

ASTRONOMY 309R – SPRING 2006

GALAXIES, QUASARS, AND THE UNIVERSE

Unique No. 48170

Course Web Page:

http://www.as.utexas.edu/astrometry/education/spring06/komatsu/komatsu_309r.html

Instructor

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COURSE OBJECTIVES

This course provides an overview of the basic physical picture as well as historical accounts of classic and modern cosmology. Cosmology has been one of the central interest of human beings. Ancient people had a very different picture of the universe than we have now. Since then, our picture of the universe has evolved tremendously as our understanding of physics has advanced, while at early times religious reasons were also necessary to develop cosmological models. Recently, cosmology has entered a new era with precision observations, which revealed new cosmological puzzles that will probably lead us to discover new physics. The lecture will cover cosmological models, expansion of the universe, redshifts, the early universe, cosmic inflation, dark matter and energy, special and general relativity, as well as stars, galaxies, quasars and black holes.

PREREQUISITES

AST301, 302, or 303, or an equivalent descriptive introduction to astronomy of one semester or more.

TEXTBOOK

COSMOLOGY, 2ND EDITION

Author: Edward Harrison

Cambridge University Press

CLASS

- Class meets at WEL 3.502 on TTh 12:30-2pm.

EXAMS

- **There will be 6 exams**, all of which consist of multiple choices. (See the course schedule for the dates of exams.) The penalty for cheating on an exam is a score of zero for the exam, and the zero will be included to calculate the final grade.
- There will be make-up examinations **ONLY** for students with valid excuses. **Reasons for absence must be presented in advance of examination.** No make-up exams will be arranged for those who did not notify the lecturer about their absence in advance.

GRADING

- The course grade will be evaluated on the basis of exams. The lowest exam score will be dropped, and the remaining 5 exams will be counted towards the grade. Each exam contributes to 20% of the final grade.
- The following grading scale will be used: **90+=A; 80-89=B; 70-79=C; 60-69=D.** Any average below 60 is failing.

CLASS ATTENDANCE

- I strongly recommend that you attend classes. The textbook covers the materials only broadly and is probably difficult for you to understand if you only read it and do not attend classes. Although I will basically follow the contents of the textbook, many that are not in the book will be lectured in class.
- Please sit on the front seats – do not sit in the back! I will often use chalkboard, and the lecture room is too large for you to read what I write on the chalkboard if you sit far in the back. Also, please let me know if you cannot read things on the chalkboard.
- Feel free to ask questions during or after lecture. Sometimes I do not notice that you are raising your hand, so please call my name when I do not seem to recognize you.
- Please do not leave the lecture room until lecture ends.
- Of course, you are not allowed to read newspapers, magazines or books that are unrelated to the course. You may use your laptops to take notes, but don't ever use it for computer games during the lecture!