

**Astr 170B1, Spring 2021, section 002  
(Professor Edward Olszewski and Grad TA Minghao Yue)**

**This syllabus is all too long. The UArizona mandates most of the material. I will give a summary on the first day of class. That said, you are bound by the material in this syllabus.**

**This is version 1 of the syllabus, dated 1/9/21. I reserve the right to correct mistakes and to add information inadvertently left out.**

**I. The Professor for this class is Dr. Edward Olszewski.** (Ol SHEF ski)  
My preferred email is [eoteaching@gmail.com](mailto:eoteaching@gmail.com).

**The graduate TA is Minghao Yue.** (Yoo-eh)  
His preferred email is [yuemh@email.arizona.edu](mailto:yuemh@email.arizona.edu).

**II. How to contact us.**

We look at email many times per day. BUT, the UA wants a value: Send us an email. We guarantee to get back to you within 24 hours, almost certainly MUCH faster (except perhaps late at night).

We will not have formal office hours. You are welcome to email us with your questions/concerns. You can also request a private zoom session with one of us. Simply email one of us, ask, and we'll get back to you with "yes, that's a good time to zoom," or "no, I have a conflict, but here are some good times, are any of those good for you?"

**III. Learning outcomes:**

At the end of this class, students who worked hard and did well ought to have gained experience in thinking through the sorts of reasoning (background physics, data, models) needed to interpret several types of astronomical observations (the ancients, Tycho, Newton, evolution of the Solar System, Einstein, Hubble, modern cosmology, to name just a few topics). Students should appreciate why it's crucial to test models, to see "what Nature says." Students will learn to interpret graphs and to

abstract the essence from the sorts of articles one might find in a good newspaper. And of course they'll be exposed to a lot of Astronomy on the way: for instance, Scale of the Universe, our place in the Universe, why Mars and Venus are different from Earth, how stars form and change and die, how the Universe began and has gotten to where it is today.

#### **IV. Textbook:**

We are saving you a hundred dollars or so by using the following online text: <https://openstax.org/details/astronomy>. We use the text as a "second voice". The professor's notes are the primary voice. But it's our opinion that you'll often need a second voice.

[THIS IS NOT REQUIRED, INFORMATION ONLY: If you really, really like having a text, I can recommend that you get a non-latest-edition copy of Bennett's "THE COSMIC PERSPECTIVE." The latest edition seems to be the 8<sup>th</sup> edition. If you buy, used, the 6<sup>th</sup> edition, say, it can be found used for as low as 10 dollars. ]

#### **V. This next part of the syllabus deals with UArizona special rules for the "Live Online" modality.**

- 1) This class is being taught "Live Online." This means that you should pretend that you're sitting in the big lecture hall at Steward observatory, listening to me and Minghao. The class will be live MWF at 9am on Zoom. You access the Zoom address through D2L.
- 2) That said, The UArizona wants us to record all lectures/classes this semester. They are made available on the class D2L site.
- 3) I will not take attendance this semester. Let me state that, for the typical student, staying in the habit of attending the class, and taking notes, is still the way to go.
- 4) As stated in item 2, we will record all the classes in Zoom. Recordings will only be made available in D2L. Therefore, those who can see the recordings are identical to those who can see the Zoom session live.  
If you are concerned about your name being in the participants window of Zoom, you can go into Zoom Preferences and change your name to something else. MY RECORDINGS DO NOT SHOW THE PARTICIPANTS.
- 5) The UArizona offers the following legalese about recordings:  
MY SUMMARY: you can only use the recordings in D2L. You cannot download them OR share them with anyone else. The recordings belong to me and to UArizona.

UARIZONA words: "For lecture recordings, which are used at the discretion of the instructor, students must access content in D2L only. Students may not modify content or re-use content for any purpose other than personal educational reasons. All recordings are subject to government and university regulations. Therefore, students accessing unauthorized recordings or using

them in a manner inconsistent with UArizona values and educational policies are subject to suspension or civil action.”

6) More UArizona text:

Class attendance:

If you feel sick, or may have been in contact with someone who is infectious, stay home. Except for seeking medical care, avoid contact with others and do not travel.

