

PHYS 1304 – Solar System Astronomy

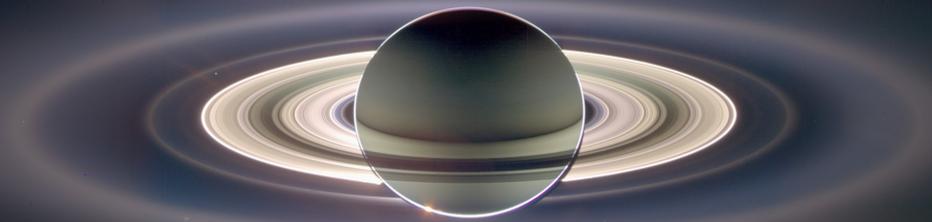
Dr Mark Lewis
8/28/2009

Opening Discussion

- I will start each class with a discussion posing different questions.
- Did anyone see anything over the summer related to this course in the news?

A Little About Me

- My Ph.D. is in Astrophysics and Planetary Science.
- I do research on numerical simulations of planetary rings and some general integration of planetary dynamics.
- I enjoy roller skating and playing basketball. I teach PHED 1137 in the springs.



Course Webpage

- You can find the information on this course located at www.cs.trinity.edu/~mlewis/PHYS1304-F05.
- I have linked to this off TLEARN also.
- This site has the syllabus, a schedule, some links of interest for this course, and a link to the applet that you can use to check your grades. (Since I am using TLEARN for other stuff I might change this so grading is on TLEARN.)

My Office and Office Hours

- My office is in Halsell 201K. My office hours are 2:30-5:00pm M, 2:00-4:00pm W, 10:00-12:00pm R, 1:30-5:00pm R, or by appointment. The afternoon hours MR are open labs.
- If you come by and I'm not in the office, check the labs on the 2nd and 3rd floors. I'm often working with students there.
- I'm around a lot outside of these times also.
- E-mail is the best way to reach me normally.

Text

- The text for this course is “The Cosmic Perspective” by Bennett, Donahue, Schneider, and Voit.
- We will be working through the first half of the book. Readings are posted on the schedule and should be done before you arrive at class. Assignments will come from the book.

Course Description

- In this course you will learn not only about planetary astronomy, but also about the basics of the night sky and motions of various objects in it. The course will also teach you about the scientific method and how science helps us learn about the Universe.
- Hopefully this course will also give you a better perspective of the scale of our Universe. Inevitably, my highest goal is to make you think.

Common Curriculum

- This course counts toward the Natural Science part of both common curriculums. The lab is difficult to get into. Note that taking a 1 hour lab is less beneficial than taking a 3 hour course under “Using Scientific Methods”. (Such as CSCI 1311)
- Astronomy is a branch of applied physics and we will be doing algebra based physics in this course.

