

## **Astro 100 MW Exam III Study Guide**

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

Arranging 4 Cookies on a Plate  
Astro-Metric Method for Extrasolar Planet Detection  
Basic Requirements for Life  
Big Bang Theory  
Black Hole  
Center-of-Mass (CM) Point of Solar System  
Charles Darwin  
Chromosphere  
Convection Zone  
Corona  
Cosmic Microwave Background Radiation (CMBR)  
Distance to Our Identical Parallel Universe  
Doppler Shift Method for Extrasolar Planet Detection  
Drake Equation  
 $E = mc^2$   
Einstein  
Electroweak Era  
Equivalence Principle  
Fossil Record (age of life on Earth)  
Four Forces (Strong, Electromagnetic, Weak, and Gravity)  
Frank Drake  
General Relativity  
Helioseismology  
Hubble Volume  
Hydrostatic Equilibrium (balance of forces)  
Karl Schwarzschild  
Kelvin and Helmholtz's Gravitational Contraction of Sun  
Life in Our Solar System (and likely candidates)  
Mass of Extrasolar Planet  
Mayor and Queloz  
Miller-Urey Experiments  
Neutrinos  
Neutrons  
Nuclear Fusion and Fission  
Number of Extrasolar Planets  
Obtaining the Mass of the Sun  
Parallel Universes  
Penzias and Wilson  
Photon Scattering in the Sun

Photons (quantum of light)  
Photosphere  
Photosynthesis: Base of Food Chain  
Planck Era  
Proton-Proton Chain  
Protons  
Quarks  
Radiation Zone  
Radius of Extrasolar Planet  
Ray Davis Solar Neutrino Experiment  
Shift in Perihelion of Mercury's Orbit  
Solar Flux at Earth  
Spacetime  
Sun's Composition  
Sun's Density  
Sun's Energy Source (viewpoint of ancient philosophers, late 1800's, and today)  
Sun's Self-Regulation of Fusion Rate  
Sun's Temperature on Photosphere  
Sun's Temperature at the Core  
The 3 Global Geometries of Curved Space  
Transit Motion of Extrasolar Planet  
Worldline  
Wormhole