

Study Guide – Test #4

Main topics: Galaxies, galaxy clusters, dark matter, Hubble's Law, Large-Scale Structure in the Universe

Terms to know:

Elliptical Galaxy

Spiral Galaxy

Irregular Galaxy

Supermassive Black Hole

Active Galactic Nucleus

Galaxy Cluster

White Dwarf Supernova

Hubble's Law

Hubble's Constant

Filament

Void

Dark Matter

MACHO (you don't need to memorize the acronym, but know what it refers to)

WIMP

Quasar

Important Concepts:

Galaxy Interactions (Lecture, Homework)

How do galaxies form? How are ellipticals different from spirals? (Lecture, Tutorial, Homework)

What forms into stars? What kinds of galaxies form stars? (Lecture)

How do we know dark matter exists? (Lecture)

Where is dark matter found? (Lecture, Tutorial, Homework)

What are rotation curves? What do they show? What is the rotation curve for a galaxy versus the solar system? (Lecture, Tutorial)

What happens in the centers of galaxies? (Lecture)

What does it mean when we say the universe is expanding? (Lecture, Tutorial)

How can redshift be used to measure distance? (Lecture, Tutorial, Homework)

What are the biggest structures in the universe? (Lecture)

How big are galaxies, galaxy clusters, filaments, voids? (Lecture)

What is gravitational lensing and how is it used? (Lecture, Homework)