

☆ ★ ☆ **AST 307 - SPRING 2014** ⇒★⇐
INTRODUCTORY ASTRONOMY
SECTIONS 48670 & 48675

WEBSITES: Astronomy Home Page → Courses → AST 307 (your section)
<http://www.as.utexas.edu/astronomy/education/courses.html>

Also read the “Memo to Undergraduate Astronomy Students Regarding Astronomy Courses,” item 1 at the top of the Astronomy Courses home page.

Section:	48670	48675	Both
Meets:	TuTh 9:30-11 AM	TuTh 12:30-2 PM	RLM 5.104*
	(* Take the stairs or escalator from the 4 th floor = ground floor)		
Instructors:	Prof. Harriet Dinerstein RLM 16.324, 471-3449 harriet@astro.as.utexas.edu	Prof. Chris Sneden RLM 17.206, 471-1349 chris@astro.as.utexas.edu	
Office Hours:	MW 1:30–2:30 PM	Wed 3-4, 7-8 PM	or by appointment
T.A.s:	Intae Jung, RLM 16.220	Alan Sluder, RLM 16.327	
Contact Info:	itjung@astro.as.utexas.edu	alsluder@astro.as.utexas.edu	
Office Hours:	Tues. 2-3 PM	Tues. 5-6 PM	
Help Sessions:	To be announced, usually on Wednesdays (e.g. before exams)		

COURSE DESCRIPTION: Ast 307, Introductory Astronomy, provides an overview of our modern understanding of the Universe in which we live, as well as the methods we use to learn about the properties of the planets, stars, galaxies, etc. that inhabit it. You will be called upon to master many strange and new concepts and ways of thinking about and interpreting natural phenomena. One of the most effective ways to achieve such mastery is by conducting your own logical reasoning and simple calculations (at the level of high-school algebra and geometry), based on fundamental physical laws presented in class and the textbook. If you feel uncomfortable with this approach, you may wish to take the alternate course Ast 301, “Introduction to Astronomy,” which is designed for non-science majors. (According to the Undergraduate Catalog, only one of Ast 301 or Ast 307, not both, may be counted, and Ast 301 “may not be counted toward a degree in the College of Natural Sciences.”)

Since Ast 307 fulfills the **Quantitative Reasoning flag**, more than half the course grade must be based on the use of quantitative skills to address, analyze, and answer real world questions. However, you will be using these skills to gain insight into interesting (we hope!) questions such as: How old is the Sun, the Galaxy, the Universe? What is their past history and expected future? How is our present knowledge limited by our current ability to study and measure distant objects? What proposed theories about the Universe are plausible; possible but not likely; simply unrealistic?

YOUR INSTRUCTORS & TEACHING ASSISTANTS: The Spring 2014 sections of Ast 307 will be team-taught by two Professors: Prof. Harriet Dinerstein and Chris Sneden. We are both primarily observational astronomers. Prof. Sneden specializes in studies of stars, and Prof. Dinerstein in nebulae. By teaching these classes jointly, we hope to provide you with a more varied and interesting experience, and to offer a wider range of opportunities to ask questions and get help. Additionally, both Teaching Assistants, Intae Jung and Alan Sluder, are astronomy graduate students with considerable experience in both astronomy research and teaching undergraduates.

TEXTBOOK: Our textbook is the seventh edition (7/e) of Bennett's "The Cosmic Perspective." This is the current, full-length version of a widely used introductory textbook that comes in a variety of forms. While we will not cover every chapter and subsection, it will not be sufficient to use "The Essential Cosmic Perspective," a shorter, less complete book. Also, do not select a subtitled edition such as "The Cosmic Perspective: The Solar System" or "Cosmic Perspective: Stars, Galaxies, and Cosmology." These omit too much necessary content.

TEXTBOOK OPTIONS: We ordered the textbook through the University Co-op, in what is called "*a la carte*" form (unbound, pre-punched pages). This is more flexible to use, especially to carry around, but more importantly it saves about \$50 on the price. Most of the copies at the Co-op are bundled with the publisher's eBook and an access code to MasteringAstronomy, a suite of on-line self-study tools including tutorials and animations shown in class, plus much more. If you choose to pass up the latter, the Co-op has a few copies without the e-media, but it only saves you a few dollars (about \$12). Slightly older editions (e.g. 6/e) of the book are available on the used market and may work (though we don't give an absolute guarantee!), but they rarely come with on-line access, and the StandAlone Access card is expensive. For a full listing of options from the publisher, go to: <http://www.pearsonhighered.com/educator/discipline/Physics-Astronomy/91000053.page> Click on "The Cosmic Perspective" New Edition; then click on "View in Catalog". Finally, click on the "Pearson Choices" tab to see the detailed list.