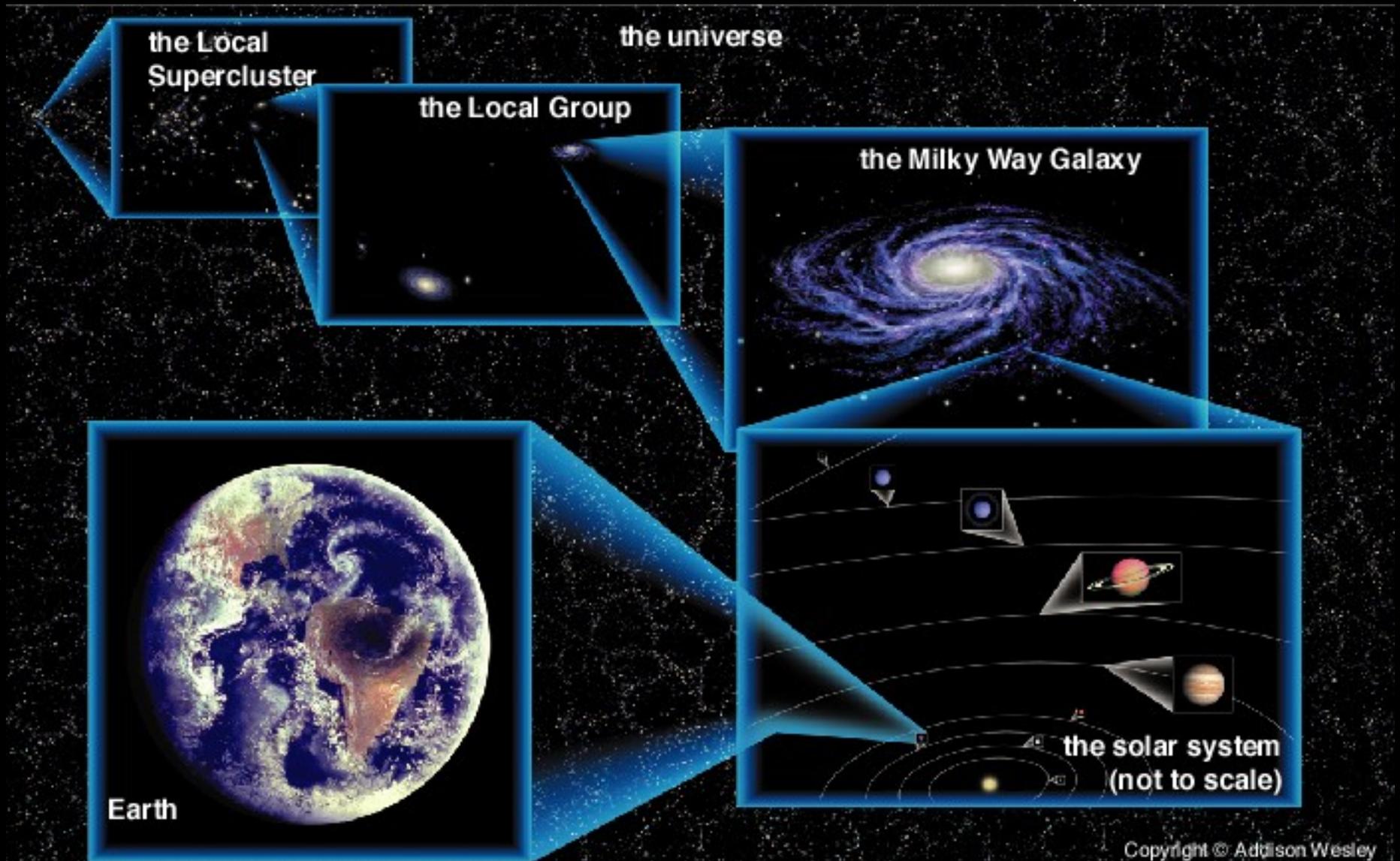
Grades

- Your grade in this course comes from 4 components.
 - 5 assignments count as 20% of the grade.
 - 3 exams are 50%. The midterms are 15% and the final is 20%.
 - 6 in-class quizzes count as 10%. One quiz is dropped.
 - Reading quizzes on each chapter are 10%
 - Class participation is 10% of your grade. You have to show up and participate.

