

ASTR 203: Stars

Fall 2013

Overview

Astronomy 203 is a Tier 2 General Education course, aimed at students who have had at least one science General Education course, but it assumes no prior knowledge of astronomy. In this course we will learn about topics related to **stars** including our own Sun! We will meet at **3:00PM - 3:50PM on Mondays, Wednesdays, and Fridays** at classroom: **ILC 140**.

Teaching Team

Your instructor is Dr. Jinyoung Serena Kim in the Department of Astronomy. My office is **Room N330, Steward Observatory, phone 626-0187, fax 621-1532, serena@as.arizona.edu**. Your TA is Mr. Youngmin Seo, a Ph.D. student in Department of Astronomy. Email is a good way to reach us. I will try to answer all messages within 24 hours. You are welcome to see me after class. It is best to make an appointment first, by phone or email.

Instructor: **Dr. J. Serena Kim**

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office hours: 10-11AM (Wednesdays) and 1-3PM (Thursdays)

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office hours: 11AM-noon (Mondays) and 10AM - noon (Thursdays)

Class Material

1. Textbook

The textbook is **Cosmic Perspective: Stars, Galaxies, and Cosmology** by Bennet, Donahue, Schneider, and Voit (7th edition). Or you can use **Cosmic Perspective** (the full version). You can choose either a hardcopy textbook or an eText. The eText can be purchased via mastering astronomy + eText (<http://masteringastronomy.com>) or just an eText at CourseSmart (<http://www.coursesmart.com/>). The eText can be used in computer and in iPad. I will follow the materials in the recent edition of the textbook, but if you are using the 6th edition, that should be fine. There may be slight reorganization of chapters in the textbook, but I do not expect major changes for this course.

Please choose (buy or rent) ONE of the following options for textbook:

Option 1: *Cosmic perspective: Stars, Galaxies, and Cosmology* by Bennet, Donahue, Schneider, and Voit (7th edition, publisher: Pearson). You can purchase this in Amazon or other internet bookstores.

Option 2: *Cosmic perspective* by Bennet, Donahue, Schneider, and Voit (7th edition, publisher: Pearson) - This textbook may be more expensive, and include sections related to planets, which I will not cover in this class. If you have used this textbook from your tier 1 course, you can use it.

Option 3: eText from “course smart” (<http://www.coursesmart.com/>)
Search for “*cosmic perspective: stars, galaxies, and cosmology*” or “*cosmic perspective*”.

Option 4: Mastering astronomy + eText from (7th ed.)
<http://www.masteringastronomy.com/> (code: MAKIM63159)
If you have the code for 6th edition from previous semester, please send me an email. Your account may still be valid, and I will help you get access to the 7th edition.

Option 5: Textbooks in options 1 through 4 but previous edition (6th edition). Please remember that the chapters may be arranged differently, and there may be some updated materials in the new edition. I expect that the changes would be minor for this course.)

It is up to you whether you prefer hardcopy or eText. The textbooks (hardcopies) are available from web stores, such as Amazon, and also in the U of A bookstore. If you are buying the book from the U of A bookstore, please make sure you only buy the textbook without any extra software or an extra book.

Helpful internet sites related to “stars”

Stars <http://stars.astro.illinois.edu/sow/sowlist.html> (by Jim Kaler at Univ. of Illinois)

Astronomy News <http://www.astronomynotes.com/index.html> (By Nick Strobel)

2. Clickers - IMPORTANT: bring your clicker every time!

I will use the **TurningPoint® ResponseCard NXT** for attendance check, polls, and some quizzes and tests. Please remember to **bring YOUR clicker for EVERY class and test**. If you do not yet have one, you can purchase the clicker at the university bookstore.

3. Starry Night

I plan to give you homework problems using Starry night College software. *Starry night College* (version 6) is available in the ILC Info Commons, therefore you do not need purchase this software for this course.

Desire2Learn (D2L) course website

Lecture notes, additional materials, including copies of the activities and homework, helpful web sites, and this syllabus, will be posted on the class web site. We will be using the UA course management system **Desire2Learn** (go to the URL <http://d2l.arizona.edu>, and follow the instructions for students; you'll need your NetID to login). You are strongly advised to stay current with reading the textbook as well as class notes to improve your performance on the quizzes, homework, and the classroom activities. Please make sure the email sent to your d2l account is forwarded to you well. We will be using this email to contact with you.

