

Course Syllabus

[Jump to Today](#)[Edit](#)

[Course Information](#) | [Contact Information](#) | [Office Hours](#) | [About This Class](#) | [Required Text](#) | [Suggested Text](#) | [Goals](#) | [Learning Objectives](#) | [Tentative Schedule](#) | [Weekly Homework](#) | [Course Prerequisites](#) | [Grading Policy](#) | [Exam Policy](#) | [Academic Integrity](#) | [Disability Policy](#) | [Miscellaneous](#)

[Shortcut to Home Page](#) (📄)[Shortcut to Modules](#) (📄)[Shortcut to Announcements](#) (📄)

Astro 10 Syllabus

Please [introduce yourself to me and to your classmates](#) (📄)

All due dates are given for local time and date in Pennsylvania (PA), which is currently:

Mon, May 14, 2018 at 6:05:28 pm

Course Information

Course Title: Astronomy 10 Web: Elementary Astronomy

Location: mostly online (**see below for exam info)

Times: self-paced, with biweekly due dates, and monthly scheduled exams (**see below for exam info)

Start Date: Monday 08 Jan, 2018

Course Credits: 2

[return to top of page](#)

Note: Syllabus will be updated as needed, especially toward the beginning of the semester. Please don't print in hardcopy, but check back here for current version.

Last updated Mar 15: updated final exam date

Contact Information

Instructor: Dr. Julia Kregenow (pronounced KREH-guh-now)

Email: kregenow@psu.edu (<mailto:kregenow@psu.edu>)

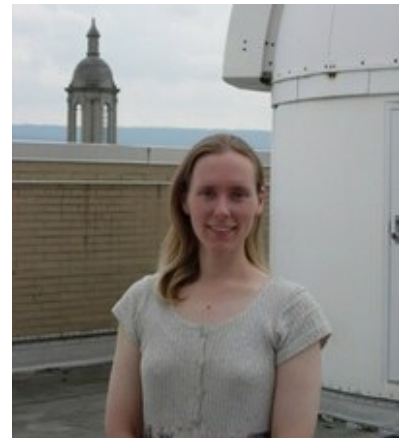
Office Phone: 814-865-0145

Office Address: 409 Davey Lab

Campus Mail: 525 Davey Lab

Emailing me: I will endeavor to respond to every email within 24 hours. If you haven't received a response within 48 hours, please check your spam folder. If you still don't see a reply from me, something is probably amiss -- Please try a different way to contact me, e.g. phone, Canvas messaging, or piazza. I don't want to miss any messages from you.

Emailing you: I will occasionally email individuals in the class, or the whole class. Please check your email regularly to be sure you get the info I send out. By default, I will use your .psu email address. If you don't use this address, or prefer I use a different email address, just let me know.



Office Hours

Office hours are held 5 days per week (M-F), with a total of >20 drop-in hours to choose from, and unlimited by-appointment hours -- something to suit every schedule. All times are Eastern US (EST/EDT). The following hours are valid from the first day of instruction to the last day of instruction, excluding University holidays. (Different hours will be announced for finals week.)

Professor: (starting in week 2)

- either by [Skype](#), [google hangout](#), [phone](#), or [in person](#)
- **Tuesdays** 12-1pm and 3-4pm drop-in (409 Davey), OR
- *anytime*, 24/7, by advance appointment
- please get in touch! I'd love to help

general TA drop-in office hours in 442 Davey: (starting in week 2)

- either by [Skype](#), [phone](#), or [in person](#)
- **Mondays** 11am-5pm
- **Tuesdays** 11am-5pm
- **Wednesdays** 11am-3pm
- **Thursdays** 1pm-7pm
- **Fridays** 11am-2pm

Which option should you pick? Hover your mouse over each option above [in blue](#) for more info.

<mailto:kregenow@psu.edu>

About This Class

[Welcome Message \(click me\)](#)

Required Text / Reading -- details

[return to top of page](#)

In this class we have three resources that everyone needs to use. All will help you succeed in the course -- some to ensure that you master the concepts you learn in class, and others to let you know what to expect about how the course will run, and ensure you are aware of upcoming events, due dates, and instructions.

