

# **ASTR 202 - 001**

## **Life in The Universe**

Tuesdays and Thursdays 9:30-10:45am  
Steward Observatory N210

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**Course Web Page:** on [d2l.arizona.edu](http://d2l.arizona.edu)

### **Course Learning Outcomes**

Upon completion of this course, students will be able to:

- understand the nature and application of physical science
- apply ideas and processes beyond the classroom
- recognize the complexity of many scientific issues
- speak and write about scientific knowledge
- appreciate the relative scale of objects, rates of change, linear and nonlinear growth
- critically analyze and interpret data and results presented in tables, graphs, and charts as well as perform appropriate mathematical calculations
- read and understand scientific literature from popular sources such as magazines and newspapers

### **Course description:**

The main goal for students in this course is to learn about the possibilities for life in the Universe and, in the process, gain an appreciation for the fundamental knowledge and methods used in science. To achieve this goal, we will study such seemingly diverse topics as the origin of the Universe, heavy element production, the formation of stars and planets, the nature of planets and their atmospheres, basic chemistry, geological and atmospheric evolution, biological evolution, cultural and technological evolution, interstellar travel, and communication techniques.

### **Textbook (optional):**

Life in the Universe (3rd edition), Bennett and Shostak, Addison-Wesley

*Miscellaneous:* There may be other reading material provided for the class when needed. Examinations, quizzes, activities, and homework are based on material covered in the lectures.

**Structure:** Even though this class is large, you will be an active participant. We will have multiple choice quizzes during the lecture. Each week we will cover a particular broad topic. Some lectures will include breaks for demonstrations, quizzes, and discussion, and group activity. For these activities, the class will split in groups of 3-4 students. As a group you will fill in a worksheet and get a 'group grade' (same score for each person in the group). You will also have 'individual' homework associated to lectures and activities. Graded quizzes will be also given randomly through the semester.

**PTYS214:**

There is a significant overlap between ASTR202 and PTYS214 courses. You can only receive credit for either of these courses, but not to both. If you already completed PTYS214, do *not* take ASTR202.

**Grades:**

The grades are based on the combination of quizzes, group activities, homework, and two exams (mid-term and final). The following weights will be used:

Group Activities	12%
Quizzes	11%
Homework	12%
Mid-term	30%
Final	35%

In addition, there will be opportunities to volunteer for extra credit assignments.

The grading is absolute, i.e., there is no competition between students.

If your final percentage falls between the following ranges, you are guaranteed at least the following grade:

A:	87.5-100%
B:	75-87.5%
C:	62.5-75%
D:	50-62.5%
E	<50%

**Exams:**

There will be a total of two exams. One midterm exam will be given during a regularly scheduled class period (the date for the midterm exam will be announced in class). The final exam will be given on **Tuesday, May 12, 8am–10am** in Steward N210. This date and time is set by the University and *cannot be changed*. Exams will be cumulative but focused on the more recent material covered in class. They will consist of a combination of multiple choice questions and short essays.

Exams will be closed book, closed notes, unless otherwise specified.

**Mid-term:** The mid-term exam is tentatively scheduled to **March 5**. By this time about 40% of the quiz / homework / group activities will have been completed, so at the mid-semester mark you will know how well you are performing in the class and will have enough time to improve your expected grade, if needed.

### **Makeup Exams:**

A makeup exam for the midterm will be allowed *only* for the following reasons:

- 1) University approved activity (dean's approval required);
- 2) Religious holidays (you must provide information on the holiday);
- 3) Medical emergency, for which you can provide a doctor's note;
- 4) Jury duty.

Makeup exams must be taken within 2 weeks of the exam date. No makeup exam is allowed for the final examination, whose date is determined by the University.

### **Quizzes**

Quizzes will be given randomly throughout the semester. They will consist of a few multiple choice or true/false questions based on material from a recent lecture and should be very easy for students who attend class regularly and pay attention to the lectures. The *quiz with the lowest grade* will be automatically dropped from the final grade. There will be no make-up quizzes.

Quizzes are closed book, closed notes, unless otherwise specified.

### **Group Activities/Tutorials**

There will be group activities based on concepts learned during a recent lecture. The group activities will be solved in groups and the entire group will receive the same grade. Everyone in the group must participate in solving the problems. There will be no make up activities, but *one* group activity will be dropped from your final grade.

### **Homework**

Homework assignments will be announced in class and will be posted on the d2l website after the class. The assignments must be submitted by the due date on the d2l website. Homework are typically graded on a 10-point scale. Late homework will not be accepted. You are strongly encouraged to work together but the work that you submit **MUST** be your own.

The homework may include a peer-reviewed section; in such assignments credit will be given for your own work and for reviewing other students' work.

### **Errors in Grading**

If you spot an error in grading you must call it to the attention of the TA or instructor within one week. An effort will be made to hand back material in a timely manner. Make sure to review all your handed-back material as soon as possible. Note that you can only discover an error in grading if you pick up your graded material and review it!

## Classroom Behavior – PLEASE READ CAREFULLY!

**Academic Integrity:** It is strongly recommended that all students read the University of Arizona's Code of Academic Integrity. Details can be found at <http://dos.web.arizona.edu/uapolicies/>. All students in this course are expected to abide by this code, which will be strictly enforced.

