

Astro 350
Lecture 1
Aug 22, 2011

Announcements:

- Welcome!
- Pick up syllabus
- get our your iClicker if you brought it

Today's Agenda

1. Overview and Appetizer

⌈ 2. Course Mechanics

Introductions

Getting to know us

www: A201 Staff

Getting to know you

- ▷ First course with me? Welcome!
- ▷ Returning veterans—welcome back!

I salute your bravery! Hope triumphs over experience!

Getting to Know You: iClicker Poll

Vote your conscience! = Say what you *really* think!

No answers are wrong!

There is evidence that the Universe has expanded from an initial **hot**, **dense**, state = **big bang**

In your opinion, how strong is evidence for the big bang?

- A** Way strong! Airtight!
- B** Pretty strong, a best bet, but not a sure thing
- C** Not so strong, a risky bet
- D** Totally weak! And the evidence has other explanations
- E** There isn't any real evidence for a big bang

Welcome!

This course sweeping in scale
science applied to the biggest picture
→ the most sweeping course you can take
this side of Green street.

Note: you are (at great expense)
attending the **University** of Illinois
you have been promised the Universe...
→ it's right there in the name!

In this course, **we deliver!**

Huge range of scales in space and time

in space:

subatomic 10^{-33} cm, to the solar system 10^{10} km across
to Milky Way 100,000 light-years across,
to edge of observable universe 10's of billions of light years,
to unobservable universe beyond

also sweeping in time:

10^{-43} sec after big bang
to billions of years in future of cosmos

Taking Astr 350 Here and Now: A Wise Choice

Great **time** to take the course:

This very moment is the Golden Age of Cosmology
new results flooding in—some during this semester

We are very lucky to live in an age in which we are still making discoveries. It is like the discovery of America—you only discover it once.

— Cosmologist Richard Feynman, *The Character of Physical Law*

Also great **place** to take this course:

Illinois national and world player in cosmology

◦ both theoretical and observational

⇒ getting it from the horse's mouth—so to speak

Appetizer: Course Goals

The Big Picture

My goal in this course:

get a familiarity with the biggest picture science can paint

- partly phenomenology—*what* we know: “just the facts”
- but also: *how* and *why* things are as we see them

Will apply physical principles: “get under the hood”

A brief, whirlwind tour

preview of coming attractions

→ don't need to take notes...

Business

Syllabus

will highlight main points here...

you should read the whole thing carefully

Note: this course will rely heavily on the Web.

course page is source for all course information and assignments

Prerequisite:

Credit for an introductory course in Astronomy

ASTR 100, 121, 122, or 210

Please speak to me if you haven't done this!

∞ Note: Physics and Calculus are *not* required!

If you have had these, great, but no problem if you haven't!