

# Astronomy 161 – Introduction to the Solar System

## Autumn Quarter 2007

**Lectures:** MTWRF, 2:30-3:18pm, 1000 McPherson (MP1000)

**Professor:** Richard Pogge

Office: 4037 McPherson Lab (292-0274)

Office Hours: Tues, Wed, Thurs 11:00-12:30, or by appointment

E-Mail: pogge.1@osu.edu

**TA:** David Nataf

Office: 4000 McPherson Lab (292-3099)

Office Hours: Monday 3:30-4:30, Thursday 12:30-1:30, or by appointment

E-Mail: nataf.1@osu.edu

**Required Classroom Clicker**

**Optional Textbook:** *21<sup>st</sup> Century Astronomy* 2<sup>nd</sup> Edition, Hester et al.

**Course Web Page:** [www.astronomy.ohio-state.edu/~pogge/Ast161/](http://www.astronomy.ohio-state.edu/~pogge/Ast161/)

**Course Objectives**

Astronomy 161 is an introduction to modern astronomy, with an emphasis on the solar system. We will begin with an exploration of the historical development of astronomy to trace the path by which we have come to our present understanding of the Universe, building up along the way the basic toolkit of physical concepts that we will need for our later discussions. The second half of the course will be devoted to an overview of modern solar system astronomy, with particular attention paid to the constituents of the solar system, comparative planetology (structure, surfaces, & atmospheres) and the history and evolution of the solar system.

**Homework Assignments**

There will be five (5) Homeworks, each consisting of of short-answer questions turned in on worksheets provided in-class. Homework counts for 15% of your grade. **No late homework will be accepted**, except for legitimate, documented emergencies.

**In-Class Quizzes**

There will be four (4) in-class quizzes, scheduled for the following Fridays:

In-Class Quiz 1: Friday, October 5

In-Class Quiz 2: Friday, October 19

In-Class Quiz 3: Friday, November 2

In-Class Quiz 4: Friday, November 16

Please mark your calendars with these dates. The quizzes will be held at the normal class time. Quizzes cover the material in the lectures since the last quiz. All quizzes are **closed-book, closed-notes, multiple-choice** tests.

**Makeup quizzes are only offered by advance arrangement with the professor**, except for legitimate, documented emergencies. If you are away on official University-sponsored activities (sports, band, etc.), please get a letter from your coach, director, etc. **in advance** of the quiz. Quizzes must be made up before the Wednesday following the missed quiz.

## Final Exam

The Final Exam is **Thursday, December 6 from 11:30-1:18 in 1000 McPherson Lab**. Attendance is mandatory. The final is **comprehensive** and worth **30%** of your grade.

**No makeup final will be offered.** Persons who miss the final exam will be given an incomplete (I) with an alternative grade equal to getting a zero on the final, and have to make it up during Winter Quarter 2008 to avoid the alternative grade. Early finals will **not** be available for those persons who wish to depart early for the winter break.

## Grading Policy

- The 5 homework collectively account for **15%** of the grade, equivalent to 1 in-class quiz.
- I drop the lowest of the 4 in-class quizzes to compute the grade, for **45%** total (15% per quiz).
- The final exam accounts for **30%** of the grade (equivalent to 2 in-class quizzes)
- Daily participation in interactive clicker-based questions accounts for up to **10%** of the grade.
- All grading, homework and exams, is done on a standard C+ curve.

## Lectures

Lectures are daily, 2:30-3:18pm, in 1000 McPherson Lab. Attendance is required, and will be monitored using your daily participation in interactive questions given via classroom clickers. These lectures are your primary resource for this course, and exams are based on the lectures. The textbook is optional and only used as a supplementary reference for those who feel they need a second source.

## Students with Disabilities

Any student who feels that he or she may need an accommodation based on the impact of a disability should contact the professor to discuss their specific needs. We work with the Office for Disability Services to verify the need for accommodation and develop appropriate strategies. Students who have not contacted ODS should visit [www.ods.ohio-state.edu](http://www.ods.ohio-state.edu) and request an appointment.

## Academic Misconduct

All OSU professors are required to report suspected cases of academic misconduct to the Committee on Academic Misconduct. See the University's Code of Student Conduct for details. All cases will be investigated following University guidelines.

## Classroom Etiquette

To help establish and maintain a courteous, distraction-free learning environment in our classroom, I ask that everyone observe these basic rules of etiquette during lectures and exams:

### **Use of cell phones and pagers is prohibited.**

During class, all cell phones and pagers must be **turned off** (i.e., not in "silent ring" mode).

### **Use of Wireless Laptops or other networked devices is prohibited.**

During class, all laptop computers and other networked devices must be **turned off** and put away. Exceptions are made for assistive technologies for the hearing or vision impaired.

### **Please do not start packing up until class is completely over**

I'll be clear when we're done, and I work very hard to stay on time, please wait until I finish.

### **No conversing during lectures.**

Please respect the wishes of your fellow students to listen to the lecture, and do not carry on conversations during class.

## **GEC Goals and Objectives**

Astronomy 161 is a General Education Curriculum (GEC) Physical Science course in the Natural Science category. The goals for this course include:

- Understanding the basic principles and central facts of astrophysics, and their relation to other ideas in the physical and biological sciences.
- Understanding how we discovered the important principles and facts of astrophysics, thus understanding key events in the history of science both as events in human history and as case studies in the methods of science.
- Investigating the relationship between science and technology,
- Understanding the social and philosophical implications of major scientific discoveries.

In Astronomy 161, the specific learning objectives to achieve these course goals are:

- To investigate the basic facts, principles, theories, and methods of modern science as practiced in astrophysics.
- To learn the basic observable phenomena of astronomy, and how these have both practical applications (time keeping and calendars), and play a key role in advancing our understanding of the Universe.
- To learn important events in the history of astronomy, particularly the development of our understanding of the nature of the Solar System and the discovery of the physical laws that govern its motions, formation history, and evolution.
- To explain the role of modern technology in the investigation of astrophysical phenomena, and explore the crucial role played by technological advances in extending our knowledge of the Universe.
- To explore how discoveries in astrophysics have implications for how we have come to view our place in the Universe, and to compare the Earth to the other planets in our Solar System in order to establish a physical framework for understanding the possible impacts of human activities on the Earth.