Notify your instructors if you will be missing an in person or online course.

Campus Health is testing for COVID-19. Please call (520) 621-9202 before you visit in person.

Visit the UArizona COVID-19 page for regular updates.

Here is what the Provost says:

“In accord with CDC guidance, it is required that UArizona students, faculty and staff who are sick with COVID-19, or who have recently had a **close contact** with a person with COVID-19, must stay home or in their living quarters (e.g., dorm room).

However, the requirement to stay home may impact a student’s class participation, which often has implications for their course grades. It is critical that students feel that they can miss one class, or a series of classes, without penalty in order to adhere to public health guidance to limit disease spread.

- Please actively encourage students to stay at home if they feel sick or have any of the **symptoms of COVID-19**.
- Students who need to miss a class, or series of classes, due to illness or the need to quarantine/isolate are responsible for emailing their course instructor, with copy to the Dean of Students at **DOS-deanofstudents@email.arizona.edu**, to let them know of the need, as soon as possible. There is no need for a medical excuse to be provided for absence of up to a week (see more below).
- Students are responsible for completing any work that they might miss due to illness or the need to quarantine/isolate, including assignments, quizzes, tests and exams.
- Students are responsible for communicating with their instructor(s) via the means of communication established by the instructor(s), e.g., via D2L, email, text message, etc.
- Students who need to miss more than one week of classes in any one semester will be required to provide a doctor’s note of explanation to **DOS-deanofstudents@email.arizona.edu**. The Dean of Students Office will communicate the receipt of the note (with expected end date) out to the relevant faculty.”

Academic advising: If you have questions about your academic progress this semester, or your chosen degree program, please note that advisors at the Advising Resource Center can guide you toward university resources to help you succeed.

Life challenges: If you are experiencing unexpected barriers to your success in your courses, please note the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office can be reached at 520-621-2057 or DOS-deanofstudents@email.arizona.edu.

Physical and mental-health challenges: If you are facing physical or mental health challenges this semester, please note that Campus Health provides quality medical and mental health care. For medical appointments, call (520-621-9202. For After Hours care, call (520) 570-7898. For the Counseling & Psych Services (CAPS) 24/7 hotline, call (520) 621-3334.

#### **VI. Accommodation and the like:**

- 1) We provide accommodation for religious observances and for disabilities. Please contact us as soon as possible before the event to be accommodated occurs. Again, you must ask for accommodation IN ADVANCE.

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.

The University has a Calendar of Religious Holidays that can be found at <https://registrar.arizona.edu/calendar-religious-holidays> (Use the 2020-2021 column, that's the academic year)

If you will need testing accommodation (Disabilities Resource Center programs and the like), it is YOUR RESPONSIBILITY to let me know IN ADVANCE of the event to be accommodated. I STRONGLY suggest that you talk to me after the first one or two classes to get this set up.

- 2) Athletics, Band, Debate Club, etc: The UA allows accommodation for absences because of UA-sanctioned events such as athletics, cheerleading, band, and the like. Your responsibility is to notify me in writing in advance of the activity. The UA will provide an official note. It's up to you to provide me this

official note IN ADVANCE of your absence. Late notes will not be accepted nor will accommodation be made for late notification.

## VII. Exams and other assignments:

Graded material consists of: a) four midterms and a final exam; b) 13 multiple-choice homework assignments; c) four reading/writing assignments; d) two online “labs.”

A schedule will be posted elsewhere. NO LATE MATERIAL IS ACCEPTED, except of course if you have an agreed-upon-in-advance accommodation or if you’re experiencing COVID-19 (or some other disease) symptoms.

- 1) Midterms: Multiple-choice midterms will take place at the time of the class, as if you were sitting in the lecture hall. They will take place on D2L. I will give you 50 min from the time you start, ending no later than 10:00am. If you have requested and received accommodation, I will make a “special case” for you in D2L.

The exams take place on Monday, Feb 15 at 9am MST; on Monday, March 15 at 9am MST; on Monday, April 12 at 9am MST; and on the first hour of the 2-hour final, Thursday, May 13, at 10:30am MST (the 2-hour final exam period for this class is May 13 from 10:30am-12:30pm.

