

Astro 105 2021 Spring Exam I Study Guide

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

Absorption Spectra

Astronomy

Atom's Structure (and forces that hold them together)

AU

Blackbody Plots for the Different Surface Temp Stars

Blueshift

Brown Dwarfs

Chromosphere

Corona

Density Formula (of celestial object)

Distance-Luminosity Relation

Doppler Effect (and formula)

Duality of Light

Electromagnetic (EM) Spectrum

Energy (per atom) of Chemical Reactions

Energy (per atom) of Nuclear Reactions

Galileo

Giants

Hertzsprung-Russell (H-R) Diagrams

Isaac Newton

James Maxwell (Maxwell Equations)

Kelvin and Helmholtz Theory

Keplers Third Law (used to find mass sum of binary system)

Leptons

Luminosity (Absolute Magnitude)

Magnitude (Absolute and Apparent)

Magnitude-Distance Formula

Main-Sequence Star

Masses of Binary Systems Equation #2

Max Planck (Photon Energy Formula and his Constant)

Multiplying Large Numbers

Neutrino Flavors/Types (and associated particles)

Niels Bohr's Quantum Theory of Hydrogen Atom

Orders of Magnitude

Parallax (drawing and formula)

Photometry

Photosphere

Prefix Names (common ones)
Prominences
Proton-Proton Chain (know all the details)
Quarks
Radiation Zone and Convection Zone
Ray Davis Experiment (Detecting Neutrinos Using Dry Cleaner's Fluid)
Red Dwarfs
Redshift
Rule for Like/Unlike Electrical Charges
Scientific Notation
Solar Intensity at Earth
Solar Neutrino Problem
Special Relativity
Spectra (emission)
Spectral Classes of Stars
Spectroscopic Parallax (formula)
Spectroscopy
Speed of Light (and its value in m/s)
Stefan-Boltzmann
Stellar Evolution
Stellar Spectroscopy
Supergiants
Temperature of Sun (core and surface)
Temperature Scales and Conversion Formulas
The Four Forces (gravity, EM, strong, and weak)
Water Molecule
Wavelength and Frequency (inversely related)
White Dwarfs
White Light
Wien's Law