Structure of the course

Even though this class is large, you will be an active participant. Each week we will cover a particular broad topic. Mondays and Wednesdays will generally be lectures, and either lectures or activities will be given on Fridays. We will touch upon the broad and selected topics from the textbook, therefore keeping up with reading assignment is important. Questions are always welcome. There will be individual homework assignments, which is not a group work, but should be your own work. The due date for homework will be specified on the front page of each homework assignment. NO late submission will be accepted. Completed homework and project should be submitted to the D2L dropbox in word or pdf format.

Attendance

Attendance will be checked during each class using the NXT clicker. You are responsible to bring your clicker every lecture. Students without a responder (clicker) will count as absent. If you have an official excuse from the Dean of Students Office, a note from a health care provider, or you are observing a religious holiday, which is associated with an organized religion to which you belong. You are responsible for informing Dr. Kim. You are responsible for all the information given out in the lecture, including schedule changes. In addition, assignments and detailed information about homework, exams, and project will be given during the lecture. If you do not attend the lecture regularly it will be very hard to obtain good grades.

Quizzes and Exams

There will be pop quizzes throughout the semester. Some questions will be multiple choice questions, and some will be short answer questions. The NXT clickers will often be used. Two lowest grades will be dropped for the quiz grades. Quizzes will be mainly based on previous week's lecture materials, activities, and the textbook chapters covered by the lectures. There will be three exams: two midterm exams and one final exam. Midterm exam dates are **September 30 (3-3:50PM)**, **Nov. 1 (3-3:50PM)**, and the

final exam is scheduled on **December 13 (1-3PM)**. More details on midterm and final will be discussed during the lectures and will be posted in the course D2L site.

Activities and Homework

On some Fridays the class will have group activities. The activities will relate to material covered in previous lectures. During the activity the class will split into groups of 3-4 (maximum 4), and as a group you will fill in a worksheet and get a “group” grade (the same score for each person) for the activity. At the end of each activity, your group will submit a completed worksheet. Each activity will be scored out of 15 points. If one of the group members leave before the end of activity the person will not get the grade, unless it was discussed with me in advance. You may be given a homework related to the activity to be completed by the beginning of class the following Wednesdays usually. Homework should be **your own work. No late work is accepted** since you can drop (or swap) the lowest scores for both activity and homework during the semester. Some questions will be quantitative, but involve nothing beyond high school math level. Completed homework should be electronically submitted to the D2L dropbox in word, pdf, text, or rich text format.

Project - your star

Each student will adopt one star that will be randomly selected from a list of bright star catalogs. The name of your star will be given during the second week of the semester. Nobody will share the same star. Remember the name of your star, which will be used as your identifier during the course. Each student is expected to do mini-research about her/his own stellar system, and submit the report by the due date to the D2L dropbox. Example items and more information will be provided early in the semester during the lectures. The term project counts for 10% of your grade. Please do not copy the materials just as written in a webpage or a in a journal. If you quote, please cite the sources clearly. All the used references including the links (URLs) should be clearly written at the end of the term paper. Citation guide can be found here: <http://www.library.arizona.edu/search/reference/citation.html>. The page limit is 5 pages (single spaced, font size should not be smaller than 12). Citation page has no limit. The citation (The written project report is due by **3:00PM, Nov. 13, 2013— a FIRM deadline. No late submission will be accepted.**

Grades

The grade in this class will be based on three exams, in-class group activities, homework, quizzes, term project, attendance, and possible extra credit homework. The lower score from one of the two mid terms can be dropped. There will be 6 group activities and 6 homework sets during the semester. You may drop your one lowest activity scores and homework scores. There will be 7 pop quizzes, and the lowest 2 scores will be dropped. All missed assignments are scored as zero. Everyone is also expected to do the term project (your star). I reserve the option to offer a small amount of extra credit for an outside class event. This course will follow absolute grading, but I reserve a room for curve to adjust the final grades. The components of the grade and the final grade boundaries are:

