

Syllabus for Cosmology, ASTR 425, Winter 2007

Textbook: B. Ryden "Introduction to Cosmology"

Instructor: Eric Agol, PAB B370, (206) 543-7106, agol@astro.washington.edu, office hour: M 3-4pm

Grade evaluation: Homework 40%, Participation 10%, Midterm exam 20%, Final exam 30%

Course goals: By the end of this course, you should have a good knowledge of:

1) The contents of the Universe. 2) The history of the Universe. 3) The structure of the Universe. 4) Relation between the contents of the Universe and its evolution. 5) Know how to do basic calculations for cosmological observations. 5) Outstanding questions in cosmology.

You will be responsible for the material covered in reading assignments from Ryden's book, listed below (although subject to changes which I will announce in lecture), as well as the lecture material.

You will also be expected to ask questions during the lecture or outside lecture, at my office hours or by email. Ten percent of your grade will be based upon your participation in the course, so if you don't understand something, please ask - this will help your grade!

Tentative schedule (any changes will be announced during lecture):

	Topics	Mon	Wed
1/3	Syllabus and introduction to contents and structure of universe		Ryden 1
1/8,10	Expansion of Universe, Robertson-Walker metric	Ryd 2, 3.1-3.2	no class
1/15,17	RW metric, time dilation, redshift	holiday	Ryd 3.3-3.4
1/22,24	Friedmann equation, equation of state	Ryd 4.1-4.2	Ryd 4.3-4.4
1/29,31	Cosmic dynamics, evolution of universe	Ryden 5	Ryden 6
2/5,7	Midterm week	Midterm review	Midterm
2/12,14	Measuring cosmological parameters, dark matter, gravitational lensing	Ryden 7	Ryden 8
2/19,21	CMB, recombination	holiday	Ryden 9
2/26,28	Nucleosynthesis, Inflation	Ryden 10	Ryden 11
3/5,7	Structure formation, Modern topics	Ryden 12	Review

Final exam: 2:30-4:20pm, Monday, March 12, 2007