

Astronomy 1010: Astronomy I

Syllabus — Spring 2001: A Space Odyssey

Course ID: ASTR-1010-201,202,203
Lecture Times: T R 12:45 p.m. – 2:05 p.m.
Laboratory Times: M 7:30 p.m. – 9:30 p.m. (Section 201/Gardner)
 T 7:30 p.m. – 9:30 p.m. (Section 202/Luttermoser)
 W 7:30 p.m. – 9:30 p.m. (Section 203/Raines & Dyer)
Lecture Location: Brown Hall, Room 265
Lecturer: Dr. Donald Luttermoser
Office Hours: T R 2:05 p.m. – 3:00 p.m. (279 Brown Hall, 439-7064)
Textbook: *Universe, Origins and Evolution* (1997) by Snow & Brownsberger

Course Outline

<u>Lecture Day</u>	<u>Topics</u>	<u>Textbook Reading</u>
January 9, 11	The Scientific Method & Math Primer	Chapter 1
January 16, 18	The Night Sky & Astronomical History	Chapters 2, 3, 4
January 23, 25	The Motion of the Moon and Planets	Chapter 5
January 30	**** Exam 1 ****	Chapters 1-5
February 1, 3	The Nature of Light and Matter	Chapter 6 (partial)
February 6, 8	The Solar Atmosphere	Chapters 13
February 13, 15	Optics & Telescopes	Chapter 6 (partial)
February 20	A Global View of the Solar System	Chapter 7
February 22	**** Exam 2 ****	Chapters 6, 7, 13
February 27, 1	Solar System Formation & Extrasolar Planets	Chapter 12
March 6, 8	The Earth-Moon System	Chapter 8 (partial)
March 13, 15	Spring Break — No Classes	
March 20	**** Exam 3 ****	Chapters 8, 12
March 22	Formation of the Earth-Moon System	Chapter 8 (partial)
March 27, 29	The Terrestrial Planets	Chapter 9
April 3, 5	The Jovian Planets	Chapter 10 (partial)
April 10	**** Exam 4 ****	Chapters 8-10
April 12	The Jovian Planets	Chapter 10 (partial)
April 17, 19	Small Bodies of the Solar System	Chapter 11
April 24, 26	Review of the Course	
May 3*	Final (1:20 – 3:20 p.m.)	Chapters 1-13

* — Note that the final falls on Thursday, May 3rd at the time listed above.

Overview

Astronomy I represents an introduction to the science of astronomy and a survey of the solar system. The class notes are designed to follow and elaborate on the course textbook *Universe: Origins and Evolution*. These class notes can be purchased at the bookstore along with your textbook and are extremely useful as a study guide for the exams. **Please note that additional information, comments, and videos will be presented during class in conjunction with the course notes, so it is strongly recommended that you attend each lecture.**

The main goals of this course is to demonstrate to you how things in the solar system and Universe work and to introduce you to the scientific method. Even though *mathematics* is the language of astronomy and physics, we will not emphasize mathematical problem solving. **However, basic mathematics will be a part of this course!** There will be times when simple formulae describing some physical principle are discussed and simple examples given to demonstrate the given principles. **Such examples are likely to show up on the exams.** Your homework will be designed to help you prepare for exams, however, **they will not be collected or graded.**

Quizzes, Exams & Laboratories

There will be 4 exams throughout the semester and a **comprehensive** final on the dates listed on the syllabus. Each will cover material prior to the test and be taken during class time (except the final which will cover everything discussed in the course). Each exam will be worth 30 points, and the final worth 100 points. The questions on the exams and final all will be *multiple choice*. You will place your answers on ScanTron sheets which will be supplied to you, and each test will be graded by a scanning machine. **As such, you are required to bring #2 pencils with you to each test — they will not be supplied to you!** Your final grade will be based upon the three best exam scores, the final, and total laboratory score as determined from the equation on the next page. This means you can safely miss one exam with no penalty. If you take all 4 exams, I will drop the lowest score from your grade calculation. Crib cards will not be allowed for the exams, but you will be able to bring one 8.5x12" *crib* sheet to the final. **Make-up tests will NOT be given!** I strongly recommend that you do not miss any exams just because you don't feel like taking it at the time — you never know when you might get sick. Missing two exams will likely result in you failing the course!

There will be no other extra credit assignments allowed in this class, so don't even ask. Each exam will have two additional extra-credit questions typically associated with one of the videos you will see in class. Most of the videos we will show are not in the ETSU library, so there will be no way to view these videos if you miss the lecture when they are shown — **again, attend all of the lectures so you don't miss anything!**

Depending on the Section for which you signed up, students of **Astronomy I** are **required** to meet in the evening for laboratory from 7:30 to 9:30 p.m. weekly either on Monday (§201), Tuesday (§202), or Wednesday (§203) in conjunction to the lectures. The instructor for each lab is listed on the first page of the syllabus. We will be sharing lab facilities with **Astronomy II**. These facilities are the **ETSU Campus Observatory** and **Brown Hall Room 264**. **Astronomy I** and **Astronomy II** classes will swap each lab location every week — while **Astronomy I** uses Room 264, **Astronomy II** will use the ETSU Observatory, then the next week the 2 classes change locations. Your first lab meeting will not take place until the 3rd week of the semester (starting January 22, 2001) and will meet in Brown Hall Room 264 during that week (see the Lab Syllabus for more details).

Each student is required to buy the ASTR-1010 Astronomy I Laboratory Manual from the bookstore for this course. At the end of each lab in this manual, there is a sheet either entitled *Observing Log* or *Laboratory Log* depending upon whether the lab deals with outdoor or indoor activities, respectively. Raw data taken during the lab should be recorded on these sheets and all questions on the laboratory report pages answered. There is also a *Experiment Summary* section for each laboratory, where the student is required to write a paragraph or two summarizing the results of each experiment. These laboratory reports will be due the following week at the beginning of the laboratory. **No laboratory reports will be accepted late!** Since they are worth 25% of your final grade, it's a good idea to do well on these laboratory reports. There will be a grand total of 12 laboratories you will perform (one will be a take-home lab), each worth 10 points. Of these, 2 will be considered as extra credit. As such, you can safely miss up to 2 labs and not be penalized. **Finally, if you turn in less than 6 laboratories, you automatically fail the course independent of your exam scores.** Don't blow off the labs!

Grading

The grading system will be based by the following criteria:

$$\text{Final Grade} = 50\% * \left(\frac{\text{Best 3 Exam Scores Total}}{90} \right) + 25\% * \left(\frac{\text{Lab Total}}{100} \right) + 25\% * \left(\frac{\text{Final}}{100} \right)$$

The final grades will be based on the following scale:

A = 90% or better	B- = 73–75.9%	D+ = 56–58.9%
A- = 88–89.9%	C+ = 70–72.9%	D = 50–55.9%
B+ = 86–87.9%	C = 62–69.9%	F = Less than 50%
B = 76–85.9%	C- = 59–61.9%	

Note that a failing grade also will be given if the student has engaged in any form of academic dishonesty.