

Evolution of a Habitable World (ASTR/PTYS 170A1)  
Spring Semester 2021

**Instructor:**

Dr. Steve Kortenkamp (kortenska@email.arizona.edu)  
Dept. of Planetary Sciences, Lunar and Planetary Laboratory, Kuiper Space Sciences building  
Virtual Office Hours: Widely available, contact via email to schedule a zoom appointment

**COVID-19 Special Circumstances:**

Class Modality: This class is scheduled for the flex in-person non-rotating modality. The class will begin remotely online and transition to in-person only after the University deems it safe for large classes with greater than 50 students to meet. Due to the number of enrolled students, the size of our planetarium classroom, and physical distancing requirements our transition to in-person indoor meetings may not take place until the second half of the semester, if at all.

Fully-Remote Option: When or if we are able to meet for in-person class those sessions will be recorded and posted to D2L. Our goal is to allow full participation in this class even for students unable or unwilling to ever meet in-person on campus.

Class Recordings: Recordings of class sessions that include students, either through Zoom or in-person, are considered part of a student's educational record and subject to the Federal Education Rights and Privacy Act (FERPA). These recordings can only be posted to our D2L course site and should NOT be shared with anyone outside of the class.

In-Person Adjustments: If or when in-person class resumes the times of this class may be adjusted to accommodate travel between classes on campus. We may start in-person class 5-10 minutes later than scheduled and end in-person class about 5 minutes earlier than scheduled. It is possible that some outside extra credit evening telescope activities will be possible during Stage 2. Stay tuned for information regarding this possibility.

Academic Advising: If you have questions about your academic progress this semester, or about your chosen degree program, 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](mailto: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.

**Other Pandemic Announcements: See the last page of this syllabus for requirements regarding face coverings and physical distancing during in-person meetings.**

**Course Description:**

This course develops a planetary perspective on the evolutionary processes that shaped Earth throughout its history. We will examine not only the evolution of Earth as a habitable planet but how our understanding of Earth has itself evolved. We will investigate the conditions that make Earth habitable, that is, why any kind of life can live on it, we will discuss the unique influences that biological processes and atmosphere/ocean systems have on each other, and we will review current notions of climate change, including evidence for the influence of human activities on it. This interdisciplinary treatment of Earth, its neighboring planets, and Earth-like planets being discovered around nearby stars will encourage students to consider the potentially unique position of Earth as a habitable world not only in space but in time.

**Course Components:**

This course will involve several components; 1) weekly D2L participation quizzes based on the content for the week, 2) brief 1-page writing assignments (6-8 of these), 3) a 10-week sun observing project, 4) a video documentary project covering the origin and evolution of Earth. The schedule of written essay due dates and required project milestones will be announced in class and posted on the class D2L page. Rather than having a final exam, your portfolio of written essays and term projects will fulfill the requirement of a summative assessment in this course. There will be no exams at all in the Covid version of this course.

**Division of Grade Between Course Components:**

Each student will design their own customized weighting for the different components of the course from the allowed ranges listed below. Your total weighting must add up to 100%. For most students it is anticipated that about 40% of the overall course grade will be determined by the withdrawal deadline in the 10th week of the semester. Please use 5% increments in your customization.

<u>Class Component</u>	<u>Allowed Range</u>
Weekly D2L Quizzes	0-15%
1-Page Written Essays	35-50%
Sun Time Lapse Observing Project	0-50%
Cosmic Calendar Video Documentary Project	0-50%

Example 1

D2L Quizzes	15%
Written Assignments	35%
Sun Observing Project	0%
Cosmic Calendar Project	50%
<b>Total =</b>	<b>100%</b>

Example 2

D2L Quizzes	10%
Written Assignments	50%
Sun Observing Project	40%
Cosmic Calendar Project	0%
<b>Total =</b>	<b>100%</b>

Example 3

D2L Quizzes	0%
Written Assignments	50%
Sun Observing Project	25%
Cosmic Calendar Project	25%
<b>Total =</b>	<b>100%</b>

**Final Letter Grade:**

The nominal scale shown here will be used to determine the final letter grades in the course from the overall cumulative percentage. A lower “curve” may be used if warranted.

A:	90% and higher
B:	80-89%
C:	70-79%
D:	55-69%
E:	below 55%

### **Course Objectives:**

Students who engage with this course will develop a broad understanding of Earth as a habitable planet and how it has evolved to this point. The objectives include fundamental concepts in Earth and space science as well as an appreciation for the discoveries and reasoning that lead to our current understanding. Through the term projects students will learn to collect their own data as well as gather relevant supporting information from outside sources. Throughout the semester students will be demonstrating their grasp of course material by composing brief 1-page essays at a level their peers outside of the class will understand (a.k.a., Students on the Street, or SOS). In the Sun Observing project students will use their smart phone cameras to record the evolution of sunrise and sunset time and location over a 10-week duration. Students will then learn during an in-class workshop how to use their images to construct a time lapse animation showing the progression of the sun over this period. In the Cosmic Calendar project students will produce, write, direct, and star in a documentary-style video aimed at the level of a SOS.

