

ASTRONOMY 2 Fall 2002 Overview of the Universe

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Office Hours Monday 1-3, Tuesday 3-5

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Discussion Sections Tuesday 1pm ISB26, Tuesday 5pm ISB 356

Class Web Site: <http://www.ucolick.org/~jones/ay2.htm>

We will post homework, homework solutions, old exams, class notes, the syllabus, office hours, etc. here.

Texts: Kaufmann & Comins, *Discovering the Universe 5th edition*
Kaufman & Comins will be available from both the Baytree Bookstore and Slug Books.

This course will provide a broad overview of our knowledge of the universe. If your main interest is in planets, take Astronomy 3, given this quarter, if it is in stars, take Astronomy 4, offered in winter quarter, or if it is in galaxies and cosmology, take Astronomy 5, which is offered spring quarter. This course is intended for non-science majors. However, algebra will be used. If you are a science major or have a good background in algebra, Astronomy 11, 12, 13, 14, 16, 18, or 80 are recommended.

The emphasis in this course will be on the reasoning and evidence behind our current knowledge of and theories about the nature of the Universe. We will begin with a brief description of the naked eye night sky. Next, we will study the nature of gravity. We will then learn about objects in the universe, beginning close at home with objects in the solar system, and then extending outward, first studying stars, then groups of stars, and ending with a study of the large scale structure of the universe. We will end by looking at theories of the origin of the universe.

There will be three lectures per week, and one discussion section. *The discussion sections are not what are listed in the schedule of classes. See above.* There will be two midterms and a final. All will consist of multiple choice, essay questions and problems. There will also be a set of weekly homework problems. The final grade will be determined on the basis of 40% final, 25% each midterm, and 10% homework.

My lecture notes are available on the class web site (see above). These notes will contain essentially everything I put up on the viewgraphs. I will also soon have two copies of the notes on 2 hour reserve in the science library.

There will be a field trip to Lick Observatory on Oct. 16, detail to be announced. This will provide an opportunity to visit a working observatory and to observe celestial objects through a large telescope.

In addition to my office hours, I (Burt) will be available at any time you can catch me in my office (make an appointment if you have trouble finding me).

Reading List

The following are the topics to be covered with the associated readings, the prefix K standing for Kaufmann & Comins and Ln for lecture notes.

Sept. 18	Introduction and Overview (<i>1 lecture</i>) K pages 1-10; Ln 1-6
Sept. 20 & 23	Observing the Sky (<i>2 lectures</i>) K Chpt. 1, pages 15-36; Ln 7-12
Sept. 25 & 27	Gravity (<i>2 lectures</i>) K Chpt. 2, pages 42-55; Ln 13-23
Sept. 30, Oct. 2 & 4	The Terrestrial Planets (<i>3 lectures</i>) K Chpts. 5 & 6, pages 123-167 ; Ln 24-46
Oct 7 & 9	The Giant Planets (<i>2 lectures</i>) K Chpt. 7, pages 173-198; ln 47-55
Oct. 14	Meteorites, Comets, and Asteroids (<i>1 lecture</i>) K Chpt. 8, pages 198-223; Ln 56-60
Oct. 16, 18, & 21	Some Physics: Light, Atoms, and Telescopes (<i>3 lectures</i>) K Chpts. 3 & 4, pages 59-101; Ln 61-82
Oct. 23 & 25	The Sun (<i>2 lectures</i>) K Chpt. 9, pages 228-245; Ln 83-106
Oct. 28 & 30	The Nature of Stars (<i>2 lectures</i>) K Chpt. 10, pages 250-273; Ln 108-119
Nov. 1, 4, & 6	The Birth, Life, and Death of Stars (<i>3 lectures</i>) K Chpt. 11, 12, & 13, pages 303-337; Ln 120-
Nov. 13, 15, & 18	Galaxies (<i>2 1/2 lectures</i>) A Chpts. 15 & 16, pages 361-395; Ln TBA 8
Nov. 18, 20 & 22	Cosmology (<i>2 1/2 lectures</i>) K Chpt. 17, pages 399-415; Ln TBA
Noc. 25	Life in the Universe (<i>1 lecture</i>) K Chpt. 18, pages 419-424
Nov. 27	Review
	EXAMS
Friday, October 11	MIDTERM
Friday November 8	MIDTERM
Wednesday, December 4, 4:00-7:00 pm	FINAL