

PHY 475 – Introduction to Cosmology

Schedule: Byrne 204, Mondays & Wednesdays, 5:30-7:00 PM (*Spring 2012*)

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Textbook: *Introduction to Cosmology*, Barbara Ryden

Supplementary Materials: A mathematical handbook is recommended. Schaum's *Outline of Mathematical Handbook of Formulas and Tables* is modestly priced and should suffice. If you're feeling particularly rich, or have the urge to go into a Ph.D. program in the sciences, I would suggest upgrading to the CRC Mathematical Tables and Formulae.

This course is an introduction to cosmology in which we will learn what we know about how the Universe came to be, and where it might be headed. Unlike the fudged ramblings of say, even ten years ago though, we are now in an era of precision cosmology that is driven by a vast array of diverse observations, and the hope is that we will be able to learn what we have found from these observations, and what we can hope to find.

Office Hours: Open door policy — You are encouraged to come to my office whenever you wish. **No appointment is necessary.** However, you may want to call before coming, to make sure that I will be in my office when you get there. I'm also budgeting 1 hr on Mondays and Wednesdays from 4-5 PM as "official" office hours, but this is only a formality – you are welcome to walk into my office whenever you need to talk to me.

Grading Policy: There will be homework assignments, a literature review (unique to the graduate portion of this cross-listed course), a midterm, and a comprehensive final. The final must be taken to receive a passing grade. The course grade will be determined on the following basis:

| | |
|------------------------------|------------|
| Midterm | 25% |
| Homework | 25% |
| Literature Review | 20% |
| Final (comprehensive) | 30% |

The final grading scale will be the following (changes may be made if necessary, but only to the student's advantage):

| | | |
|-------------------------|-------------------|-------------------|
| A– to A: 85% and higher | B– to B+: 70%-85% | C– to C+: 55%-70% |
| D to D+: 40%-55% | F: less than 40% | |

A grade of incomplete is given only under extreme circumstances (e.g., an extended stay in the hospital). An incomplete is not a mechanism to improve an unsatisfactory grade.

Homework: In general, homework problems will be assigned during class, and will be due by the date specified. The calendar on page 3 is for you to keep track of when assignments are due.

No late deadline for homework assignments: Late homework will not be accepted (except in rare circumstances at the instructor's discretion, only by prior arrangement with the instructor).

Literature Review: This is unique to the graduate portion of the course, and details will be announced in class.

Make-up Exams: Make-up exams will only be allowed for illness, serious family emergencies, special curricular requirements (e.g., attendance at conferences), participation in official university sponsored activities, active military duty, and court-imposed legal obligations. Note that sleeping through an exam because the alarm didn't go off, or family vacation time, don't appear on this list. A signed statement by a doctor, coach, etc., (as appropriate) is required. The instructor must be notified in advance that a student will miss the exam. If circumstances make advance notice impossible (such as suffering a concussion on the way to the test), the student must contact the instructor as soon as possible and no later than the end of the day the exam was scheduled. The student should make every effort to schedule her/his make-up exam as soon as possible. If the student misses the final and does not contact the instructor before it has been graded, the student will receive a score of zero on that test.

Grading Procedure: All problems graded for this course (homework & tests) will be graded not only for correctness of the final result, but also for the method of solution. You must explicitly *show the work* that was done by you in getting to the solution. This means that you must explicitly display the *stream of consciousness* that you used to go from the statement of the problem to its solution via application of the appropriate physical principle, a logically complete sequence of mathematical manipulations, together with phrases that illustrate why you chose each step the way you did, wherever such phrases may be necessary. In summary, the problems are meant to test whether *you* understand the material, *not* as an intellectual exercise for the instructor to interpret your solution in order to fill in holes left by you.

Students with disabilities: If you are registered with the Office of Students with Disabilities, please make an appointment with the course instructor to discuss any academic accommodations you may need. If you need academic accommodations and are not registered with the Office of Students with Disabilities, please contact the office at 2250 N. Sheffield, Room 307, or by telephone at (773) 325-7290 (TTY 773-325-7296). Upon individual request, this syllabus can be made available in alternative forms.

Academic integrity: Plagiarism is the act of presenting the work of another and claiming it as one's own; this applies whether the other person is a student or author, whether the material is obtained from handwritten or computer generated notes, published work or online. As such, plagiarism is unacceptable, and it will be dealt with according to university procedures as outlined in the Student Handbook. Please refer to the Student Handbook for a detailed description of what constitutes the above behavior. Penalties will include a failing grade in the course and may include suspension or expulsion from the university. Note that if two or more solutions are found to be similar, all concerned parties will be penalized, that is, the instructor will hold all parties equally responsible, without determining who copied from whom.

Class Schedule

| Day & Date | Topics & Other Activity | Assignments due |
|-------------------|---|-----------------|
| M 3/26 | | |
| W 3/28 | | |
| M 4/2 | | |
| W 4/4 | | |
| M 4/9 | | |
| W 4/11 | | |
| M 4/16 | | |
| W 4/18 | | |
| M 4/23 | | |
| W 4/25 | | |
| M 4/30 | | |
| W 5/2 | Midterm Examination | |
| M 5/7 | | |
| W 5/9 | | |
| M 5/14 | | |
| W 5/16 | | |
| M 5/21 | | |
| W 5/23 | | |
| M 5/28 | <i>Holiday</i> | |
| W 5/30 | | |
| Final Exam | Final Examination: Day: _____ Date: _____ Time: _____ | |