### **Expected Learning Outcomes:**

Upon successful completion of this course students will be able to (1) access and use information and data from a variety of sources, including their own activities, (2) critically evaluate this information and data for reliability in supporting fundamental concepts, (3) effectively communicate an understanding of these concepts to their SOS peers by synthesizing the information and data they have gathered, (4) demonstrate practical skills with a variety of software, including Word, Excel, Keynote, PowerPoint, and image/video editing apps.

### **Course Administration:**

The course web page is maintained through D2L. All work for this class **MUST** be submitted electronically to a D2L assignment folder. The D2L folder will automatically check your work for plagiarism. Because of this plagiarism check, the vast majority of you who do your own work and cite your sources of information properly will not have to compete with students who commit plagiarism.

All readings, assignments, notes, study guides, grading rubrics, and project descriptions are made available through the class D2L page. Homework and other written assignments must be submitted electronically to the designated D2L assignment folder. The D2L system will automatically check all submissions for uniqueness and flag potential instances of plagiarism. Because of this safeguard, the vast majority of students who do their own work and cite their sources of information properly will not have to compete with students who commit plagiarism. To ensure fairness to all students, late homework will not be accepted after the due date/time except under extraordinary circumstances.

### **Meeting the General Education Writing Requirements:**

As this is a Tier-One General Education course the required work involves a moderate amount of writing (see [gened.arizona.edu/content/writing-component](http://gened.arizona.edu/content/writing-component)). Over the course of the semester approximately 10 pages of written work is expected, distributed among essay assignments (6-8 pages), D2L participation quizzes (1-2 pages), and the term projects (2 pages). Guidelines for the expected structure of these writing assignments will be provided in the relevant D2L Content area and discussed in class.

### **Meeting the General Education Writing Revision Rule:**

The first three 1-page written essays will be treated as drafts and given provisional grades and feedback. It is expected that these draft submissions will be revised and re-submitted to earn full points back, provided the revision procedures described in class are followed (e.g., in-person or zoom discussions with a preceptor/TA or instructor). Remaining assignments beyond this will not be eligible for revision. The revision process cannot be treated as an extension on the initial deadline. Any work that is not submitted by the initial deadline will not be accepted and is not eligible for the revision process. Likewise, any initial submissions not meeting the “honest effort” criteria discussed in class are not eligible for the revision process.

### **In the Classroom:**

When or if we are allowed to have in-person class, no food or drink is permitted in the planetarium (except for bottled water). Please arrive on time so that you won't be locked out when the doors are closed and the lights are turned off. Showing up late (and leaving early) leads to a disruption and is not fair to those students who wish to participate in the class. Of course, there are occasional unavoidable reasons for arriving late. If you arrive late, or must leave early, please do so as quietly as possible. Other forms of class disruption are not acceptable. The instructor may choose to drop a student for persisting in disrupting the class using the Administrative Drop procedure.

Regular participation, whether online or in-person, is essential to do well in this course. Whether present in class or not, however, you are responsible for remaining aware of class activities and submitting assigned work by the due date.

### **Errors in Grading:**

An effort will be made to return graded material in a timely manner. Make sure to review all of your graded material as soon as possible. Occasionally errors in grading may occur. If you spot such an error, you must call it to the attention of the TA or instructor **within one week**.

### **Extra Credit:**

There will be significant opportunities for extra credit during the semester but these opportunities tend to diminish toward the end of the term. Take advantage of these opportunities while they exist. In addition, Dr K often issues significant bonus points on term projects for exceptional work that goes beyond the nominal requirements of the project. The total amount of extra credit that can count towards the final overall letter grade is capped at 5% (essentially half of a letter grade). If you have interesting ideas for extra credit work please tell Dr. K as early in the semester as possible.

### **Absence and Class Participation Policy:**

The UA policy concerning Class Attendance, Participation, and Administrative Drops is available at:

[catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop](http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop)

The UA policy regarding absences for any sincerely held religious customs will be accommodated where reasonable:

[policy.arizona.edu/human-resources/religious-accommodation-policy](http://policy.arizona.edu/human-resources/religious-accommodation-policy)

Absences preapproved by the UA Dean of Students (or dean's designee) will be honored. See [policy.arizona.edu/employmenthuman-resources/attendance](http://policy.arizona.edu/employmenthuman-resources/attendance)

Participating in the course and attending lectures and other course events are vital to earning a high grade. As such, class attendance is strongly encouraged. Students who are unable to attend class on days of assignment deadlines (due to illness or emergency) are required to bring documentation from their health-care provider or other relevant, professional third parties. Failure to submit documentation will result in unexcused absences.