1. **Canvas Modules** Each week there will be a [module](#) with some required online reading here on Canvas (usually 5-10 pages).
2. **Syllabus** This syllabus. It answers many questions that you might have. Even more questions are answered on the [FAQs](#) list. If you have a logistical question that is not answered here, please ask. The best place to ask it is on [piazza](https://piazza.com) (<https://piazza.com>), where I can answer it for everyone.
3. **Announcements** A few times a week, I post news, reminders, and other timely info on the [announcements](#) page. You will also see a list of upcoming assignment due dates toward the right side of the page when you log into our Canvas page. Make sure you read these each week to get important instructions to the class. I typically do not read announcements or due dates out loud to the class, so be sure to read them on your own. To help you stay current, I will display them on the big screen before each lecture begins, so it is a good idea to come to class a few minutes early and read the screen before class starts, and/or glance at them once or twice a week outside of class when you log into our course page, and scroll down to make sure you haven't missed any. Be sure to click on each announcement to expand it and read the full details. You may occasionally find extra credit opportunities offered here, so keeping up with announcements can benefit your grade.

Suggested Text / Reading -- details

[return to top of page](#)

- **Study Guide** The [Study Guide for whole semester](#) on Canvas furnishes questions on all testable topics for the course, roughly in the order the material is covered in class.
- **Astronomy Textbook** (http://www.amazon.com/The-Cosmic-Perspective-Fundamentals-Edition/dp/0133889564/ref=dp_ob_title_bk) [Cosmic Perspective Fundamentals](#)

[http://www.amazon.com/The-Cosmic-Perspective-Fundamentals-](http://www.amazon.com/The-Cosmic-Perspective-Fundamentals-Edition/dp/0133889564/ref=dp_ob_title_bk)

[Edition/dp/0133889564/ref=dp_ob_title_bk](http://www.amazon.com/The-Cosmic-Perspective-Fundamentals-Edition/dp/0133889564/ref=dp_ob_title_bk)), by Bennett, Donahue, Schneider, and Voit.

You may purchase your own copy in the bookstore, order one online from any vendor of your choice, buy access to an electronic version of the book (such as through

www.coursesmart.com (<http://www.coursesmart.com/9780133889567>)), search for a

copy in your local library or through interlibrary loan, or -- for students residing in State

College -- use the *free* copy available on 2-hour reserve in the [Physical and Mathematical Sciences](#)

[Library](http://www.libraries.psu.edu/psul/pams.html) (<http://www.libraries.psu.edu/psul/pams.html>).

- **Recommended Reading List** The [Recommended Reading](#) ([http://www.libraries.psu.edu/psul/pams.html](#)) list on Canvas provides suggested brief reading assignments for each topic, both from the recommended textbooks listed here, plus a variety of free online sources.

- **Math Help** ([http://www.amazon.com/Students-Guide-Mathematics-](http://www.amazon.com/Students-Guide-Mathematics-Astronomy/dp/1107610214)

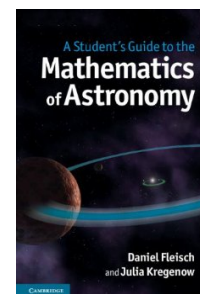
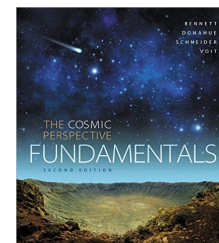
[A Student's Guide to the Mathematics of Astronomy](http://www.amazon.com/Students-Guide-Mathematics-Astronomy/dp/1107610214) (<http://www.amazon.com/Students-Guide-Mathematics-Astronomy/dp/1107610214>), by

Fleisch and Kregenow, gives step-by-step help with all the math we will be doing this semester (and much more). You may purchase your own copy, or use the *free* copy

available on 2-hour reserve in the [Physical and Mathematical Sciences Library](#) (<http://www.libraries.psu.edu/psul/pams.html>).

I also have some spare copies in my office

that I can loan out if you'd like to use the book at home but are having trouble accessing your own copy.



Goals

[return to top of page](#)

My overarching goals for this course are for you to:

- * think in the big picture, pondering your own place in the Universe
- * distinguish how science is different from other intellectual pursuits
- * acquire enough familiarity with the tools and terminology of astronomy that you could follow future astronomy articles in the popular news media if you so desired
- * apply math and quantitative reasoning where appropriate to solve problems

Toward this end, I aim to empower you, while serving as your astronomical sherpa on your journey to explore the universe and stretch your mind.

