

Astronomy 312

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Course Info

- **read course outline:** <http://wordpress.viu.ca/arkosg>

Notes, Quizzes

- **notes** posted **online** ahead of time; **incomplete**
- any deferment requests **require** documentation
- **NO** "make-up" work, extra work, etc.

Group Presentation

- **group (3) projects** due by end of term
- **proposals** due **early October**
- **rubric & guidelines** are on the **website**

Doing well

- **come to class & participate (active learning!)**
- **put in a solid effort on presentation**
- **study & keep up with material**

CLICKER: Which faculty do you belong to?

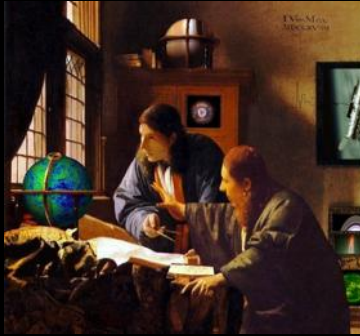
- (a) **Sci & Tech**
- (b) **Arts & Humanities**
- (c) **Social Sci**
- (d) **other**

CLICKER: How did you hear about this course?

- (a) **VIU calendar**
- (b) **recommended (by advisor, friend, etc.)**
- (c) **course website or poster on campus**
- (d) **other**

ASTR 312:

The History of Astronomy



Course Overview

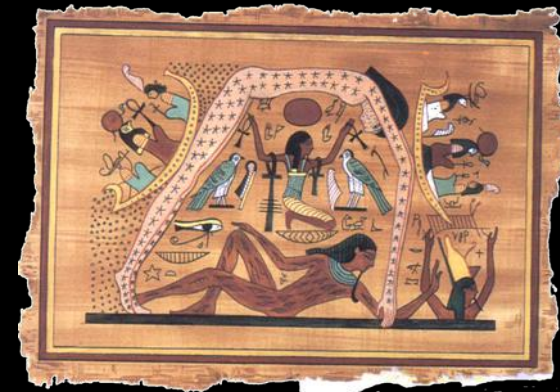


- Introduction
- Early Astronomy
- The Age of Reason
- Modern Astronomy
- The Space Age

Discussion Questions

- 1) *Why did humanity become interested in the sky?*
- 2) *How does astronomy differ from astrology?*
- 3) *How has astronomy changed over the centuries?*
- 4) *How far have humans traveled from Earth?*

Early Astronomy



- *how did early man view his place in the universe?*

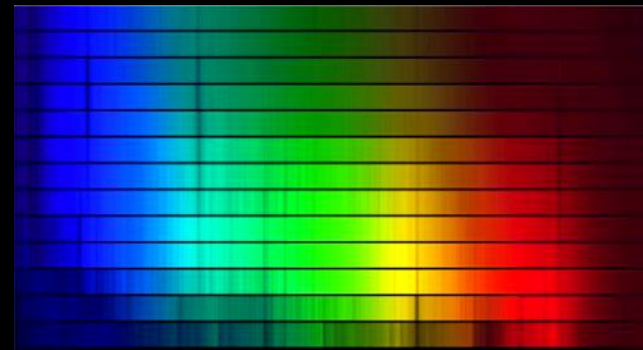


- *the heavens seemed to foretell important events*

The Age of Reason



- *what fundamental shift occurred in astronomy?*



“On the subject of stars, ... we shall not at all be able to determine their chemical composition or even their density... I regard any notion concerning the true mean temperature of the various stars as forever denied to us.”

— philosopher *Auguste Comte*, 1835

Modern Astronomy



- how has our view of the universe evolved?

The Space Age



- why did humanity "boldly go...?"



- went from Kitty Hawk to the Moon in 66 years

A Sense of Time...

If the Universe is **14 billion years old**, and we represent the **Big Bang** to the **present** on a **12 month calendar**...

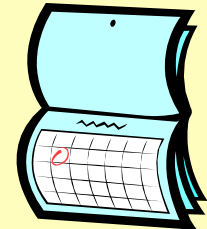
- **Big Bang** took place **Jan 1st**
- **Milky Way** formed in **February**

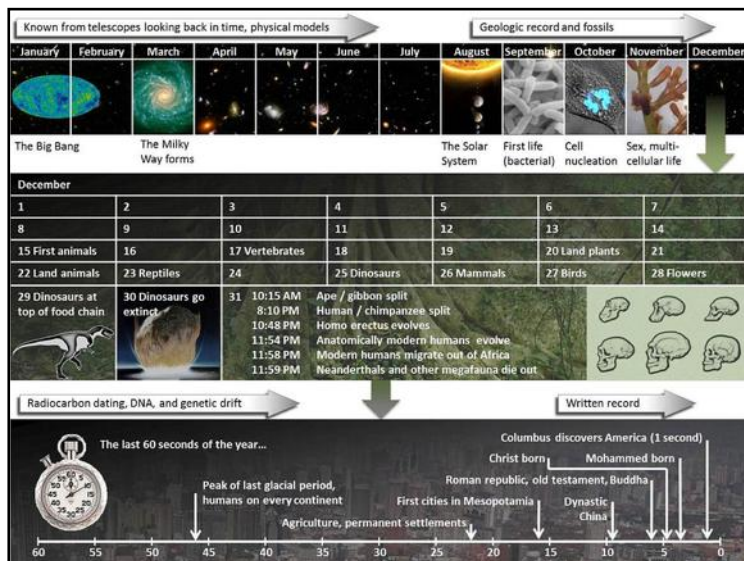
CLICKER: When did Earth form?

- (a) **January 1st**
- (b) **late February**
- (c) **mid August**
- (d) **early December**

- **earliest simple life** appeared in **September**

Q: When did modern humans appear?





Science

- astronomy is a *science*
- *science* based on the *scientific method*:
 - *predict* (hypothesis or model)
 - *observe* (or experiment)
 - *accept, modify or reject*
- *iff* ideas pass *enough* testing: → *Law* or *Theory*

"In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual."
-- Galileo

Pseudo-Science

"Listen to the evidence; it never lies." - Gil Grissom, CSI

"However beautiful the strategy, you should occasionally look at the results." -Winston Churchill

- *pseudo-science* lacks *evidence* or is *untestable*, and *does not adhere to the scientific method*

Q: What are examples of *pseudo-sciences*...?

(eg) UFOs, astrology, aliens, Flat Earth Society, ESP, Q-Ray bracelets...

