

ASTRONOMY 825: Radiative Gas Dynamics

Winter Quarter 2011 · Tu Th 1:30 - 2:48 pm · McPherson 4054



Instructor: Professor Barbara Ryden
Office: 4035 McPherson Lab
Telephone: 292-4562
Email: ryden@astronomy.ohio-state.edu

Text: *Radiative Gas Dynamics*, by Barbara Ryden – a set of lecture notes that I will be handing out in class.

Class website: www.astronomy.ohio-state.edu/~ryden/ast825/
The website will contain PDF lecture notes, the course syllabus, and the assigned problem sets.

Grading policy: Problem sets will be assigned on alternate Thursdays, starting on January 13, and will be due exactly one week later. The problem sets will count for 2/3 of your final grade. The final exam will be a takehome exam, and will be handed out during finals week, at a time to be decided. The final exam will count for 1/3 of your final grade.

Academic Misconduct: It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and cheating on examinations. Instructors shall report all instances of alleged misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (studentaffairs.osu.edu/resources).

Disability Services: Students with disabilities that have been certified by the Office for Disability Services will be accommodated; please inform the professor as soon as possible of your needs. The Office for Disability Studies is located in 150 Pomerene Hall, 1760 Neil Avenue, telephone 292-3307, TDD 292-0901, www.ods.ohio-state.edu.

Tentative Course Outline: Astronomy 825

- Chapter 1: Fundamentals (Jan 4, 6)
- Chapter 2: Viscosity & Heat Conduction (Jan 11)
- Chapter 3: Sound & Shocks (Jan 13, 18)
- Chapter 4: Radiative & MHD Shocks (Jan 20)
- Chapter 5: Spherical Blastwaves & Supernova Remnants (Jan 25)
- Chapter 6: Ionization Fronts & HII Regions (Jan 27, Feb 1)
- Chapter 7: Basic Turbulence (Feb 3)
- Chapter 8: Spherical Accretion (Feb 8, 10)
- Chapter 9: Accretion Disks for Beginners (Feb 15, 17)
- Chapter 10: Advanced Accretion Disks (Feb 22)
- Chapter 11: Solar Wind (Feb 24, Mar 1)
- Chapter 12: Winds from Hot & Cool Stars (Mar 3, 8)
- Chapter 13: Astrophysical Jets (Mar 10)

Due dates for problem sets = January 20, February 3, February 17, March 3