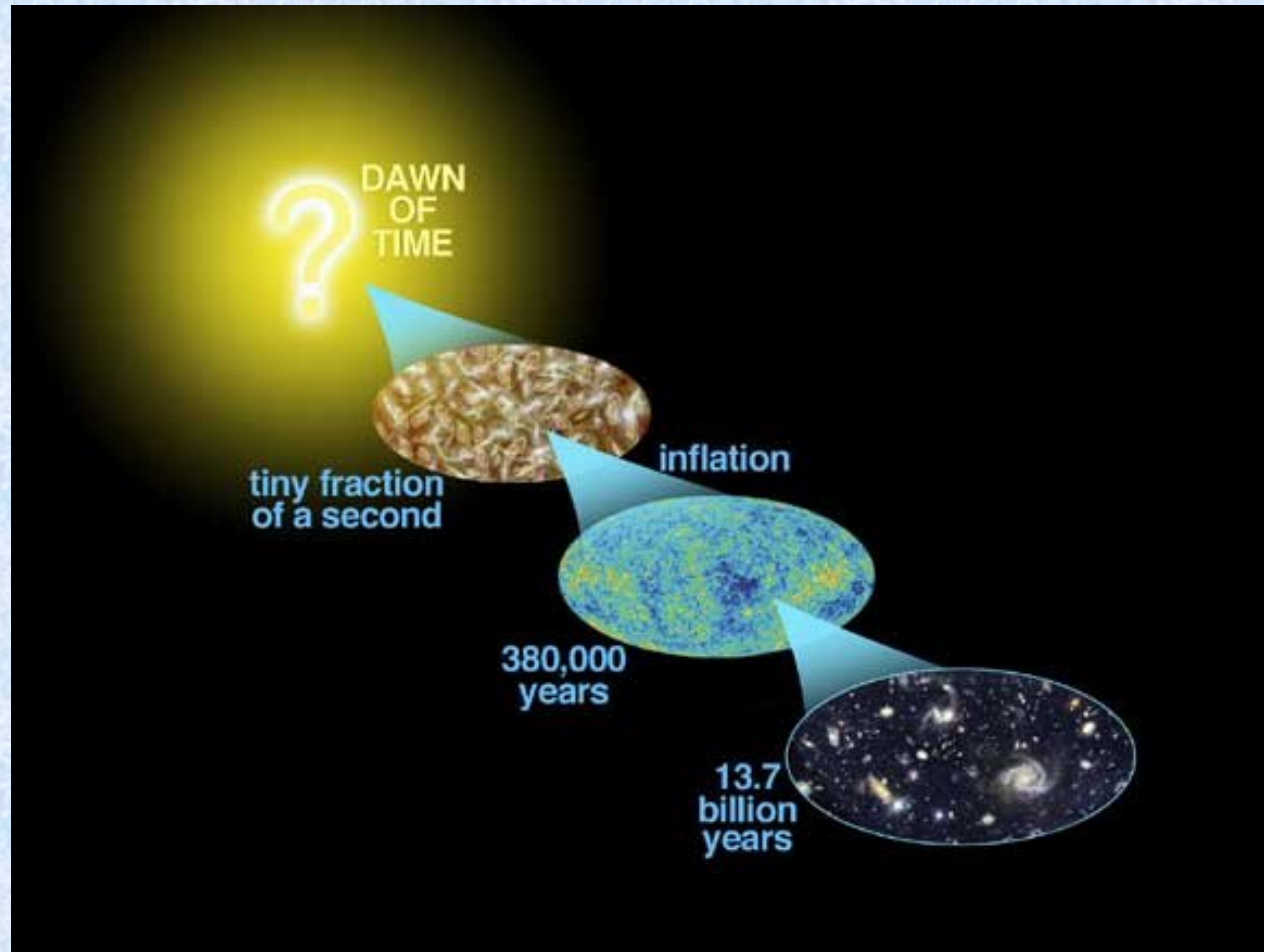


# Astro-2: History of the Universe



Lecture 15; June 6 2013

**First of all:**

Well done!! You guys have done  
very well in class!

# About the final. Topics

- The final will be on the entire course
- I know it is a lot of material, so focus in particular on the following topics:
  - Big Bang/Inflation: basic features and observational tests/evidence
  - Cosmography: what is it? How do you measure it?
  - Galaxy properties and galaxy formation
  - Thermal history of the Universe
  - How do quantities scale with redshift (time, temperature, densities, photon energy, Jeans mass, cosmological constant)
- Extraterrestrial life, Modified Newtonian Dynamics and Alternatives to Big Bang will NOT be part of the final

# About the final. Practicalities

- You have 3 hours for your final
- There will be 5 questions: 3 qualitative, 2 quantitative. You are required to answer all 5 to get 100%.
- The final is worth 40% of the total grade.
- The exam is open book-open notes. Bring a calculator. We'll do our best to provide paper books for those with e-books.
- No laptops, cell phone, etc
- **BRING BLUE BOOKS!**
- **PUT NAME ON EXAM!!!!!!**

# About the final.

## How to get a good grade

- The first 3 questions are qualitative and are worth 70% of the final grade.
- The last 2 questions are quantitative and are worth 30% of the final grade.
- Plan how to use your time: read carefully the 5 questions before starting to write so that you do not write too much on one question and run out of time before you can address the other ones.
- For the qualitative questions there is no need to write thousands of words. Be complete and to the point.
- For the quantitative questions, **pay attention to units**, ask yourself if the numbers that you are getting make sense.

**Any questions?**

**The End**

Final June 11, 4PM

Good Luck!