Astronomy 201: COSMOLOGY

Professor: Dr. Jill Bechtold
TA: Mr. Ken Wong
Email: astronomy201"at"gmail.com

Lectures: TTh 9:30-10:45am
Steward Observatory, N210

CLASS WEB PAGE:
http://boojum.as.arizona.edu/~jill/astro201.html or see link from d2L class web site

DESCRIPTION: Extragalactic astronomy and cosmology are among the fastest developing fields in astronomy. This course presents cosmology as a modern, quantitative science. It describes what we know about galaxies, the large scale structure of the universe and the beginnings and evolution of the Universe.

PREREQUISITES: No previous knowledge of astronomy is assumed. Math at the High School algebra level will be used, so the student should be familiar with basic algebra, trigonometry, and fractional powers. For a review of math concepts required for the course, see the class web page.

TEXTS and Other Readings:


The publisher has made a special edition for this class, bundling up the book as looseleaf pages and an electronic version, with various web-based materials, for a very low price. This edition is available through the UA bookstore, with the special ISBN number of ISBN 978-0-393-17870-8.

Alternatively, you may purchase the bound paperback version of this book, or electronic version.

This book is a subset of a 21st Century Astronomy (Full Third Edition) by Hester et al. If you already have the full edition, you may use that instead.

(2) The Dancing Universe: From Creation Myths to the Big Bang by Marcelo Gleiser

The paperback version will come out on Oct. 26, 2010, and students should wait for it, or get the electronic version. Only the hardback is available now, but we won't be needing it until mid-November.

(3) From Eternity to Here: The Quest for the Ultimate Theory of Time, by Sean Carroll
(4) Many lectures and labs will be about special topics not covered in the textbook. For these, lecture notes will be available through the class web page.

**GRADERS AND COURSE REQUIREMENTS:**
There will be 3 Midterm Exams. The lowest grade will be dropped. There will therefore be NO MAKEUP exams. If you miss more than one midterm exam, you will receive a zero for the second and subsequent exams missed. Communication with the instructor is encouraged -- let us know if you are missing class or falling behind for a valid reason, and we will try to help.

Grading will be as follows:
- 20% : Homework and on-line Quizes
- 10% : Telescope Lab and Galaxy Zoo Project
- 35% : Midterms
- 35% : Final

Although attendance will not be routinely taken, experience shows that the A students are those who attend all classes. Although we will be following the textbook, don't think that reading the textbook and web page alone will be sufficient for learning the material. There is significantly more information in this course than in any high school science course; the lectures will enable you to synthesize and LEARN the material. Technical information can often be terse, and therefore is deceptively simple: we may be able to state in a single sentence the topic of a particular lecture, but most students will need the 90 minute explanation to understand that sentence.

There will be class activities for which you must attend class (e.g. the 10 micron camera lab), and for which we will not be able to schedule make-ups. If you have a valid reason to miss class at any time, please email the professor IN ADVANCE.

**CONTACTING THE PROFESSOR AND TA:**

Prof. Bechtold's office is in Steward Observatory, Room 328 (second floor), phone 621-6533.
Mr. Wong's office is in Steward Observatory, Room 201G (first floor), phone 621-6535.

Office hours are immediately after class, or by appointment. When not in the office, we are often in email contact.

Arranging appointments via email is recommended: bechtold"at"email.arizona.edu or kcwong"at"email.arizona.edu
CONTRACTING FOR HONORS CREDIT:

For honors credit, please contact the professor as soon as possible. In addition to the requirements described above, the honors contract will include an observational project using the robotic LOTIS telescope on Kitt Peak Mountain. Details of the observational project requirements are described separately. All work is due by the last day of class, December 7, 2010.

ACADEMIC INTEGRITY:

We believe very strongly in upholding the Code of Academic Integrity as established by the Dean of Students of this University. Copies of this code are available from the Dean of Students Office. It states that "The guiding principle of academic integrity is that a student's submitted work must be the student's own... Conduct prohibited by the Code consists of all forms of academic dishonesty, including, but not limited to: cheating, fabrication, facilitating academic dishonesty, and plagiarism... modifying any academic work for the purpose of obtaining additional credit after such work has been submitted... and attempting to commit an act prohibited by this Code."

Examples of violation of the Code of Academic Integrity include: having another student take an exam for you; changing an answer on a scantron sheet after it has been graded and returned, and claiming the machine made an error; copying lab data or reports from another student; allowing another student to copy your lab data or report; copying lab data or reports from students in other classes, or previous classes; turning in work that is not your own; using unauthorized notes or other aids during exams; plagiarizing a term paper in total or in part.

You are allowed to discuss assignments with other students, but the written work you hand in must be your own.

Any violation of the code will be dealt with harshly, since all violations diminish the integrity of this class as a whole and the University. If you violate the code in any part of this class or lab, you will receive an E for the course, and your name will be submitted to the Dean of Students so that a notation will be attached to your permanent record that you cheated in this course. Note that this policy is harsher than what is typical in other courses in the College of Science; however, the department chair and Deans have always supported my actions in cases of code violations.

More information on the UA academic code of conduct can be found at http://deanofstudents.arizona.edu/academicintegrity/

LECTURE AND EXAM SCHEDULE:
Lecture topics and reading assignments will be posted on the web page as we go along. Key concepts for each lecture will be posted on the web page.
EXAMs will be on the day scheduled. We have made an effort to avoid religious holidays, but if you must miss an exam for religious reasons please let Prof. Bechtold know as soon as possible.

**MIDTERMS:** in class. Sample test questions will be handed out in class. Dates will be announced in class, and posted on the web site.

**FINAL EXAM:** Tuesday, December 14, 2010. 8am to 10am, Steward Observatory N210. The final must be given at this time, there are no exceptions.