The key things you need to be aware of are:

- **Cheating is not tolerated in any form.** If a student is caught cheating on an exam, the penalty will be failure in the course. You will be given “0 pt” for cheating on quizzes. In all cases a letter will be sent to the Dean of Students describing the incident. If you are aware that someone else is cheating, it is your obligation to inform the instructor.
- We allow, even encourage, collaboration on most assignments. However, **you must always write the final version of an assignment yourself**, and use your own words to describe what you have concluded. If we receive verbatim answers from more than one person we will divide the credit received among all those with identical answers. This holds for math as well as text.
- It is fine to make use of reference books or web sites. This is indeed what you must do in certain assignments. But if you do so make sure to put in quotes what is taken verbatim from a different source, otherwise make sure to rewrite things in your own words, and list the source of your information. **Plagiarism is strictly prohibited.** If you are uncertain as to what constitutes plagiarism see: <http://deanofstudents.arizona.edu/codeofacademicintegrity>.

Note that we will be using the software *Turnitin* within d2l to automatically check all assignments for plagiarism.

### Threatening Behavior:

Check <http://web.arizona.edu/~policy/threaten.shtml>

**Late Arrival – Early Departure:** Late arrivals and early departures can be very disruptive for the class. They can be accepted as an exception, but if for whatever reason a student needs to do so on a regular basis, he/she should contact the instructor ahead of time, and try to sit near the exit doors. Repeated cases of unjustified late arrival or early departure will be considered poor class participation (student will be asked to show his/her ID) and affect the overall grade in the class. Leaving early may result in missing a quiz, no make up is allowed without prior authorization by the instructor.

**Attendance:** Regular attendance is essential to doing well in this class. Although there is a book for the class, you are expected to take notes. Furthermore, there will be several in-class quizzes that will contribute to your grade.

**Doors Closed During Planetarium Operations:** Some classes may be held at the Flandrau planetarium. Because of the use of the planetarium late arrivals to the class can be very disruptive - please, always be on time. During the operation of the digital planetarium projector the doors are automatically locked. If you arrive late and the projector has been activated, you will need to wait until that session ends (usually 10 minutes) and the doors are unlocked.

**Cell Phones, Laptops, and Gadgets:** The use of cell phones is *not allowed* inside of the class and it is strongly suggested that they are **turned off** before getting to class. If you accidentally forget to turn your cell phone off, I expect that if the cell phone rings you will turn it off immediately. **Talking on the phone during class is not allowed;** it is disrespectful to the teaching team as well as to your fellow classmates. Failing to observe this rule will be considered poor class participation (student will be asked to show his/her ID to the instructor or TA) and affect the overall grade in the class. Phone usage is strictly forbidden during exams.

Taking notes on a laptop is allowed. However, those using laptops will have to sit in the front rows.

Electronic equipment can only be used for the purposes of the class. Students who play games, check Facebook, tweet, etc. generally perform poorly in the class and often also distract those sitting close to them.

*Anyone caught using electronic equipment not strictly required for the class will have to leave the classroom.*

**No Food/Drinks:** The Steward Observatory **does not allow food and drinks** other than bottled water in the classroom. Also, if you find a problem with a seat or its writing table, please let us know, so that the problem can be addressed as soon as possible.

### **Accessibility and Accommodations**

At the University of Arizona, we strive to make learning experiences as accessible as possible. If you anticipate or experience barriers based on disability or pregnancy, please contact the Disability Resource Center (520-621-3268, <https://drc.arizona.edu/>) to establish reasonable accommodations.

### **Special Dates:**

- March 5: Tentative date for mid-term exam
- March 7–15: Spring recess, no classes
- May 5: Last class
- May 12, 8am–10am: Final exam at Steward N210

**UA Nondiscrimination and Anti-harassment Policy**

The University is committed to creating and maintaining an environment free of discrimination, <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

**Additional Resources for Students**

UA Academic policies and procedures are available at:  
<http://archive.catalog.arizona.edu/2015-16/policies/aaindex.html>

Student Assistance and Advocacy information is available at:  
<http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

The University of Arizona provides a wide variety of resources to help you feel more at home in the UA environment. Examples of student resource/cultural centers include:

- The African-American Student Center
- The Asian & Pacific American Student Center
- The Guerrero Student Center
- The Immigrant Student Resource Center
- The LGBTQ+ Student Center
- The Native American Student Center
- The Transfer Student Center
- The Veterans Education and Transition Services Center
- The Women & Gender Resource Center

We encourage you to take advantage of the community, support, and learning opportunities afforded by these centers, and to encourage your friends and colleagues to do the same.

**Mental Health**

UArizona's Campus Health Services' Counseling & Psych Services have two full service facilities. At these locations students can speak with licensed mental health professional about things like:

- anxiety and depression
- eating and body image
- alcohol and drug concerns
- family, friend, roommate, and relationship problems
- sexual assault and relationship violence
- crises and trauma
- psychiatric medication
- And anything else you need to talk about.

All currently enrolled students are eligible to be seen at CAPS. You can find out more about CAPS services at <https://health.arizona.edu/counseling-psych-services> .

**Subject to Change Statement**

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.