•	3 exams (2 midterm and 1 final)	40%	(200 points)
•	7 quizzes (2 scores dropped)	15%	(75 points)
•	6 group activities (1 scores dropped)	15%	(75 points)
•	6 homework (1 scores dropped)	15%	(75 points)
•	Attendance	5%	(25 points)
•	extra credit homework	<5%	(<25 points)
			(total grade points: 500 points)

Errors in grading: If you spot an error in grading or have a question you must call it to the attention of the TAs or instructor **within one week after the grades are posted in the d2l**. An effort will be made to hand back material in a timely manner. Make sure to check your grades as soon as we post grades. Make sure that the emails are forwarded correctly from d2l, and it will be helpful to set an alert in the d2l for updates.

Conduct & Code of Academic Integrity

Please be courteous to each other, the TA, and me. Please do not eat, carry on conversations unless permitted for activities, or read materials unrelated to the class. Please arrive on time, and do not leave early. Always do your own work, and keep your academic integrity. Please turn OFF the mobile phones, electronic devices, and do not use your computer unless asked/permitted. No twitter, texting, facebook, social network, etc., is allowed during the class. Note takers using computers must talk to me to use laptops during the lectures, and sit down on the first row in the class room. For any emergency phone call, you may quietly step out of the classroom, and may come back to your seat quietly. If you are found using mobile devices without getting a permission from me or TA, you will be excused from the class, and lose 20% of the final grade.

The UA Code of Academic Integrity (see <http://deanofstudents.arizona.edu/academicintegrity>) prohibits all forms of academic dishonesty, including cheating, plagiarism, fabrication, copying test answers or homework assignments, and others taking quiz/exam for you; all students should be familiar with it and follow it in this class. Presentation of any work other than your own is considered academic dishonesty. The report that you turn in at the end of each activity is awarded a group grade, but each homework is an individual assignment and must be your own work. When you sign an activity, you are stating that you were actually there! Homework that is identical or nearly identical will be graded zero. During quizzes and exams you will put away the mobile devices and computers. The projects should be your own work for this class, and can not be copied directly from any website or book without proper references, can not be a copy of other person's work, and can not ask help from friends, family, or others without a permission from me. Please read **the Code of Academic Integrity** (<http://deanofstudents.arizona.edu/codeofacademicintegrity>) very carefully, and follow the code. Any project in violation with the code of conduct will be graded zero, and a second infraction will be considered a Code of Conduct violation.

You should also be aware of the University's policies on disruptive and threatening behavior: <http://deanofstudents.arizona.edu/disruptiveandthreateningstudents>

Students with Disabilities:

If you anticipate barriers related to the format or requirements of this course, please meet with me soon, so that we can discuss ways to ensure your full participation in the course. If you determine that disability-related accommodations are necessary, please register with Disability Resources (621-3268; <http://drc.arizona.edu>) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

Class Schedule

These lectures/activities will be revised during the semester as necessary.

Week	Date	Topics/Chapters/notes
1	Aug. 26, 28, 30	Introduction, Syllabus, Definition, Units, Coordinates
2	Sep. 4, 6	Monday: NO CLASS Coordinates, Constellation, Names of Stars, Distance scale
3	Sep. 9, 11, 13	Motion, Energy, and Gravity
4	Sep. 16, 18, 20	Light and matter
5	Sep. 23, 25, 27	Telescopes, Observations, Stellar properties
6	Sep. 30, Oct. 2, 4	Sep. 30: MIDTERM #1 The SUN - our star
7	Oct. 7, 9, 11	Radiation, Colors of Stars, H-R diagram
8	Oct. 14, 16, 18	Evolution of Low Mass and Sun-like Stars
9	Oct. 21, 23, 25	Evolution of High Mass Stars, Stellar Remnants
10	Oct. 28, 30, Nov. 1	Material Between Stars & the Galaxy Nov. 1: MIDTERM #2
11	Nov. 4, 6, 8	Stellar Birth and Young Stars

