

ASTR 540 STRUCTURE AND DYNAMICS OF GALAXIES

Fall 2014

Details

Lecture times/location:

Monday & Wednesday 2:00-2:50pm, SO 202.

Occasional Tuesday, Thursday, and Friday 2:00-2:50pm lectures as make up (TBD).

Homepage:

<https://lavinia.as.arizona.edu/~dstark/ast540/>

Professor: Daniel Stark

Office: 322

email: dpstark@email.arizona.edu

Office hours: Tuesday 1:00-2:00 pm or by appointment

Possibly useful texts:

Galactic Astronomy, (1998), by Binney & Merrifield.

Galactic Dynamics, Second Edition (2008), by Binney & Tremaine.

Galaxy Formation and Evolution (2010), by Mo, van den Bosh, & White.

Galaxy Formation, Second Edition (2008), by Longair.

Grading

40% homework

20% literature project/presentation

40% final exam

Homework

There will be 5 assignments throughout the semester. Students should first attempt to solve problems on their own. Books and published papers may be consulted, but students should not look at old homework solutions. Discussion of the problems with other students is permitted after students have tried the problems on their own. The submitted homework should represent each student's individual work. Homework will be submitted in class on the due date. Anything turned in after the due date will be considered late. Work turned in before the next class period will receive 75% credit. Work turned in two class periods following the due date will receive 50% credit. Work turned in more than two class periods late will not receive credit. Exceptions can be made for some extraordinary circumstances (e.g., observing runs, necessary travel).

Literature Project

The literature project provides an opportunity to delve deeper into the recent literature on topics covered in ASTR540. A list of possible topics will be circulated in class and on the course website. The report is expected to be ~5 pages and should include a review of current literature and discussion of where the field is going. Papers will be due on Monday November 24. Students will present the projects in class (15 min presentations) at the end of term.

Final Exam

The final will be closed book and will take place on Friday Dec 12 from 1 pm to 3 pm.

Course Content (subject to change)

Introduction
Stellar Populations
Galaxy Dynamics
Formation of Milky Way
External Galaxies - Basic Properties
Global Properties of Elliptical Galaxies
Global Properties of Spiral Galaxies
Environmental Processes
Galaxy Formation and Evolution