

# Physics 4803 Special Topic

## Gravitation & Cosmology

Course Blog: <http://gravitationandcosmology.blogspot.com/>

### Course Logistics:

**TIME** 1:35-2:55 Tuesdays and Thursdays

**LOCATION** S104 Howey

**INSTRUCTOR** Prof. Deirdre Shoemaker; [deirdreatgatechdotedu](mailto:deirdreatgatechdotedu)

**OFFICE** 1-65 Boggs; (404) 385-3908

**OFFICE HOURS** Monday and Tuesday 3-4 & by appt.

**COURSE MATERIALS** available on [T-square](#)

**TEXT BOOKS** [Gravity: An Introduction to Einstein's General Relativity](#) by James Hartle and [Introduction to Cosmology](#) by Barbara Ryden (NOT MANDATORY)

**Course Description:** Gravitational physics is becoming increasingly important in astrophysics, cosmology and particle physics. The idea behind this course is to introduce you to the way our universe is built by gravity and how astrophysicists have formulated our understanding of the universe today. We will do this by first studying the basics of the theory of gravity, General Relativity, and its key applications - namely relativistic orbits, black holes, gravitational waves and cosmology. From there, we will build up an elementary view of cosmology and discuss the observational evidence supporting the theory.

**Course Syllabus:** This website is the syllabus for Phys 4803.

**Course Expectations:** This class will be relatively small, that will allow both greater flexibility in what material we cover and greater expectations in classroom participation than in a larger class.

**Course Grades:** The grade for the course will be based entirely on course homework. There will be no written examinations. The homework assignments will contain a mixture of problem solving, literature review and public articles pertaining to the topic covered in class. Assigned homework will be due at the beginning of class.

**Late Homework Policy:** I will drop the lowest homework grade for each student. Unless special arrangements have been made with me before the assignment is due, we will use the following late assignment policy. Late assignments will be docked 5% if the assignment is turned in after class but before 5pm on the due date. Assignments will be penalized 10% for each late day, and 10% over a weekend. Turn in your late assignments to me personally, put them under my office door in Boggs, or in my mailbox in the Physics Office in Howey.

**Academic Integrity:** When working on homework, you may work with other students in the class. However; you must turn in separate copies of the homework with the following written on it: your name, *the names of everyone you collaborated with*, and *citations for any material you used outside of the course textbooks*. In particular, *assignments that involve journals or online articles must be cited appropriately, failure to do so is plagiarism*. For further information, please see the [Academic Honor Code](#).

Final Letter Grades:

A 89.5-100%

B	79.5-89.4%
C	69.5-79.4%
D	59.5-69.4%
F	< 59.4