Learning Objectives

[return to top of page](#)

Here are some of the central ideas in Astronomy that you will master as part of this course:

- how light works, and how we get information from it
- how gravity governs the motions of objects
- relative sizes and spacing of objects on scales from our home planet up to the entire Universe
- the life cycle of stars, including our Sun
- how galaxies behave, evolve, and interact

- evidence that the Big Bang happened, and what it was like
- suitable environments for life to exist in the Universe

Tentative Schedule

Jan 19: Lessons 0 and 1 due (*note this is one week behind schedule to accommodate students who add late*)

Jan 26: Lessons 2 and 3 due (*this is back on the biweekly schedule*)

Jan 28-30: Midterm Exam 1

Feb 9: Lessons 4 and 5 due

Feb 23: Lessons 6 and 7 due

Feb 25-27: Midterm Exam 2

Mar 16: Lessons 8 and 9 due

Mar 30: Lessons 10 and 11 due

Apr 1-3: Midterm Exam 3

Apr 13: Lessons 12 and 13 due

Apr 27: Lessons 14 and 15 due

Apr 30 - May 4 (*day & time TBD by registrar; stay tuned...*) Final Exam 4

...Final schedule will be updated on the course announcements when the date is announced by registrar, so please check there in after week 6... **UPDATE: Final exam will be Monday April 30 at UP campus, +/- 1 day before or after for World Campus and remote students.**

Midterm exams will be open for more than one full day each, to allow flexibility to accommodate different work, family, and other class schedules. If you have a scheduling conflict with one or more of the exams, contact the professor as early in the semester as possible to see if an alternate day or time is possible. The farther in advance you ask, the more likely we will be able to find an alternate time for you.

Weekly Homework

[return to top of page](#)

This class has approximately one lesson per week, each with a multiple choice homework assignment and a discussion (short writing) assignment. There are 15 numbered lessons, and 15 weeks in the semester. Therefore the Lesson 7 assignments are due in week 7, etc. Due dates are scheduled every *other* week with two lessons due at a time to allow you some freedom in when to complete your work -- because we understand that some weeks you may get busy with other priorities in your life. You are encouraged to work ahead. If you would like access to a lesson that has not opened yet in order to work even farther ahead, just ask.

Lesson due dates are typically on Friday nights just before midnight. If you prefer to do your work on the weekends you may work on your lessons the weekend before they are due. This is one of many reasons why you are encouraged to work ahead. Lessons will be open for 2-4 weeks before they are due. If you would like more time than that to work on them (e.g. more weekend time), you are welcome to request early access to the lessons. This will give you as many open weekends to work on them as you like.

Course Prerequisites

No background in astronomy is needed to take this class.

Familiarity with high-school algebra and scientific notation will help you succeed. There are plenty of [math resources available](#) (📄) for anyone who would like to brush up.

Note: If you have already taken and passed (or are currently taking) Astro 010, 001, 005, or 006, you should not be in this class. Please contact the instructor ASAP to discuss options.

Grading Policy

[return to top of page](#)

Calculation of Grade:

65% Exams (best 2 of 3 midterms PLUS 1 final; all three equally weighted)

13% Discussion assignments on Canvas (short writing)

15% Homework assignments on Canvas (multiple choice)

5% completion of online Lesson reading material (as recorded by Canvas)

2% surveys

OVERALL COURSE GRADE GUARANTEES (you may do better, but I guarantee at least this):

(Scores are not rounded; exact percentages are used.)

If you score higher than 93.00% overall your grade will be A

If you score higher than 90.00% overall your grade will be A-

If you score higher than 87.00% overall your grade will be B+

If you score higher than 83.00% overall your grade will be B

If you score higher than 80.00% overall your grade will be B-

If you score higher than 77.00% overall your grade will be C+

If you score higher than 70.00% overall your grade will be C

If you score higher than 60.00% overall your grade will be D

Final course grades will be posted no later than the Saturday immediately following the final exam, and earlier if possible.

Exam Policy

[return to top of page](#)

Tests will be available during the dates listed above under "[Tentative Schedule](#) (📄)". All exams are closed book, closed notes, and closed internet.

Exam format is primarily multiple choice, True/False, and fill-in-the blank. (Same format as the homeworks.)

Midterms

In this course section, there will be three scheduled midterm exams. (See [schedule](#) (📄) above for dates.)

Midterm exams will be offered over more than one day to give you the flexibility to choose your preferred day and time.

