Friday, January 20, 2016 (First exam Friday, Feb 3)

- Syllabus/Schedule
- Webpage: http://www.as.utexas.edu/astronomy/education/spring17/wheeler/309n.html (also Canvas)
- Book: Cosmic Catastrophes (second edition)
- Five exams
- Grading: plus/minus grading will be used for the final grade; for example: 79.5 – 83.3 B-, 83.4 – 86.6 B, 86.7 – 89.4 B+. (do not drop lowest exam -- but extra credit!)
- Grades are not curved: 90 - 100 A, 80 - 90 B, etc.
- Exam Review Sessions - Thursday, 4:30 – 5:30 PM
- Lectures will be posted after class on the web site (see old class web sites if you want to peek ahead).

Extra Credit

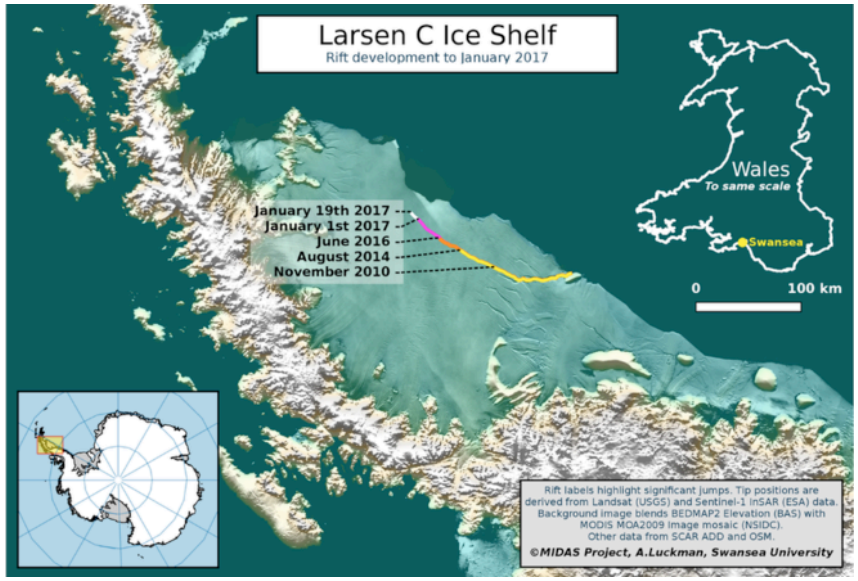
On exams, Astronomy in the News (2 points):

Sky Watch Project - details on web site, in handout. Log of observations: up to 5 points on each exam. Due at each hourly exam.

Keep an eye on Betelgeuse in Orion, also locate Sirius A, the Crab Nebula, Cassiopeiae A, Cygnus X-1, Sagittarius A, others. **1) Record enough information so that we can tell you actually went out at night and tried to see something. 2) Give a brief summary of why they are important to the class.** Some of these can be seen with the naked eye, some not. Some can be seen now, some later in the term. Some in the morning, some in the evening. *You are encouraged to work in groups, but must submit independently-written reports*. **Beware clouds!**

Astronomy in the news:

Larsen ice crack continues to open up



Spotting the Moon and planets do not count for the Sky Watch extra credit, but they can be useful to add credibility to your report.

Phase of the Moon?

Book - electronic copy available through University library

http://catalog.lib.utexas.edu/search/X?SEARCH=Cosmic+Catastrophes

Access with uteid and password. You can download the book for 24 hours, then be prompted to download the book again. Can only print 20%.

Download Adobe Digital Editions onto your computer.

Downloading an EBL book enables you to access the book offline and transfer it to a device that supports Adobe Digital Editions.

At this time Kindles are not compatible with Adobe Digital Editions and EBL books.

One minute exams

Peer interaction

Discussion

Concept checks

Reading: Chapters 1 thru 5 for background plus Chapter 6 - Supernovae

Chapters 1 & 2 - AST 301

- Particles, forces, neutrinos
- Charge repulsion
- Pressure -
  - Thermal
  - Quantum
- Nuclear Reactions

Chapters 3, 4, & 5

- Binary Star Evolution
- Accretion Disks
- White Dwarfs

Will refer to as needed

Schedule - start with Chapter 6
Leave room for Chapters 13 and 14 and extra stuff

The Universe is a strange place!

It began in a Big Bang, the creation of space and time as we know them.

It has been expanding for 13.8 billion years.

It is full of dark matter, unlike protons, neutrons, electrons, our stuff, that nevertheless gravitates.

It currently seems to be accelerating in the grip of some anti-gravitating "dark energy."

On the microscopic scale, which can determine events on the cosmological scale, nature follows the laws of quantum theory, probability not certainty, quantum jumps, wave-like properties of particles.

Study the stars, especially supernovae - see where that leads…