

ASTRONOMY 376 – FALL 2010: COSMOLOGY

Unique No. 47755

URL: http://www.as.utexas.edu/astronomy/education/fall10/komatsu/komatsu_376.html

Instructor

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Teaching Assistant

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COURSE OBJECTIVES

This course will provide the basic physical principles of modern cosmology. The lectures will cover the expansion of the universe, kinematical and thermodynamical evolution of the universe, the Big Bang model, the origin of light elements, the cosmic microwave background, theory of cosmological fluctuations, formation of large-scale structure, cosmic inflation, the origin of cosmological fluctuations, dark matter and dark energy, and observational cosmology. Since some topics require knowledge of special and general relativity, introduction to special and general relativity needed for cosmology will be provided when it is necessary.

PREREQUISITES

This course is intended for science majors. Knowledge of general physics and calculus will be required.

TEXTBOOK

No required text book – lecture notes will be provided.

CLASS & HELP SESSIONS

- Class meets at RLM 15.216B (Large Classroom) on TTh 9:30–11:00
- Help sessions will be scheduled for help with the homework. See “Course Schedule” for the dates. (They will be held on Mondays and Wednesdays.)
 - Location: RLM 15.216A (Edmonds Lounge) and RLM 15.202A (Evans Conference Room); Time: 5–6pm

HOMEWORK & EXAMS

- There will be **5** homework assignments. These will be written assignments and reports. The assignments will involve problem-solving, math, and making charts and graphs.
- Homework assignments will not be counted after the due date. Homework can be done in groups (and I encourage this) but you must hand in your own work. **Homeworks that are duplicates will have severe penalties.** You may get help on homework from the professor (or an assistant) during the office hours, help sessions, homework session, or by appointment.
- No mid-term or final exams.

GRADING

- The course grade will be evaluated on the basis of:
75% homework (5 homework assignments)
25% class attendance
- The lowest homework score will be dropped (so you can miss one homework).
- The following grading scale will be used: **80+=A; 70-79=B; 60-69=C; 50-59=D**. Any average below 50 is failing.

CLASS ATTENDANCE AND BASIC MANNER

- I will check your attendance by asking you to sign the class-attendance sheet at every class. The class attendance will be counted toward the final grade.
- I strongly recommend that you attend classes. The lecture notes cover the materials only briefly and are probably difficult for you to understand if you only read them and do not attend classes. Although I will basically follow the contents of the lecture notes, many that are not in the notes will be lectured in class.
- Please sit on the front seats – do not sit in the back! I will mainly 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 any questions during or after lecture. Asking questions is the best way to learn!
- Do not leave the lecture room until lecture ends.

- Do not use laptops, except for taking notes – it is quite obvious when you use your laptop for other purposes (surfing web, chatting, emailing, etc), and your grade will be penalized if you do those things.
- And obviously don't read books, newspapers, magazines, or anything unrelated to the lecture.