

- Instructor: Dr. Ross Cohen
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Phone: (619) 644-7825
Office: 34-161 (inside 34-162)
- Office Hours: Held in the instructor's office or in the computer room (34-108).
Monday: 1:15 – 2:45 P.M.
Tuesday: 9:30 – 11:00 A.M. and 3:30 – 4:15 P.M.
Wednesday: 10:45 A.M. – 12:00 P.M.
- Mail: Mail may be left with the switchboard; please ask them to stamp the time and date. Note: homework should not be turned in at the switchboard!
- Web Site: See www.grossmont.edu/rosscohen for announcements, due dates, and review questions. After the first test, grades will be posted on Blackboard at bb.gcccd.edu.
- Textbook: Neil F. Comins & William J. Kaufman III, *Discovering the Universe*, 9th or 10th ed. The textbook comes with a CD ROM that contains exercises and animations that may be useful to you, although they will not be required.
- Subject: Astronomy 110 covers the entire Universe. We will discuss the physical laws that govern the Universe and how observations allow us to draw inferences about its properties. We will discuss the structure and evolution of the whole Universe (cosmology), as well as its constituents: stars (including the Sun), their birth and death, neutron stars and black holes, galaxies and galaxy formation, and galaxy clusters. We will cover the Earth and the formation of the solar system, but we will not discuss the other planets in detail. Learning the constellations is not a goal of the class.
- Math: We will use very little mathematics in class, but it is impossible to talk about a science like astronomy without using some. We will use proportions and inverse proportions, and we will square numbers and raise them to the 4th power. We will also use the metric system and scientific notation. Generally we will look at the meaning of equations, only occasionally doing numerical computations. We will go over necessary concepts in class when we use them. Some of the homework will require slightly more advanced calculations; this will be explained when necessary. Students requiring additional help with math for this class may go to the Math Study Center in the Tech Mall.
- Disability:** **Students with disabilities who may need accommodations in this class are encouraged to notify the instructor and contact Disabled Students Programs and Services (DSP&S) early in the semester so that reasonable accommodations may be implemented as soon as possible. Students may contact DSP&S in person in room 110 or by phone at (619) 644-7112 (voice) or (619) 644-7119 (TTY for deaf).**

- Exams: There will be three midterm exams and a final. None of these scores will be dropped. The final will be inclusive of all previous material, but it will concentrate on material not covered on any midterm. The Apperson form #28040 is required for midterms and final (4 total).
- Quizzes: There will be weekly quizzes. The Apperson form #28190 is required (≈ 8 total). **Unless otherwise announced, there will be a quiz on the last class of the week when there is no exam, generally covering the material of the previous week.** *There will be no makeup quizzes.*
- Homework: One or two chapters from *Discovering the Universe* will be assigned each week. You should read the material prior to the class discussion of that topic. There will be homework including both written work and also computer exercises. Scores for any homework will be included with the quizzes. Occasionally, homework may be assigned that is due at the next class period, so if you are absent when that homework is assigned, you will not be able to do that assignment. For computer exercises, you will generally have more time. *Late homework will not be accepted.*
- In-class exercises: We will have a small number of in-class, group exercises. They will not be announced in advance. *There will be no makeup in-class exercises.*
- Makeups: There will be no makeup quizzes, homework, or in-class exercises. You will receive a zero for missing any of these items. The lowest two scores out of the quiz/homework group will be dropped. No in-class exercises will be dropped. That is your “participation credit.”
- Midterm exams may be missed only for reasons beyond your control. If you miss a midterm exam, you must notify me (the instructor) within 24 hours. Email me, call me or leave a voice mail message stating the circumstances beyond your control. Email is better! If you call, **you must leave a phone number where I can reach you. State the phone number at the start and end of the message.** The morning after you leave your message, call the Assessment Office at 644-7200 to make an appointment to take your makeup exam. They have limited hours. You must make an appointment to take the exam, and you must take the exam by the date specified by the instructor (*generally* one week following the exam date). Bring a photo ID. If you do not notify me in time, or if you fail to take the exam at the assessment office, you will receive the score on your lowest midterm, minus 10%. If you miss additional midterm exams, you will receive a zero for those exams. If you miss the final, you will receive a zero for the final. *There are no makeup finals, except in the case of a verifiable illness.*
- Grading: There will be approximately 400 – 500 points total for the class. Quizzes and homework will be worth 10 points each; in-class exercises will be worth 5 points each. Each midterm exam will be worth 60-70 points. The final exam will be worth approximately 120 - 130 points. Grades will be assigned as follows: $A \geq 85\%$, $B \geq 75\%$, $C \geq 60\%$, and $D \geq 50\%$. The cutoff percentages *may* be lowered slightly at the end of the semester. **We will also be using +/- grades. The cutoffs for these will be determined at the end of the semester.**