Week	Date	Topics/Chapters/notes
12	Nov. 13, 15	Monday: NO CLASS (Veterans Day) Stars in dwarf galaxies Carnivalized by our Galaxy, Stars in other galaxies
13	Nov. 18, 20, 22	Space, Time, and Relativity, Nucleosynthesis
14	Nov. 25	Death of Low Mass and Sun-like Stars Nov. 27, 29: NO CLASS (Thanksgiving)
15	Dec. 2, 4, 6	Death of High Mass Stars, Stellar Graveyard, Supernovae
16	Dec. 9, 11	Universe, Stars and Us - We are Star Stuff
Final Exam	Dec. 13. 2013	FINAL EXAM

Notes:

- (1) All classes meet in Room ILC140 starting at 3:00 PM.
- (2) Read the textbook, activities, and lecture notes for quizzes.
- (3) Quizzes can be given at any lecture.
- (4) Group activities are typically on Fridays.
- (5) Homework given out usually on Friday will be due usually on Wednesday.

Tips for the Class

Sometimes students view each class as a puzzle to be solved, where the intentions of the instructor and the ways to get a good grade are not entirely clear. This syllabus serves as the “contract” for this class, so there should be no mystery as to what we can expect from each other. Come to class regularly. and check the d2l class site regularly. Keep up with the readings (the textbook and the lectures). You will get a chance to give your opinion on a variety of topics. Get help if you need it. If you miss assignments it will be difficult to get the best grade in the class. Group activities work best when everyone contributes. Since you can drop 1 lowest scores for each category of work (2 for quizzes), no late work will be accepted, and no make up will be offered. Remember to participate in class. Always ask questions. Try to think outside the box. The best part of a university education is the chance to think deeply about big questions. Enjoy the class!

Instructions for opening an account on Mastering Astronomy (if you have chosen this option)

1. Go to <http://www.masteringastronomy.com>
2. Click on the “Students” button in the box labeled “Register”.
3. Answer “YES, I have an access code.” if you bought one at the bookstore. Answer “NO” if you must purchase a code on-line.
4. In Step 2, select **Bennett/Donahue/Schneider/Voit, The Cosmic Perspective, 7e**
(If you have 6th edition from previous tier 1 course, please contact with me with your information, so that you can have access to the 7th edition)
5. Use the access code which to set up your unique Login ID/Password.
6. Return to the login page and enter the site with your new Login ID and password.
7. During this next stage of registering, there are two additional fields:
 - a. Student ID. Enter your UA NetID
 - b. Course ID. Enter the following ID: MAKIM63159
 - c. Click the home page link and you are now in the system!

If you have REGISTRATION questions: contact <http://247.aw.com/> and fill out the request form for help.

If you have Mastering Astronomy questions: contact support@masteringastronomy.com or refer to the online help documents.

Note that I do not require mastering astronomy, but the resources available in the mastering astronomy together with eText will be very helpful for the course.

Classroom Etiquette

In order to foster a good learning environment for the ASTR 203 course, I agree to obey the following rules of etiquette while attending class:

1. I will carefully read the The UA Code of Academic Integrity, and will follow the code.
2. I will respect the instructor, TA, and other students in the classroom.
3. I will not eat food or drink anything other than water in the classroom
4. I will not read the Arizona Daily Wildcat or any other newspaper while class is in session.
5. I will turn my cell phone (or other mobile devices) OFF while class is in session.*
*3a. If I am a parent or I am in an emergency situation, I will set my cell phone to VIBRATE.
6. I will not disrupt class by talking to my classmates about non-course-related subjects while the professor is speaking to the class.
7. I will not use my laptop to play movies or games or surf the Internet for non-course-related subjects and sites (e.g.,facebook, twitter) while class is in session.
8. I will make every effort to arrive in class on time and not leave until class is over.
If I must arrive late or leave early, I will not disrupt class or distract my classmates.
9. I will not bring any pets or animals into the classroom (seeing-eye/therapy dogs exempted.)
10. Should I break any of these rules of etiquette which are listed above, I give Dr. Kim full authority to eject me from the classroom.

Date: ____/____/____

Signed,

Print your name

Your signature

(Please read this page, date, sign, and return it before you leave this classroom today.)