I drop the lowest of the 4 midterms (lowest by percentage).

Your “midterm grade” is the average (by percent) of the three remaining midterms. Nothing besides the four midterms is part of the “drop the lowest” program.

- 2) Final exam: the other half of the 2-hour May 13 exam period will be a comprehensive exam. That means that it will cover all material from the semester.

**NOTE that midterm 4 and the comprehensive final occur on the last day of the finals week. Unless you have a really really good reason for accommodation, the exams must be taken on that date/time.**

- 3) Homework: on most Saturday mornings, with the exception of the Saturday before exams, I will post in “D2L Quizzes” approximately 10 multiple-choice questions. They will be due the following Wednesday night. There will be a time limit (how much time you have after you open the “quiz”). You get two attempts: the better grade of the two attempts will be kept.

Your homework (D2L quiz) grade is the average (by percent) of all the quizzes.

- 4) Reading/writing: The UArizona mandates that we have a writing component to this class. In the past, and this semester too, I assign several short readings from magazines such as Scientific American or Sky

and Telescope. You have to read the assigned articles, and then write ½-1 page with guidance from me on content. There will be four such assignments, which are handed in to D2L “Dropbox”. **For the first writing assignment only**, we will read it and make comments to you. You will then resubmit. The percentage grade for assignment 1 will be 1/4<sup>th</sup> your grade on part 1 and 3/4<sup>th</sup> your grade on part 2. The “reading/writing” grade for this class will be the average (in percent) of the writing assignments. Due dates and details will be posted elsewhere.

I will try my hardest to give you two weeks (but at least a week) to do the assignment.

- 5) “Labs”: Since we can’t meet in person, some of our ordinary in-class labs (and out of class write-ups) can’t be done this semester. We will have approximately 2 or 3 labs done with online materials.

### **VIII. Extra credit: There is no way to earn extra credit.**

### **IX. How your grade is calculated:**

- |   |     |
|---|-----|
| a) 4 midterms, drop the lowest (so really 3 midterms)                         | 45% |
| 4 <sup>th</sup> midterm is one hour of the final exam session.                |     |
| b) Final exam (second hour of the final exam session, the comprehensive part) | 20% |
| c) labs   | 8%  |
| d) homeworks  | 15% |
| f) writing  | 12% |

**Grade calculation:** How do you calculate your grade at any time? Turn each grade item into percent. Average the items within a CATEGORY like labs. Multiply that particular part (say labs) by the above weighting factor (0.08). Add up all such factors and you'll get a total percent. You can use this to see what you need to earn on as-yet-untaken parts (like the final) to see if you can earn a specific grade.

I will put an example in D2L → content.

So to make it completely clear, things are graded by POINTS and are turned into PERCENT for grade calculation. So a 38 POINT exam is worth the same as a 53 point exam. For the labs, EACH lab is worth the same amount in the grade calculation, once turned into a percent. Ditto for homeworks. Homework 1 is worth the same as homework 7, no matter how many "points" each is.

And to be even more clear, blowing off even a 5% piece of the course is like

lowering your grade 1/2 LETTER grade. Another way to say this is that it all adds up, and you can get better grades by diligently doing everything that's assigned, or you can die the death of 1000 cuts by blowing off a bit of this and a bit of that.

**How letter grades will be assigned:**

We set the HARDEST POSSIBLE grading scale here. We reserve the right

to make the scale easier. No one scoring less than 50% in total will get a passing grade in any grading scheme.

A grade of "A": 83% or above

"B": 73-82.99%

"C": 63-72.99%

"D": 53-62.99%

**YOU ARE THEREFORE NOT COMPETING AGAINST OTHER STUDENTS IN THIS CLASS.**

This grading scheme is the result of 30+ years of teaching these sorts of classes at UA, so THE CURVE IS BUILT IN. It contains a built-in curve for the types of exam questions I ask.