- Dictionaries: No electronic translators will be permitted during any quiz or other exam. You may use a small printed foreign language dictionary if it has no additional writing and has been approved by the instructor. The dictionary may provide translations, but not definitions or explanations.
- Attendance: Attendance is required. Please arrive on time. Read the Grossmont College attendance requirements in the College Catalog. In accordance with College policy, students **may** be dropped after missing the equivalent of one week of class. Students who miss more than 6 class sessions **will** be dropped. If you miss many activities you decrease your chances of passing; students who are absent from class for more than 3 graded activities (quizzes, tests, in-class exercises) are likely to be dropped regardless of the reason for the absence. Exceptions **may** be made for students with high enough grades that they are likely to succeed, regardless. If you enroll in the class after the first day, missed activities *will* be counted as absences. Please discuss illnesses that may affect regular attendance with the instructor.
- Class participation is expected. If you miss the in-class exercises or are absent when homework is assigned, you will miss the points for those activities.
- Academic Integrity: Cheating and plagiarism (using as one's own the ideas, writings or materials of someone else without acknowledgement or permission) can result in any one of a variety of sanctions. Such penalties may range from an adjusted grade on the particular exam, paper, project, or assignment to a failing grade in the course.
- Academic dishonesty includes, but is not limited to, submitting another person's work as your own, copying from another student on assignments or exams with or without that person's permission, allowing another student to copy one's work, or using any unauthorized materials in an exam. For any quiz, test, or assignment on which academic dishonesty occurs, the student will receive a zero. You may work together to understand any concepts, but work you hand in should be your own. **If you look at your cell phone, pager, or other electronic device during an exam, your exam paper will be collected at that time!!!**
- Decorum: It is necessary to maintain standards of behavior in order to have a successful class. Arrive on time. Be quiet during exams or when someone is addressing the class as a whole. Don't have private chats. No food is allowed in the classroom. Cell phones and pagers should be off. Do not leave early. If you step out of the room to take a phone call, take your belongings with you and do not return until the next class. Do not wander in and out for a smoke. Please discuss the need for exceptions to these policies with the instructor. **You may not tape, film or photograph the instructor without the instructor's permission!** The penalty may be a two day suspension.
- The instructor may summarily suspend a student for the class meeting when disruption occurs, as well as the following class meeting. For further clarification and information on these issues, consult with your instructor or contact the office of the Assistant Dean of Student Affairs. The Student Code of Conduct is discussed in the brochure "Student Discipline Procedures."

Student Learning Outcomes

Upon successful completion of this course, students will have the skills to:

- 1) Evaluate how the scientific method and astronomical observations are used to improve our understanding of the Universe and its contents.
- 2) Recognize the important components and fundamental forces of the Universe.
- 3) Explain the relationships between the components of the Universe.
- 4) Explain how the Universe and its components change with time.
- 5) Recognize how the physical laws are responsible for the behavior of the Universe.

Expectations.

I have a number of expectations about how you should approach this class and conduct yourselves. You must take responsibility for your own education!

- 1) You should arrive on time.
- 2) You should remain for the entire class.
- 3) You should come prepared to learn.
- 4) You should read the material, preferably in advance of lecture.
- 5) You should take notes on the reading in whatever manner you find most helpful.
- 6) You should listen attentively in class. Be alert for material not covered in the reading and for things you didn't understand in the reading material.
- 7) You should take notes in class.
- 8) You should ask relevant questions about things you didn't understand in the lecture or reading.
- 9) You should behave with decorum. You should not interfere with the learning process of your classmates.
- 10) You should do the assigned work.

What are your expectations of me?

How to read the book.

You cannot expect to read the book like a novel. It must be studied. If you are stumped by the meaning of one paragraph, try not to go on to the next paragraph until you have figured out what is confusing you. You will almost certainly need to take notes on the reading. It will not help to highlight or write *everything* down. Not everything is equally important. My suggestion is that for each paragraph in the book, try to write one sentence summarizing that material. If you can do that, then you will have a very compact version of the important material. This will not work for every part of the book, and it may not be the right way for you. Everyone has his or her own style of note taking; find the one that works for you.

Astronomy on the internet.

There are many good astronomy internet sites. Try taking a daily look at the Astronomy Picture of the Day. It is at <http://apod.nasa.gov>. There are also many bad astronomy internet sites. Try to learn what separates good science from fake science.