Another low-cost option is to purchase the CourseSmart e-text, in which case you won't have the extras but can save money. This is available only as an on-line purchase. A 180-day rental costs about half the price of the standard Pearson package, but if you add the MasteringAstronomy access, it costs almost as much as the Co-op bundle. (See <http://www.coursesmart.com/0321918614>.)

COURSEWORK AND GRADING: Our philosophy is that grades should be based on personal achievement, not forced onto a "curve" that restricts the numbers of students who receive a given grade. *There will be no quotas* on A's and B's! We believe that the course grade should reflect sustained effort over the semester, including regularly assigned homework and participation credits earned either in class or in pre-approved external activities. We require regular attendance and attention in class; specifically, we will track attendance and submit failing/absence reports for students with excessive absences. If you intend to try for "credit by exam" by showing up for the exams only, *you are in the wrong course and should drop it immediately.*

GRADING BASIS AND ACCESSING YOUR GRADES: We will use the plus/minus letter grade system. A table of score-to-letter-grade correspondences will be posted after the first exam. Assignments will be graded promptly (usually within one week) and returned. The Teaching Assistants will keep grade records and post them on **Canvas**. Questions about your grades should be addressed to the Teaching Assistants.

Hour Exams: 75%. There will be three in-class exams, each worth 25% of your grade. These may include multiple-choice or similar format questions, short-answer essays, and numerical problems like those on the homework. You'll be expected to bring a scientific calculator; we will give you a list of constants and equations. The tentative exam dates are: **Feb. 13, Mar. 27, May 1**. The last date will not be changed.

Missed Exams: It is not feasible for us to provide make-up exams for all students who have perfectly legitimate reasons for missing an exam. Instead, we will provide an all-purpose make-up exam during the official Final Exam time slot, that can replace any (**one**) earlier missed exam. This final will be comprehensive (cover the whole semester), and therefore serves as the make-up for any of the exams. It is available to any student in the class as a "retake" opportunity for the earlier exams. It will count only if it improves your grade (the "best 3 out of 4" grades count). The final for **48675** = 12:30 PM is **Thurs., May 8, 2 – 5 PM**; for section **48670** it's **Fri., May 9, 9 AM – noon**.

Homework: 15%. There will be approximately 6 or 7 graded problem sets during the semester. The lowest score will be dropped from the homework total. You will usually have a week to complete each, with several opportunities to obtain help from T.A.s or instructors. While you may discuss how to approach the homework with classmates, *the work you ultimately turn in must be your own*. Duplicated work will get no credit.

HW Format and Lateness Policies: In general, ***all assignments must be turned in as hard copy*** (on paper), *not* emailed. Emailed work will not be accepted for credit. Homework assignments are expected to be turned in **at the beginning of class on the due date**. They may be turned in to one of the T.A.s or in the Astronomy Student Office up to 12:30 PM on the next day (i.e. Friday), for reduced credit (20% off your actual score). After 24 hours, no homework will be accepted for credit. Note that at least one homework score will be dropped from the homework total, but don't "spend" this exception frivolously; you might need this option later in the semester.

Participation Activities: 10%. The remaining 10% of the course grade comes from various activities, mostly in class. In-class activities may include surveys, group responses to thought questions, and short problems. Out-of-class activities are discussed below, but no more than 2.0 points can be earned from outside activities. Participation credit is *cumulative* and there will be considerably more than 10 points worth of opportunities to earn it; however, no one will receive more than 10 points for participation. This portion of your grade is entirely within your power to guarantee!

Classroom Behavior: We expect everyone to be respectful of the instructor *and classmates*. The classroom is not the place for social interactions or cell phone conversations. **Turn off the volume on your cell phone before the beginning of class, and do not use them for texting or internet access during class.** The first time it happens we will merely make faces at you; subsequent violations will adversely affect your grade. Use of tablets or laptops for note-taking is discouraged due to its adverse effects on those around and behind you, and the instructors reserve the right to disallow their use in the classroom if they find it to be disruptive or distracting.