Your lowest midterm grade will be automatically dropped -- even if it is a zero. (You need not actually take the exam that is dropped, so you can safely miss one. However, you are strongly encouraged to take all three if at all possible -- This is best for your learning, and it also may provide a grade boost because it gives you one extra chance to do well and boost your grade.) Because of this policy, if you have to miss one exam unexpectedly for any reason, it will not have any affect on your course grade; the zero will be automatically dropped. Because of the scheduling flexibility described above, and because you can miss any one midterm with no penalty, makeup exams are not given except under the following circumstances:

(1) If you know in advance that you will have to miss the entire testing period of a midterm exam for a university sponsored trip (e.g., athletics, research field work, class field trip) or religious observance, you may request a makeup midterm. All requests for a makeup exam for one of these approved reasons for ANY of the three midterms must be made by email no later than the end of the third week of the semester.

(2) If you are seriously ill for the entire testing period of a midterm, you may request a makeup within one week after the midterm. If your request is granted, the makeup should be completed within two weeks of the midterm, health permitting.

Please make your request via email. If a makeup exam request is granted, it may be given in any format the professor chooses, including (but not limited to) short answer, essay, or oral exam.

Final Exam

The fourth and final (non-cumulative) exam will be during finals week. For World Campus students not in residence at UP campus, you will be offered time flexibility for your final exam on the designated date(s). For UP students, depending on the day and time(s) that the registrar chooses for our final exam, the final exam may offer time flexibility in scheduling your exam, or it may be scheduled at a set time for everyone. Final exam details for UP students will be announced by the fifth week of the semester. Plan your travel accordingly to make sure you are on campus (if you are a local UP student) or have internet access (if you are a remote World Campus student). If your travel plans conflict with the final exam and cause you to miss the exam, you will get a zero. Please do not miss the final exam, as no makeup exam is planned, and that grade cannot be dropped. The final exam will not be cumulative (see [schedule](#) (☐) above).

***Test Location:

- testing for local **University Park** students is held on campus in Pollock eTesting Center (or designated alternate computer testing lab, in case the Pollock lab is full during finals week);
- testing location for students from **World Campus** (or other campuses, or UP students studying abroad) is determined by individual arrangement

See Testing Information Form in the Introduction Module: Lesson 0 for detailed instructions

Academic Integrity

Please see the [personal letter from Dr. Kregenow](#) (☐) for an explanation of how practicing academic integrity now will help you build an honest life. Meanwhile, here is a brief summary of how it applies to this

class:


I am passionate about academic integrity, because it is a foundation for building integrity in all aspects of our adult lives. Academic integrity is much more than "don't cheat", though that is certainly part of it.

Here are some reasons why academic integrity is so important¹:

- cheating in school leads to more cheating and lying later in life, in all contexts
- ethical decision making takes a great deal of practice, and college is the best time to practice
- cheating is contagious
- you'll be happier and more committed if our class is cheat-free
- you'll learn more

My promises to you: I will make the material as interesting and engaging as possible, and to find ways to make it relevant and connect it to your life -- even though your major is probably very far from astronomy. Personal investment and interest in a topic makes it easier to approach tasks honestly. I will provide a wide variety of help resources to allow everyone to succeed honestly in the class without need to resort to cheating. From time to time I may offer the class opportunities to practice thinking through hypothetical ethical dilemmas, brainstorm possible courses of action, and discuss potential barriers to action. This practice will make it easier to deal with real ethical dilemmas that will inevitably arise later in life in other settings. If there is sufficient interest from the class, we may also discuss practical steps you can take to minimize the chances that you will end up in bad situations where you are likely to face an academic integrity dilemma.

Examples: Here are some specific examples (though not a complete list) to help clarify how to honestly approach this class. **Honest behavior:** Discuss concepts and ideas with the professor, TAs, and other students in the class. Talking *about* course concepts and homework questions with others is a great way to help one another learn. But be sure to write up any work and select / submit answers on your own. Be sure you can explain everything in your own words. All work submitted by you should be an honest reflection of what you yourself personally know, understand, and can do without assistance. **Dishonest behavior:** Any action whereby a student fails to do all the assigned work on their own. This includes, but is not limited to: Relying on the written work of anyone else. Getting answers from any other source other than your own thinking. Using unauthorized sources of information for tests. Obtaining test questions in advance. Having someone else take your test or complete work on your behalf. Submitting a minute paper under somebody else's name. Submitting more than one minute paper. Falsifying or exaggerating an excuse for late or missed work. Misrepresenting any information to the instructor.

