

# Astronomy 1120

## General Astronomy: Stars and Galaxies

Fall 2006 Course Syllabus

Section 001 – TU & TH 11:00 – 12:15pm (Room G1B30)

**Webpage:** <http://casa.colorado.edu/~jcollins/ast1120> (temporary)

### Instructor

Joe Collins

Office: Duane F-529 (Gamow Tower)

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Office hours: TU, 1:30 – 2:45pm.

### Teaching Assistant

Alaine Ginocchio

Office: Duane C-324 (CASA Reading Room)

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Office Hours: See course webpage

### Course Description

This 3 credit-hour course examines principles of modern astronomy for non-science majors, summarizing our present knowledge about the Sun, stars, stellar evolution, interstellar gas, galaxies, quasars, and the structure and origin of the Universe. Students will have the opportunity to attend nighttime observing sessions at Sommers-Bausch Observatory and Fiske Planetarium.

Note: Although there is no math prerequisite for this course, there will be some amount of basic math that will be necessary. It will by no means be the focus of this course, but some basic algebra skills will be useful.

### Course goal

Introduce students to concepts in modern astronomy

- Instill methods of critical scientific thinking in the context of astronomy.
- Improve the ability to think in the abstract, using math as a powerful tool.

### Required materials

- **Text:** Cosmic Perspectives, Bennett et al., 4th edition, Addison-Wesley

We will cover portions of Chapters 1, 4-6, 14-23

Textbook website: <http://www.masteringastronomy.com>

New copies of the textbook come with a registration code that allows access to the website. If you purchased a used copy of the textbook, you will need to purchase a subscription at the site. Cost is around \$25. See comments below on homework for information on registering at the website.

## Required materials

- **Infrared “H-ITT” Clicker.** We will use the clickers during every lecture. To get credit for participating in the clicker questions, you must bring the clicker to every class. See information below on clicker registration.

## CLASS FORMAT

### • **Clickers**

Class time will consist of both lecture and “clicker” activities. We will typically do a few clicker questions at the beginning and then at the end of class. The purpose of the clicker questions is to make the sometimes lonely lecture hall a more interactive environment. A portion of your grade will be determined by your performance on the clicker exercises. Each clicker question will be worth 4 points. You will be awarded 4 points for a correct answer to a clicker question, and 3 points for a wrong answer. You will receive 0 points for not participating in a clicker question. A consequence of this policy is that **YOU MUST ATTEND CLASS TO RECEIVE CREDIT FOR CLICKER QUESTIONS.** There will be 2 free clicker days that will not be included in your grade. The procedure for using the clickers will become clear once we start using them. The first 2 weeks will be a test period in which we will use clickers, but they will not count towards your grade. Register your clicker at <http://capa.colorado.edu/cgi-bin/RegisterAFS> , using your student ID number and clicker ID (found under the batteries inside the clicker). Any illicit use of clickers will be considered a CU Honor Code violation.

### • **Homework**

There will be 8 or 9 homework assignments during the course of the semester. The homework assignments will be performed and submitted online through the textbook website, Mastering Astronomy ([www.masteringastronomy.com](http://www.masteringastronomy.com)). In order to register on the website, you will need an access code. This access code can be found in the student access kit that came with the purchase of a new Cosmic Perspectives textbook. If you purchased a used copy or do not have an access kit, you can purchase a subscription from the website for around \$25. You will be asked a course code when registering on the website. Our course code is **A1120F06** . **Register on the website with your WebCT ID; do not use your CU student ID number.** See the course webpage for more help. A tutorial called “Introduction to Mastering Astronomy” will be in the assignment list throughout the semester. This tutorial will show you how to complete assignments.

### • **Exams**

There will be two midterm exams and a final exam. The exams will be multiple choice and machine scored. **Bring a #2 pencil to the exam.** Calculators are optional. Dates for the midterms are tentatively scheduled for 9/28 and 11/2. The final exam will be cumulative with a strong emphasis on material from the last third of the course. The final exam is on Monday, 12/18 at 1:30pm.

Make-up exams will only be allowed under the most dire of circumstances, and you must let me know prior to the exam. Any requests for a make-up exam must be submitted to

myself in writing (email will do) at least 1 week before the exam. IF YOU DO NOT MAKE PRIOR ARRANGEMENTS WITH ME FOR TAKING YOUR EXAM, THEN YOU WILL RECEIVE A ZERO.

- **Planetarium Sessions**

We will meet at Fiske Planetarium twice during the semester. See a campus map for the planetarium's location. The tentative dates for these meetings are 10/24 and 12/12. Bring your clickers to the planetarium since we will be using them those days to take attendance. Planetarium doors will be closed and locked 5 minutes after start time, so please be on time.

**Grading**

Your final grade will be based on the following,

Attendance/Clickers	15%
Homework	30%
2 Midterms	30%
Final Exam	25%

Grades will generally be assigned by the following scale:

A = 90-100%	D = 60-70%
B = 80-90%	F = below 60%
C = 70-80%	

Final course grades will not be curved. However, tests will be curved.

I cannot stress enough, the importance of and finishing assignments and participating in the clicker questions. If you miss numerous assignments, do not be surprised when your final grade reflects that.

**Academic discipline**

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at [http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student\\_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code)

### **Other Etiquette**

- Please turn cell phones off during class time.
- Be respectful of the classroom environment. Others are trying to learn something.
- Do not disrupt class by packing your belongings before the end of lecture. Class will finish on time.

### **CU Honor Code**

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council ([honor@colorado.edu](mailto:honor@colorado.edu); 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>

### **Religious Observances**

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. *In this class, you must inform me in writing at least 1 week prior to any missed clicker days or exams.* See full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html)

### **Discrimination and Sexual Harassment**

The University of Colorado at Boulder policy on Discrimination and Harassment (<http://www.colorado.edu/policies/discrimination.html>), the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

### **Disability Services**

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and [www.Colorado.EDU/disabilityservices](http://www.Colorado.EDU/disabilityservices)

**Disclaimer:** This is not a contract. All information in this syllabus is subject to change.

## Tentative Schedule:

<u>Week</u>	<u>Dates</u>	<u>Text Chapters</u>	<u>Topic</u>
1	8/29,31	1, 4	Intro, Newton's Laws
2	9/5,7	4, 5	Newton's Laws, Light
3	9/12,14	5, 6	Light, Telescopes
4	9/19, 21	6, 14	Telescopes, The Sun
5	9/26,28	14	The Sun, <b>EXAM #1</b> (9/28)
6	10/3, 5	15	Stars
7	10/10,12	15, 16	Stars, Stellar Evolution
8	10/17, 19	16, 17	Stellar Evolution
9	10/24, 26	17, 18	Stellar Evolution
10	10/31, 11/2	18	Stellar Evolution, <b>EXAM #2</b> (11/2)
11	11/7, 9	19	Our Galaxy
12	11/14, 16	20	Galaxies
13	11/21, 23		<i>FALL/THANKSGIVING BREAK</i>
14	11/28, 30	21	Galaxy Evolution
15	12/5, 7	22	Cosmology
16	12/12, 14	22	Cosmology
17	Mon, 12/18		<b>FINAL EXAM</b> (1:30-4:00pm)