Scholastic Integrity/Academic Dishonesty: The University of Texas at Austin holds its students and community to high standards of academic integrity. Details can be found at http://deanofstudents.utexas.edu/sjs/acint_student.php; also see links to “Standards of Conduct” and “The Discipline Process.” We take these rules seriously. *We will not tolerate copying or cheating on exams, homework, or other class work.* If we find duplicated work or other evidence of cheating, neither student will receive credit. We may also impose more severe academic penalties, depending on the circumstances, not excluding an F for the course, or a report to the Dean of Students.

FOR STUDENTS WITH DISABILITIES: Instructors at the University of Texas at Austin provide certain academic adjustments for students with disabilities who are certified by the office of Services for Students with Disabilities (SSD). Contact them at 512-471-6259 or ssd@uts.cc.utexas.edu. If you anticipate needing accommodations, please bring the forms to us *as soon as possible* so that we can make the necessary arrangements.

EVENTS OUTSIDE OF CLASS: The Astronomy Department offers evening Star Parties on campus on most Wednesdays, Fridays, and Saturdays; details will be announced and posted at <http://outreach.as.utexas.edu/public/viewing.html>. You may earn up to 1.5 participation credits by *documented* attendance at our star parties (0.5 points per event). (By documented, we mean that you must obtain a signed slip from the person in charge of the star party.) **Warning to the naïve:** Star parties are held only when the weather permits. They are cancelled when it’s too cloudy to see anything. So don’t assume that you can wait until the end of the semester. If it’s cloudy then, you will be out of luck! Occasionally there are other opportunities, such as Public Talks. You may also earn credit for attending these, if you turn in a written (hard-copy only) summary. This will be available only for certain events that are announced to the class as a whole.

WE WANT YOU TO SUCCEED IN THIS COURSE! Our goal is for you to excel in, and we hope, enjoy, this course. To make that happen, we encourage you to ask questions, in and outside of class. If we don’t see your raised hand, call it to our attention; sometimes we miss seeing it from the front of the classroom, especially when the lights are lowered for slides. Don’t feel embarrassed to ask questions that you think might seem “dumb”; it’s much better to get something straight at first than to wait until you are really confused later on. Chances are excellent that some of your classmates have the very same question! Please also take advantage of the opportunities to ask us questions during office hours, help sessions, and by email; we are here to help you understand and learn!

IMPORTANT DATES FOR SPRING 2014 CLASSES:

First meeting of Ast 307: Tues., Jan. 14

Last day of free add/drop period: Thurs., Jan. 16

Last day to add a class through the Astronomy Student Office, or to drop a class with a possible refund: Wed., Jan. 29

Spring Break: Mon., Mar. 10 – Fri., Mar. 14

Last day to drop a class except for documented *non-academic* reasons; also the last day to change between letter-grade and pass/fail grading: Fri., Mar. 31

Last class meeting, also Exam 3: Thurs., May 1

Final Exam for 12:30 PM section: Thurs., May 8, 2 – 5 PM

Final Exam for 9:30 AM section: Fri., May 9, 9 – 12 PM

APPROXIMATE* SCHEDULE (a more detailed schedule will be posted):

Dates	Topics	Reading
1/14 – 23	The Big Picture; Cycles of the Sky	ch. 1, 2, S1
1/21 – 2/4	History of Astronomy, Gravity	ch. 3, 4
2/6 – 2/11	Light; Tools of the Astronomer	ch. 5, 6
2/13	Exam 1, on ch. 1 - 4	
2/18 – 3/4	Our Solar System and others	ch. 7, 8, 10, 12, 13
3/6	Our Sun	ch. 14
3/18 - 3/25	Properties and Lives of Stars	ch. 15, 17
3/27	Exam 2, on ch. 5 – 15	
4/1 – 4/8	Stellar Deaths and Remnants	ch. 17, 18
4/10 – 17	The Milky Way and Galaxies	ch. 19, 20, 21
4/22 – 4/24	Cosmology	ch. 22, 23
4/29	Life in the Universe	ch. 24
5/1	Exam 3, on ch. 17 - 24	

*** Subject to revision**