The tests in this class are closed notes, closed book, closed electronics, and closed web. Written work that you submit for this class may be analyzed with plagiarism detection software, so be sure that any writing you do for this course, no matter how short or long, is completely in your own words except where otherwise cited. Plagiarism is one of the most frequently committed violations of academic integrity in college classes. Warning: Ignorance is not a valid defense for plagiarism. Educate yourself about what constitutes plagiarism so you don't get burned. See tit.its.psu.edu/plagiarism () (<http://tit.its.psu.edu/plagiarism>) for resources to help you avoid plagiarism. These, or any other instances of academic dishonesty will be pursued under

University and Eberly College of Science regulations concerning academic integrity (science.psu.edu/current-students/Integrity/Policy.html (<http://science.psu.edu/current-students/Integrity/Policy.html>)). See the undergraduate advising handbook at handbook.psu.edu/content/academic-integrity (<https://handbook.psu.edu/content/academic-integrity>) and the faculty senate page at senate.psu.edu/policies-and-rules-for-undergraduate-students/47-00-48-00-and-49-00-grades/#49-20 (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/47-00-48-00-and-49-00-grades/#49-20>) for more information and links regarding Penn State's policies on academic integrity. In this class there will be no warnings, even on a first offense. Academic dishonesty can result in assignment of a course grade of "F" by the course instructor, or "XF" by Judicial Affairs as the final grade for the student. So please, pretty please, don't cheat.

I look forward to working together this semester to build a strong community of integrity!

(1) Bertram Gallant, Tricia, July 2014. "Creating the Ethical Classroom", Penn State Workshop

Disability Policy

[return to top of page](#)

Penn State welcomes students with disabilities into the University's educational programs. If you have a disability-related need for reasonable academic adjustments in this course, contact the Office of Student Disability Resources (SDR) by phone at 814-863-1807 (V/TTY), or online at equity.psu.edu/student-disability-resources/forms/contact-ods-form (<http://equity.psu.edu/student-disability-resources/forms/contact-ods-form>). For further information regarding SDR, please visit the Office of Student Disability Resources Web site at equity.psu.edu/student-disability-resources/ (<http://equity.psu.edu/student-disability-resources/>).

In order to receive consideration for course accommodations, you must contact SDR and provide documentation (see the documentation guidelines at equity.psu.edu/student-disability-resources/guidelines (<https://equity.psu.edu/student-disability-resources/guidelines>)). If the documentation supports the need for academic adjustments, SDR will provide a letter identifying appropriate academic adjustments. Please share this letter and discuss the adjustments with your instructor as early in the course as possible. You must contact SDR and request academic adjustment letters at the beginning of each semester.

[return to top of page](#)

Helping you succeed

The Eberly College of Science is committed to the academic success of students enrolled in the College's courses and undergraduate programs. Find links to help resources at science.psu.edu/current-students/support-network/advising (<https://science.psu.edu/current-students/support-network/advising>) and science.psu.edu/current-students/support-network/learning-support (<https://science.psu.edu/current-students/support-network/learning-support>). Additionally, there are a multitude of resources available for help with this class in particular. See above under "Office Hours", "Recommended Text", and look at the list of [FAQs](#) ([FAQs](#)) for more details.

Mutual respect and cooperation

"The Eberly College of Science Code of Mutual Respect and Cooperation" (science.psu.edu/climate/code-of-mutual-respect-and-cooperation) (<http://science.psu.edu/climate/code-of-mutual-respect-and-cooperation>) embodies the values that we hope our faculty, staff, and students possess and will endorse to make The Eberly College of Science a place where every individual feels respected and valued, as well as challenged and rewarded.

Copyright

[return to top of page](#)

All course materials students receive or to which students have online access are protected by copyright laws. Students may use course materials and make copies for their own personal use as needed during the semester. Class materials should not be shared with anyone except for current classmates in this course for the purposes of collaborative studying. Class materials (including digital files) should not be shared with any other persons, websites, or services at any time. Any unauthorized recording of lectures, copying, distribution and/or uploading of any course materials without the instructor's express permission is strictly prohibited. University Policy [AD 40](https://guru.psu.edu/policies/AD40.html) (<https://guru.psu.edu/policies/AD40.html>), the University Policy on Recording of Classroom Activities and Note-Taking Services addresses this issue. Students who engage in the unauthorized distribution of copyrighted materials may be held in violation of the University's Code of Conduct, and/or liable under Federal and State laws. If you have any concerns or questions about what is and is not allowed use of course materials, please ask.

[return to top of page](#)

Concerns or Suggestions?

Please talk directly to the instructor or any LA or TA, or if you prefer, consider submitting an [anonymous suggestion](#) ([http://](#))

Time Zone

[return to top of page](#)

All due dates are given for local time and date in Pennsylvania (PA), which is

Mon, May 14, 2018 at 6:05:28 pm

currently:

