

## **Astro 105 MW Exam III Study Guide**

*Topics (not exhaustive, but covers the most important material)*

Age of universe (details on how we obtained it)  
Alan Guth  
Big Bang Theory  
Big Crunch  
Blazars  
Clusters, Superclusters  
Cosmic Microwave Background Radiation (CMBR)  
Cosmological Constant  
Cosmological Redshift  
Cosmology  
Dark energy  
Dark matter  
Doppler Redshift  
Edwin Hubble  
Electromagnetic force  
Electroweak Theory, Steven Weinberg  
Four fundamental forces  
Galactic collisions  
Gamma-Ray Bursts  
General Relativity (GR) theory, equation, and terms  
Gravity force  
High Energy Physics, Length Scales  
Hubble flow, Expansion of Universe details  
Hubble's Parameter and Law  
Inflation  
Lawrence Krauss  
Local Group  
Matter-dominated and Radiation-dominated universe  
Quasars  
Quintessence  
Recessional velocity  
Richard Feynman, Feynman Diagrams  
Special Relativity's Constraint on Fluctuating Objects  
Strong force  
Superstrings and Brane Theory  
Tully & Fisher's relation and law  
Vacuum energy  
Weak force