Schedule

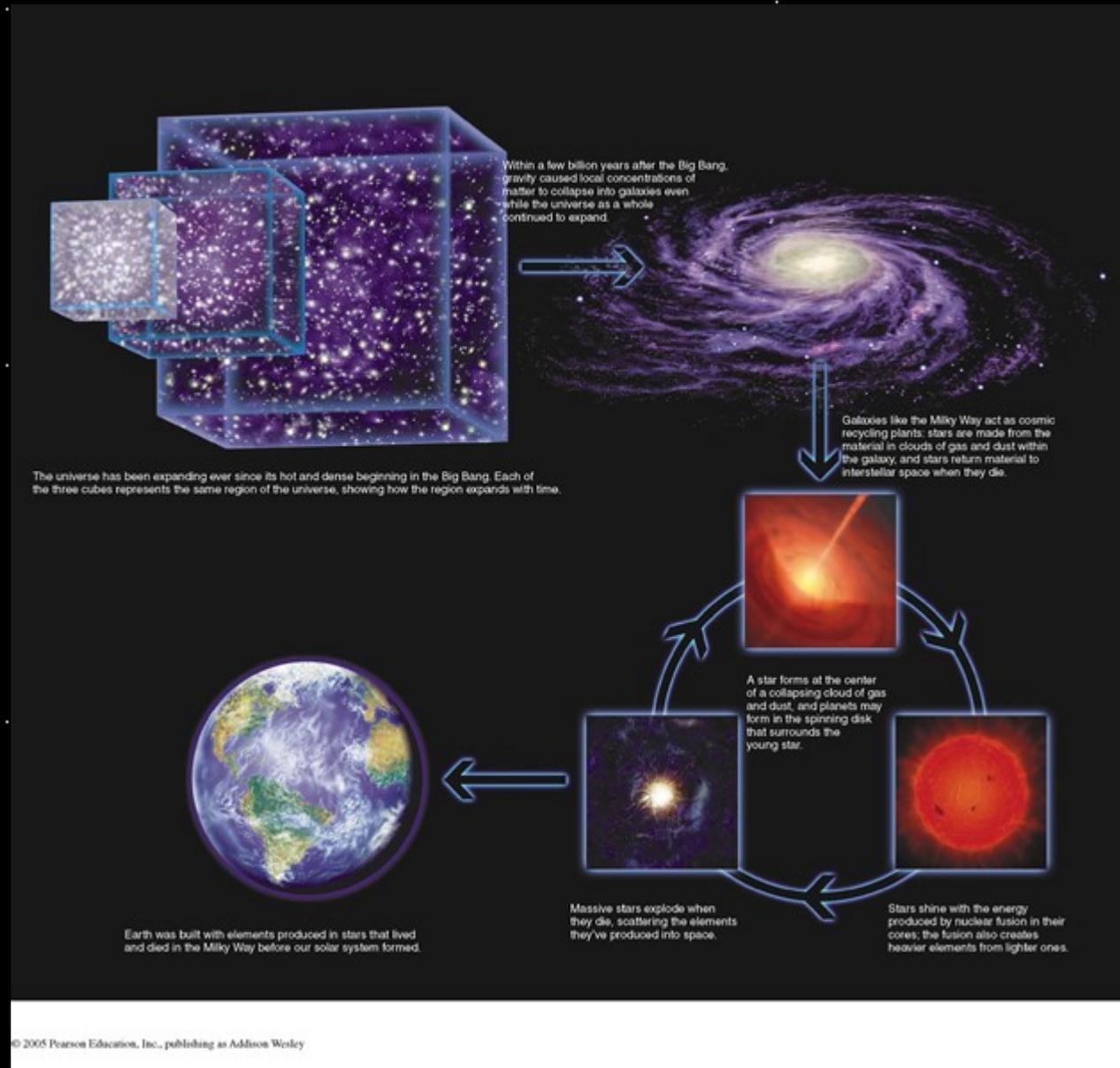
- The course webpage includes a list of the topics we will cover during the semester. Each topic will be linked to a PDF of the slides for the day. They should be up the night before and you can print them to bring to class if you like.
- Also listed are required readings, quiz dates, midterm dates, and assignment dates.
- Assignments will be handed in at the beginning of class on the day listed.

Our Cosmic Address



Cosmic Origins

- Big bang
- Expanding Universe
- Local collapse into galaxies, groups, etc.
- Star formation
- Nucleosynthesis



Looking into the Past

- Light travels at a very fast, but finite, speed.
~186,000 miles/s or 299,792,458 m/s
- When you look at something, you see it as it was when the light left it.
- The Sun is 8 light-minutes away.
- The distance to other nearby stars is measured in light-years.
- Other galaxies are millions or even billions of light-years away.

Minute Essay

- We will end each class with you writing a few sentences to answer a question. You will turn in your answers with your name on the piece of paper. This is what tells me you were in class.
- Why are you taking this class? What do you hope to get out of it?
- Remember to read 1.1 and 1.2 for next class.