### **Accessibility and Accommodations:**

It is the University's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let the instructor know immediately so that options can be discussed. You are also welcome to contact Disability Resources (520-621-3268) to establish reasonable accommodations. Please be aware that the accessible positions in this room should remain available for students who find that standard classroom seating is not usable.

### **Honors Credit:**

As this is a GenEd course it is available for Honors credit. Honors contract information is available at [www.honors.arizona.edu/future-students/honors-credit-across-campus](http://www.honors.arizona.edu/future-students/honors-credit-across-campus). See the instructor to discuss your ideas for an honors contract.

### **Makeup Policy for Students Who Register Late:**

Students who register by the end of the first week of classes will be given an opportunity to make up missed work within a reasonable time to be mutually agreed upon by the instructor and student.

### **Course Communications:**

Communication will primarily be done with in-class announcements and through the course D2L page. If email communication with the instructor or TAs is needed please use only your official UA email address to avoid the chance of your message being rejected as junk mail.

### **Required Out-Of-Class Activities:**

In addition to the written assignments significant out-of-class effort will be needed for this course. The telescope and model solar system projects will require many hours of work over the course of the semester.

### **Academic Integrity:**

Both students and faculty are bound by the University's Code of Academic Integrity, which covers many forms of academic dishonesty. Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. This means that work submitted in

your name must be the result of your own scholarly efforts. In this course it is typical each semester for 5-7 students to be caught plagiarizing on homework or attempting to cheat on the term project. Every such incident is reported to the Dean of Students. Don't be one of these students! Details on the code of academic integrity are available at:

[deanofstudents.arizona.edu/policies/code-academic-integrity](http://deanofstudents.arizona.edu/policies/code-academic-integrity)

The University Libraries have some excellent tips for avoiding plagiarism, see:

[new.library.arizona.edu/research/citing/plagiarism](http://new.library.arizona.edu/research/citing/plagiarism)

### **Classroom Behavior Policy:**

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, online shopping, etc.).

This course also supports elective gender pronoun use and self-identification; rosters indicating such choices will be updated throughout the semester, upon student request. As the course includes some group work and discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect.

### **Threatening Behavior:**

UA policy prohibits threats of physical harm to any member of the University community. Details on the policy are available at:

[policy.arizona.edu/education-and-student-affairs/threatening-behavior-students](http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students).

### **Nondiscrimination and Anti-harassment:**

The University is committed to creating and maintaining an environment free of discrimination. 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. Details on the official UA policy are available at:

[policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy](http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy)

### **Additional Resources for Students:**

UA Academic policies and procedures are available at [catalog.arizona.edu/policies](http://catalog.arizona.edu/policies).

Student Assistance and Advocacy information is available at:

[deanofstudents.arizona.edu/student-assistance/students/student-assistance](http://deanofstudents.arizona.edu/student-assistance/students/student-assistance)

### **Confidentiality of Student Records:**

All student records, not just grades but also any identifiable material submitted for credit are handled according to FERPA guidelines, see [www.registrar.arizona.edu/ferpa/default.htm](http://www.registrar.arizona.edu/ferpa/default.htm)

### **Subject to Change Statement:**

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

## ADDITIONAL COVID-RELATED INFORMATION

### Face Coverings:

Per UA's [Administrative Directive](#), face coverings that cover the nose, mouth, and chin are required to be worn in all learning spaces at the University of Arizona (e.g., in classrooms, laboratories, and studios). Any student who violates this directive will be asked to immediately leave the learning space, and will be allowed to return only when they are wearing a face covering. Subsequent episodes of noncompliance will result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied. The student will not be able to return to the learning space until the matter is resolved.

- The [Disability Resource Center](#) is available to explore [face coverings and accessibility considerations](#) if you believe that your disability or medical condition precludes you from utilizing any face covering or mask option. DRC will explore the range of potential options as well as remote course offerings. Should DRC determine an accommodation to this directive is reasonable, DRC will communicate this accommodation with your instructor.

### Physical Distancing:

During our in-person class meetings, we will respect CDC guidelines, including restricted seating to increase physical distancing. Any student who does not maintain appropriate physical distance from others may be asked to immediately leave the learning space. Noncompliance may result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied.

### Classroom 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.
- Visit the [UArizona COVID-19](#) page for regular updates.