ASTR4030/6030 - COSMOLOGY
Spring 2012

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Web Page:          www.physast.uga.edu/~loris/astr4030/prob.html
Class Hours:    MWF  2:30 PM – 3:20 PM in Physics 254
Office Hours:   MW  3:30 PM – 5:00 PM – (or by appointment)

Textbook:

    Introduction to Cosmology – Barbara Ryden (Addison Wesley)

This course is an upper-level astronomy course dealing with the modern ideas and
theories of how the Universe came to be. I assume you have at least two years of
Calculus and at least one semester of upper level Mechanics, Electromagnetic theory, and
Thermodynamics in your background. ASTR 4010 and 4020 are recommended, but not
required for this course.

Grading: 2 to 4 homework problems will be assigned each week on the Monday class of
that week. They are due the following Monday. You may work with others in the class
on the homework, but, if you choose to do so, you must write on the homework who you
worked with. There is no penalty for working with others, but I will assign the same
exact grade to all the people who worked on the problem together. There will be a
midterm on Wednesday, March 7th and a Final on Friday, May 4th. The homework will
constitute 30% of your grade, the midterm 30%, and the final 40%. If you miss an exam,
you will have to schedule a makeup exam within one week of the original exam date. For
every two days that any homework assignment is late, ten points will be deducted from
the final score for that homework.

All students are responsible for knowing, understanding, and abiding by the academic
honesty policy of the University of Georgia, which can be found online at
http://honesty.uga.edu. If you have any questions about this policy and how it
pertains to your work in this course, please ask me for clarification.

If you have any questions or concerns about this syllabus, please contact me.
Tentative Class Schedule & Readings:

Week of Topic/Readings
January 8 – Introduction – Chapter 1
January 15 – Fundamental Observations – Chapter 2
January 22 – Newton Versus Einstein – Chapter 3
January 29 – A Little Relativity – Notes posted on website
February 5 – Cosmic Dynamics / Chapter 4
February 12 – Lambda & Quantum Mechanics / Notes posted on website
February 19 – Single Component Universes / Chapter 5
February 26 – Single Component Universes / Chapter 5
March 4 – Multiple-Component Universes / Chapter 6 / Midterm March 7th
MIDTERM EXAM – Wednesday, March 7th – Covers Ch. 1-5
March 11 – Spring Break!
March 18 – Multiple-Component Universes / Chapter 6
March 25 – Measuring Cosmological Parameters / Chapter 7
April 1 – Dark Matter / Chapter 8
April 8 – The Cosmic Microwave Background / Chapter 9
April 15 – Nucleosynthesis and the Early Universe / Chapter 10
April 22 – Inflation and the Very Early Universe / Chapter 11
April 29 – The Formation of Structure / Chapter 12
FINAL – Friday, May 4th – Covers Ch. 6-12