**X: Important dates:** add-drop dates, monetary penalty dates, and the like, can be found at <https://registrar.arizona.edu/dates-and-deadlines/view-dates>

**XI: Academic Integrity:** The UA ACADEMIC INTEGRITY policies are posted at <https://deanofstudents.arizona.edu/policies/code-academic-integrity>

It's worth stating that we believe in the University's Code of Academic Integrity. Any work that you hand it is assumed to be your own, unless we've given you permission to work in groups.

Yes, cutting and pasting from websites is plagiarism (if you don't give credit)! In my class, it is NEVER ok to cut and paste, even if you do give credit.

Any work that you did not do that you are claiming as your own is plagiarism and/or cheating. By handing in any work, you are claiming it as your own.

You must do all homework and labs entirely on your own.

If you're found to be cheating on any item in the class, there WILL be severe sanctions. A typical sanction is failure of the class, no matter what your grade is at that point.

In some circumstances we might announce that it's ok to work in groups. Assume the answer is "no" unless we announce that you may work in groups.

All exams are to be entirely your own work, without the benefit of aids, unless stated by us otherwise.

The codes gives each of us rights and responsibilities. With your rights come responsibilities.

## **XII. Conduct:**

<https://public.azregents.edu/Policy%20Manual/5-308-Student%20Code%20of%20Conduct.pdf>

<https://deanofstudents.arizona.edu/student-rights-responsibilities/student-code-conduct-resources>

<http://policy.web.arizona.edu/education-and-student-affairs/threatening-behavior-students>

<https://deanofstudents.arizona.edu/accountability/disruptive-student-behavior>

We expect you to know that all prohibited conduct, especially threats against the professor, TA, or other students, will be dealt with in accordance with UA policy.

You've heard a lot about disruptive behavior. My attitude is that one of your many jobs is to be polite to me and to your fellow students. This politeness includes (but is not exclusive to) not having cell phones go off in class, not reading newspapers in class, not watching videos or movies on your computer, not talking during class (except when appropriate), not arriving late or leaving early. With ~50 of you in the class, seemingly little things add up to chaos.

This is written as if we were in a room together. In the D2L/Zoom world, please don't have your cell phone go off, please keep muted unless you are called upon to speak (we'll practice with raise hands and chat), please don't have extensive "fun" private chats.

### **XIII. Questions:**

It's sometimes scary to ask questions during a lecture, especially online. We encourage questions in class. We may suggest that specific questions be answered outside of class time. In either case, research shows that if you wrestle with the ideas, you're far more likely to understand the material than if you let the material wash over you.

We suggest that for academic questions, you try the following experiment:

- 1) Don't wait till the last minute. Ask while the topic is fresh in your mind.
- 2) Dig up another book from the Library.
- 3) Visit our office hours.

You are of course welcome to ask, outside of class, other questions, for instance, grading, studying, or suggestions for science courses to take next semester.

**XIV. Tier II classes:** For your information, the Astronomy Dept also offers a number of Tier II classes to fulfill gen-ed requirements. Not all are taught every semester.

ASTR201 - COSMOLOGY

ASTR202 - LIFE IN THE UNIVERSE

ASTR203 - STARS

ASTR204 - GREAT DEBATES ASTRONOMY

ASTR206 - OUR GOLDEN AGE OF PLANETARY EXPLORATION

(this is a Planetary Sciences class cross-listed)

ASTR208 - ENERGY, SOCIETY, AND THE ENVIRONMENT

ASTR214 - ASTROBIOLOGY:A PLANETARY PROSPECTIVE

(again, cross-listed with Planetary Sciences)

### **XV. AND LASTLY:**

The lectures and accompanying website are my intellectual property.

For the live online format, you for can only use the recorded lectures, my D2L site, and my website for class-related purposes (studying, basically). Let me repeat the UArizona legalese:

UARIZONA words: "For lecture recordings, which are used at the discretion of the instructor, students must access content in D2L only. Students may not modify content or re-use content for any purpose other than personal educational reasons. All recordings are subject to government and university regulations. Therefore, students accessing unauthorized recordings or using them in a manner inconsistent with UArizona values and educational policies are subject to suspension or civil action."

