

Syllabus For Astr 202

Welcome to Astronomy 202

Life in the Universe

Spring 2016, section 1

*Professor: Laird Close, N428 Steward Observatory, email **lclose “at” as.arizona.edu**
(when emailing please add Astr 202 in the subject line)
Office hours MW 2-3 PM in my office N428 after class*

*TA: Ya-Lin Wu, office Steward Obs. email **yalinwu “at” email.arizona.edu**
Office hours TBD*

Introduction to the Course

This course satisfies the Gen. Ed. Natural Sciences Tier 2 requirement and is intended for mainly non-science majors.

In this course we will explore how the Universe, Sun, and Earth were formed. How the first life on Earth started. How this life evolved into complex multi-celled species. We will outline what appears to be the necessary conditions for life to exist and thrive. We will study where in our solar system there could be life. We will learn about other planets outside our solar system orbiting other stars. We will examine these new worlds for possible habitable zones. We will also estimate how likely it is that we could communicate with another intelligent civilization, and how such communication could be possible. We will also examine issues such as space travel, terraforming, and the evolution of civilizations. **The emphasis of the course is on understanding**, not on pure memorization.

The class will be divided into pairs of students. Each pair of students will carry out an exciting observing project with a real telescope that they will be given later in class.

Background Preparation

Recommended Prerequisites: either Gen. Ed. Natural Sciences (NATS) 170 level (like Astr 170A, B, or C). Students that have not taken a tier 1 Gen-Ed science course might have difficulty with this material. Students that have taken Astr 170A or 170B

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"The Physical Universe" will be more familiar with some of the material in this course, but it is not required to take "The Physical Universe" before this course.

The concepts of simple geophysics, basic chemistry, and astronomy are fundamental to understanding the information presented in this course. *If you have not been exposed to these concepts before, you might wish to study them immediately in a general textbook like that used at the NATS 102/170B level. You should also be familiar with very basic algebra, fractions, and scientific notation.* This course will also require frequent out of class work, as well as independent research. **A strong interest in the course material is the best prerequisite!** You should have a small inexpensive calculator at your disposal (one that does powers, roots, and trigonometric functions). *Please seek help in-class (or office hours) when you encounter a concept that you do not understand.*

Textbook

The textbook for this course is the course guide for Prof Close's "Life in Our Universe" that also has a set of 24 high-quality lectures on a set of DVDs. All available for purchase from the Great Courses website. *Students that are enrolled in Astr 202 can purchase these DVDs at a much reduced (70% off) rate – written instructions on how to do this will be given first day of class.* You must order these DVDs (in order to receive the printed textbook) to attend this class. **These lectures will form the core lectures of the course. Students are expected to watch the relevant lecture and complete the (straightforward) lecture assignment before coming into class.** This assignment is due at the very start of class (no late assignments will be accepted). In this manner class time will be used to help you really learn the material at a deeper level with personal help "coaching" from the Professor and the TA during class time (unlike what is possible in your other large classes at Arizona).

Evaluation

Your grade in this course will strongly depend on your participation/attendance in class. The exact breakdown is: observing/writing project (20%), the Monday/Wednesday homework exercises (25%), and Friday in-class homework/quizzes (25% in total), midterm exam (10%), and the final exam (20%).

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Both exams are closed-note and will consist of multiple-choice and short written answer questions. Your grades will be available always throughout the course on the "desire-to-learn" D2L server (logon from student link). The final course grades:

≥90% of the total number of points available you will receive an A,
≥75% B,
≥60% C,
≥50% D,
below 50% an E.

Group Project

The observing project will be detailed later in the semester.

The grades for this project will be based on mainly on individual effort. Students that do not help their group (or use copied text in their work without quotations and citations) will be awarded a grade of Zero. Grades will be strongly based on the individual projects and the observing work and report. However, a great team effort will typically increase your grade.

Policies

- *Do your own work.* Modern science is collaborative, and people learn from talking to each other. Feel free to talk to the instructor, TA, or other students about homework assignments. But the work you turn in must be your own -- **don't ever copy assignments**. Copying is cheating and will be handled according to university policies. The instructor subscribes to the University's Code of Academic Integrity: http://deanofstudents.arizona.edu/sites/deanofstudents.arizona.edu/files/code_of_academic_integrity.pdf for more info. The Code prohibits all forms of academic dishonesty, including cheating, plagiarism, and facilitating dishonesty by others. The repercussions for all of those found guilty of violating the Code will include loss of credit for the work (grade=0) and may include failure of the course or more extreme measures as needed.
- *Attendance, participation, and conduct.* Attendance and participation in class and in your group are an important part of your class grade. **Students who are absent will have difficulty passing this course -- attendance of all the classes is critical in this class since it is the in-class work that counts for much of your grade.** You must participate in class by asking questions. Eating or drinking is not permitted in the lecture hall. Talking is also prohibited unless you want to ask a question during lecture or unless you are preparing a presentation with your group during the discussion sessions. People talking

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during lectures will be asked to leave. *No cell phone use, reading newspapers, or surfing the web allowed during class. Students that break these rules will be asked to leave.*

