

AST 4002 Syllabus

Astrophysics II, Galactic and Extragalactic Astronomy, Spring 2009

Professor: Liliya L.R. Williams (Physics 353, 624-1084, llrw@astro.umn.edu)

Class: M W 2:30-4:20pm, Physics 210

Class Web-page: http://www.astro.umn.edu/~llrw/a4002_s09.html

Books

“Galaxies in the Universe”, Linda Sparke & John Gallagher, 2nd ed. (the text)

“The Structure and Evolution of Galaxies”, Steven Phillipps

“Galactic Astronomy”, Dimitri Mihalas & James Binney

“Galactic Dynamics”, James Binney & Scott Tremaine

“Galaxy Formation”, Malcolm Longair

“Introduction to Cosmology”, Barbara Ryden

Grading

In-class participation	35%
Home-work and in-class quizzes	35%
Individual presentations: April 29, May 4,6 (20 mins each)	
Individual papers (same topic as presentation): due Friday, May 8th, 5pm	30%
presentations/papers: topics due Wed, Mar 11; outlines due Wed, Apr 15	

Examples of presentation/paper topics

- * Distance to ellipticals: Fundamental Plane and Surface Brightness Fluctuations Methods
- * Observations and interpretations of the thin and thick disks in spirals
- * Mapping out neutral Hydrogen in the Milky Way Galaxy
- * Faint end of the galaxy luminosity and mass functions in cluster and field environments
- * Understanding the spiral structure and bar through N-body simulations
- * Globular Clusters young and old: formation scenarios
- * Rotation curves of dwarf and low surface brightness galaxies: implications for dark matter
- * Shapes of extended galaxy dark matter halos from lensing, polar ring galaxies, etc.
- * Sgr A*: supermassive black hole in the Galactic Center
- * The role of AGN in massive ellipticals and galaxy clusters
- * Early galaxies at high redshifts: Lyman-break galaxies, dropouts, etc.
- * X-ray halos of galaxy clusters

Resources

<http://xxx.lanl.gov/archive/astro-ph>

http://adsabs.harvard.edu/abstract_service.html