they have visited. Please check with the instructor beforehand to make sure the subject matter will be acceptable.

5. Course Materials

Things you may want to have in order to make the course easier:

1. A calculator with scientific notation
2. A ruler or strait-edge
3. An inquiring mind

6. Absence Policies

Attending class and taking notes is an essential part of this course. The student is responsible for all material covered during the lectures. Missing lecture on a regular basis is likely to result in a lower grade, because of missed material and missed Readiness Quizzes. Absences for holidays or special events observed by organized religions will be excused for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean's designee) will also be excused. If you miss a quiz for one of these two reasons we will make sure that it does not count against you. Please let us know in advance with an e-mail that you will be missing class. Should you have a conflict with any of the midterms for one of these reasons, please see us immediately.

7. Academic Integrity

In science, we depend on good faith efforts to report as fully and accurately as possible observations, measurements, and experiments. Presentation of any work other than your own is considered academic dishonesty. This includes copying assignments from others and any other form of cheating or plagiarism. Note in particular that if you substitute a prediction, however derived, for an actual observation or measurement, you are guilty of scientific fraud. We expect that all of the work you present for evaluation is in fact your own and that you will not give or receive unauthorized assistance in any academic exercise. Be careful of collaborations in which each participant does not contribute the full quota of independent work. If any penalty has to be assessed for a breach of integrity, the University requires official reports to be made to protect the rights of everyone involved. Expect University policy to be followed strictly in all matters of academic integrity.

In short, as a rule of thumb, ask yourself if you would want your instructor there when you collaborate. If not, you're probably cheating. Penalties for cheating range from zero credit on the assignment to failure of the course.

8. Students with Disabilities

Students with disabilities who require reasonable accomodation should provide us with the proper documentation from the Disability Resource Center. All information will remain confidential and be used only to help in accomodating the student.

9. Approximate Course Outline and Calendar

- Week 1: From Big Bang to Atoms
- Week 2: From Molecules to Stars
- Week 3: Planet Formation; Earth's Origins
- Week 4: The Primordial Soup
- Week 5: Extrasolar Planets
- Week 6: Life in the Solar System
- Week 7: Darwinian Evolution
- Week 8: Origin of Intelligence
- Week 9: Human Evolution
- Week 10: Lifetime of a Civilization
- Week 11: How many others are out there?
- Week 12: How will we communicate with them?
- Week 13: Interstellar Conquest
- Week 14: First Contact
- Week 15: Review
- Week 16: **Final Exam**

Lectures are subject to change depending on the pace of the class.