

Instructor: A. W. Shafter

Text: *An Introduction to Modern Astrophysics, 2nd Ed.* by Carroll & Ostlie.

Supplemental Text: *The Physical Universe* by Frank Shu.

I. The Nature of Spiral Nebulae

A. Historical Background

II. Galaxy Morphology: Structure and Content

A. Classification

B. Stellar Populations

III. Interstellar Material

A. Star Counts

B. Interstellar Extinction

C. HII Regions & Nebulae

MIDTERM (30%)

IV. Galaxies & The Extragalactic Distance Scale

A. Distances within the Milky Way

B. Standard Candles

C. Distances to Local Group and Nearby Galaxies

D. Gravitational Lenses

V. An Introduction to Observational Cosmology

A. Newtonian Cosmology

B. Big Bang

Homework & Distance Scale Project (30%)

COMPREHENSIVE FINAL (40%)