Origin and Evolution of the Universe
Astronomy and Astrophysics 18200

Instructor: Lam Hui
Office and office hour: AAC 128; Tue. 3-4 pm (appointments welcome)
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Grader: TBD

Class schedule: Tue. & Thurs. 10:30 - 11:50 am in AAC 107
Course requirements: short weekly essays, and final project

Course Outline: What do we know, and how do we know it?

- Early history of astronomy and cosmology
- Distance scales
- Basic concepts of an expanding universe
- Einstein's theory of relativity
- Big Bang and nucleosynthesis
- Dark matter and dark energy
- Large scale structure of the universe
- Formation of galaxies
- The particle physics connection
- Inflation
- The quantum world and beginning
- Gravitational lensing and Black holes

Required textbooks:
The Whole Shebang, by Timothy Ferris
Blind Watchers of the Sky, by Edward (Rocky) Kolb
Brief History of Time, by Stephen Hawking

Recommended texts:
The Inflationary Universe, by Alan Guth
The Elegant Universe, by Brian Greene
The Little Book of Big Bang, by Craig Hogan