



Introduction

Welcome to **Integrative Studies in the Physical Sciences (ISP) 205 Visions of the Universe**. As the title suggests, we shall study the discoveries of modern astronomy and their implications for our place in the cosmos. Within the past decade, scientists have discovered new worlds around other stars and determined that the universe is expanding at an accelerating rate. These new discoveries also demonstrate how much we don't yet understand; in particular, the part of the universe that we see — stars, galaxies, gas and dust — is only a small fraction of all the matter in the universe. In this class you'll learn about our current understanding of planets, stars, and galaxies, and the overall structure and evolution of the universe; you will also learn what science is (and what science is not) and how science progresses.

The above [image](#) is of the Sombrero Galaxy, 50 million light-years from Earth, in the direction of the constellation Virgo (Image credit: NASA/Hubble Heritage Team).

Instructor

Asst. Prof. Edward Brown
Dept. of Physics and Astronomy
3250 Biomed Phys Sci Bldg
tel: 355.9200 ext. 2420
email: browned@msu.edu

(note that if you send me an email, put the phrase "ISP 205" in the subject so it doesn't get caught by my spam filter)

Teaching Assistant

Ms. Katherine Rabidoux
rabidou6@msu.edu

You may also send messages to Katherine or myself using [LON-CAPA](#)

Office Hours

Tuesdays and Thursdays immediate following the lecture.

Text and other materials

- Bennett, Donahue, Schneider & Voit, *The Essential Cosmic Perspective*, 3rd ed. (2005) Pearson Education, San Francisco.
- H-ITT clicker (available at bookstore; there is a rebate with a new book purchase)
- Membership to [The Astronomy Place](#) (free with purchase of new book)

Class web page

- <http://www.pa.msu.edu/courses/2006fall/ISP205/sec-1> Here I will post the schedule of readings, [Astronomy Place](#) tutorials, lecture topics, and any notes. The reading assignments will be posted on [LON-CAPA](#) (www.loncapa.msu.edu).

Grading

Final	40%
Midterm	20% × 2 = 40% total
Astronomy Place exercises	8%
Reading Exercises	8%
In-class Quizzes	4%
Total	100%

Grade scale

≥90%	4.0	60% 68%	2.0
82% 90%	3.5	52% 60%	1.5
74% 82%	3.0	44% 52%	1.0
68% 74%	2.5		

Grades are not curved. I reserve the right to move the grade boundaries downward.

Course policies

- **Reading assignments** Homework will be done online using [LON-CAPA \(www.loncapa.msu.edu\)](http://www.loncapa.msu.edu). These assignments are meant to guide your reading, and will be on topics that are coming up in the lecture (but haven't been covered yet). The due date will be the evening before a lecture (either Monday or Wednesday) at 9:00PM. Late homework is not accepted. I will drop the two lowest homework score, including ones that you missed (for whatever reason). **Your first assignment is open on LON-CAPA and is due tomorrow, 30 August, at 9:00PM.**
- **Astronomy Place** I will assign 1-2 tutorials from [The Astronomy Place \(www.astronomyplace.com\)](http://www.astronomyplace.com) each week. These will be due at 5:00 on Friday. Each tutorial consists of a series of exercises followed by a quiz. For most tutorials, you will receive credit only if you answer all questions correctly on the first try, but you are allowed to retake the tutorial as many times as you like. Needless to say, it pays to go through the tutorial *carefully* before trying to take the quiz at the end! On some tutori-

als I will just give credit for completing it, and I may also assign some as extra credit. Your class id is cm309089. The first assignment is due 15 September.

- **Midterm Exams** There will be three midterm exams. I will drop your lowest one when I compute the final grade. This includes any missed exams: there are no makeup exams given. The proposed exam schedule is as follows.

Sep 26	Midterm 1
Oct 19	Midterm 2
Nov 14	Midterm 3

If there are any conflicts, such as a religious holiday or sporting event, you must notify me in writing by the end of the second week of class. I will either change the date of the exam or schedule a separate exam for you. After that the exam schedule will be fixed.

- **In-class clicker questions & quizzes** Within each class, there will be questions asked for which you will answer using the H-ITT clickers. These are not graded, but I can use them as “extra credit” if you are “on the fence” for getting a better final grade. Otherwise there is no attendance policy. Occasionally I will give an in-class quiz using clickers. These are unscheduled and unannounced, and are graded. I will drop your two lowest quiz grades, so if you happen to miss an occasional class it’s not likely to penalize you. As with the exams, there are no makeups for these quizzes.
- **Final exam** Wed., Dec 13, 2006 8:00 10:00 PM Location TBD
The final is cumulative, but is somewhat weighted toward material introduced after the third midterm. I’ll announce details closer to the date of the exam.

Public Observing at the MSU observatory

There are four nights (9/29, 9/30 10/27, 10/28) scheduled for public observing. While this is not part of the class, I encourage you to give it a try. Details are at <http://www.pa.msu.edu/astro/observ/index.html>