

Physics/Astronomy 589
Topics in Theoretical Astrophysics
(Spring 2014)

Lecture: 3:30-4:45pm Tuesdays and Thursdays in PAS 414

Instructors: Prof. Kaitlin Kratter and Prof. Ina Sarcevic

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Office hours: by appointment

GRADING: Grading will be based on class participation (25%), assignments (5%), and a final presentation (70%). Each student will give an oral presentation on a current research topic related to the topics covered in the course (in consultation with the instructors).

The correspondence between points scored and course grade is:

A: 85% – 100%; **B:** 70% – 85%; **C:** 50% – 70%, **D:** 30% – 50%; **E:** 0% – 30%.

There will be no single textbook for this class. We will use selected chapters and review articles as well as recent research papers on each of the topics covered. We will provide a list of references for each topic as we cover them.

Topics to be covered

Astrophysical Fluids (Star and Planet Formation)
N-body dynamics (Planetary, Stellar, Galactic)
Accretion Disks (stars, compact objects, AGN)
Astrophysical Sources of Gamma Rays and Neutrinos
Nuclear Astrophysics (Supernovae Dynamics)
Astroparticle physics (Dark Matter)

This class will focus on the physical mechanisms that control these processes, with special attention to current research problems in each area.

Students with disabilities who require reasonable accommodations to fully participate in course activities or meet course requirements are encouraged to register with the Disability Resource Center (<http://drc.arizona.edu>) and contact me to discuss accessibility issues.

Code of conduct: Students are expected to understand and follow the Student Code of Conduct, which is available at <http://w3.arizona.edu/~studpubs/policies/ppmainpg.html>.