- **Late Assignments.** *No credit, WITH NO EXCEPTIONS, will be given for late work.* Because we want to be fair to those that turn in work on time, we will not accept late work. The “lecture homework” is due at the start of class – no late work will be accepted. There is an absolute deadline for homework. If you are concerned about not being able to turn in your work, feel free to turn it in early! We will accept homework at any class meeting prior to the deadline. Please do not email homework, only paper copies will be graded (do not email homework it will not be graded). Your lowest assignment and lowest homework will be dropped from your final grade.
- **Missed Tests.** *No makeup tests, WITH NO EXCEPTIONS, will be administered.* The exams are already scheduled and posted on the class schedule. If you know that you will miss a test (before the test), you must make arrangements (for valid reasons) for an oral exam at a time and date prior to the written test. Missing the midterm exam is an automatic loss of 15% of your course grade. Missing the final is a loss of 25%.
- **Extra credit observing assignments.** No extra credit in this section.
- **Students requiring special accommodation** in testing or note taking must notify Prof. Close and must deliver to Prof. Close the Disability Resource Center faculty letter within the first few days of the course
- **Grading.** You have one week from the time an assignment or exam is returned to challenge any perceived errors. Although rare, there are occasions when grading errors occur, and you should review your returned work.

Web Site

The course website in on D2L it includes the most recent course syllabus, special announcements, and other course materials.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31 Last quarter 8:28pm	1 HW for Lect 4 Due 1pm - A202 Class 2pm - office Hours	2	3 HW for Lect 5 Due 1pm - A202 Class 2pm - office Hours	4	5 Quiz 3 1pm - A202 Class	6
7	8 HW Lect 6 Due New moon 7:39am 1pm - A202 Class 2pm - office Hours	9	10 HW Lect 7 Due 1pm - A202 Class 2pm - office Hours	11	12 Quiz 4 1pm - A202 Class	13
14 Valentine's Day	15 First quarter 12: HW Lect 8 Due Presidents' Day 1pm - A202 Class 2pm - office Hours	16	17 HW Lect 9 Due 1pm - A202 Class 2pm - office Hours	18	19 Quiz 5 1pm - A202 Class	20
21	22 Full moon 11:20am Mid Term Review 1pm - A202 Class 2pm - office Hours	23	24 MIDTERM Exam 1pm - A202 Class 2pm - office Hours	25	26 Start Group Projects 1pm - A202 Class	27
28	29 HW Lect 10 Due 1pm - A202 Class 2pm - office Hours	1 Last quarter 4:11pm	2 review Midterm 1pm - A202 Class 2pm - office Hours	3	4 Group Projects 1pm - A202 Class	5

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	1	2	3	4	5
	HW Lect 10 Due 1pm - A202 Class 2pm - office Hours	Last quarter 4:11pm	review Midterm 1pm - A202 Class 2pm - office Hours		Group Projects 1pm - A202 Class	
6	7	8	9	10	11	12
	HW Lect 11 1pm - A202 Class 2pm - office Hours	New moon 6:54pm	HW Lect 12 1pm - A202 Class 2pm - office Hours		Quiz 6 1pm - A202 Class	
13	14	15	16	17	18	19
Daylight Saving	NO CLASS					
		First quarter 10:				
20	21	22	23	24	25	26
	HW Lect 13 1pm - A202 Class 2pm - office Hours		Full moon 6:01am HW Lect 14 1pm - A202 Class 2pm - office Hours		Quiz 7 1pm - A202 Class	
27	28	29	30	31	1	2
Easter Sunday	HW Lect 15 1pm - A202 Class 2pm - office Hours		HW Lect 16 1pm - A202 Class 2pm - office Hours	Last quarter 8:17am	Quiz 9 1pm - A202 Class	

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27 Easter Sunday	28 HW Lect 15 1pm - A202 Class 2pm - office Hours	29	30 HW Lect 16 1pm - A202 Class 2pm - office Hours	31 Last quarter 8:17am	1 Quiz 9 1pm - A202 Class	2
3	4 HW Lect 17 1pm - A202 Class 2pm - office Hours	5	6 HW Lect 18 1pm - A202 Class 2pm - office Hours	7 New moon 4:24am	8 Group Project 1pm - A202 Class	9
10	11 HW Lect 19 1pm - A202 Class 2pm - office Hours	12	13 First quarter 8: HW Lect 20 Thomas Jefferson's 1pm - A202 Class 2pm - office Hours	14	15 Quiz 10 1pm - A202 Class	16
17	18 HW Lect 21 1pm - A202 Class 2pm - office Hours	19	20 HW Lect 22 1pm - A202 Class 2pm - office Hours	21 Full moon 10:24pm	22 group Projects DUE 1pm - A202 Class	23
24	25 HW Lect 23 1pm - A202 Class 2pm - office Hours	26	27 HW Lect 24 1pm - A202 Class 2pm - office Hours	28	29 Last quarter 8:29pm Quiz 11 1pm - A202 Class	30

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
	Review Lecture 1pm - A202 Class 2pm - office Hours		FINAL REVIEW LAST CLASS 1pm - A202 Class 2pm - office Hours	NO CLASSES	New moon 12:38pm	
8	9	10	11	12	13	14
Mother's Day	FINAL EXAM 1-3 1pm - FINAL EXAM (First quarter 10:	
15	16	17	18	19	20	21
						Full moon 2:18pm
22	23	24	25	26	27	28
29	30	31	1	2	3	4
Last quarter 6:12am	Memorial Day					