



Soochow University

ASTR 1011 Astronomy I: The Solar System

Course Outline

Summer, 2020

The course is an introduction to the science of astronomy. This course will focus on the mysteries of the solar system. In this course, students will explore the features of the Earth, the Moon and other planets in the solar system. Students will also develop their understanding of some travelers in the universe, like comets and asteroids. The course is composed of lectures and laboratory. Students are required to attend and participate in both classes.

Course Information

Contact Hours: 54 hours

Credits: 3 credits

Course Prerequisite: n/a

Instructor: TBA

Course Objectives

Upon successfully completing the course, students will be able to:

1. Understand the basic terms related to the solar systems, the planets and other celestial bodies.
2. Describe and compare the features of each planet in the solar system



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3. Explain why the Earth is so special in the solar system
4. Observe the day and night sky with and without the tools like telescopes

Textbooks/Materials

Jeffrey Bennett, Megan Donahue, Nicholas Schneider & Mark Voit. (2017). *The Cosmic Perspective*, 8th Edition, Pearson Education, Inc. Press.

Lauren Jones. (2010). *Observation Exercises in Astronomy*, 1st Edition, Pearson.

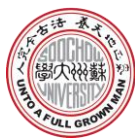
Attendance Requirements and Academic Integrity

Students are required to attend classes and labs on the scheduled time. Missing classes without permission will lead to decrease in overall grade.

- Missing less than two classes: no penalty.
- Missing more than two classes: 7% will be taken off from the overall grade.

Exams must be taken on the scheduled day and location. There will be no makeup exam for summer sessions.

Soochow University values academic integrity, respect, fairness, honesty and responsibility. Students must be aware of and comply with Soochow University's Academic Integrity policies. Any cheating, falsification, plagiarism, impersonation or any attempting to commit the above will be reported to the university's administration office. Any academic dishonesty behaviors will be kept on record and students will be punished according to the rules.



Evaluation and Grading

Participation and Homework 10%

Laboratory 10% for each

Midterm Test 20%

Final Exam 30%

Total: 100%

Homework will be given on a regular basis in order to reinforce the understanding of specific skills and they should be submitted to the course website. Laboratory is required for the course and students are required to read and do the pre-lab quiz on the course website before the 1st lab. The lab package (including safety goggles and safety equipment) can be found in the bookstore.

Midterm Test will be held on the middle of the class while the Final Exam will be on the last day of the class. More details will be informed in class.

Soochow University's grading scale is shown as the following:

Letter Grade	Score Grade	Grade Point Average
A+	95-100	4.0
A	90-94	4.0
A-	85-89	3.7
B+	80-84	3.3
B	75-79	3.0
B-	72-74	2.7



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C+	68-71	2.3
C	65-67	2.0
C-	60-64	1.7
D+	55-59	1.3
D	50-54	1.0
F	< 50	0.0

Course Topics

1. Week of June 8th: **Lab Report 1 due (10%)**

Course Introduction and Overview

A Modern View of the Universe

Discovering the Universe for Yourself

Light and Matter: Reading Messages from the Cosmos

Understanding Motion, Energy, and Gravity

2. Week of June 15th: **Lab Report 2 due (10%)**

The Science of Astronomy

Telescopes: Portals of Discovery

Review for the midterm

3. Week of June 22nd: **Midterm Test (20%) Lab Report 3 due (10%)**

Midterm Test

Our Planetary System



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Formation of the Solar System

Planetary Geology: Earth and the Other Terrestrial Worlds

4. Week of June 29th: **Lab Report 4 due (10%)**

Planetary Geology: Earth and the Other Terrestrial Worlds

Planetary Atmospheres: Earth and the Other Terrestrial Worlds

Jovian Planet Systems

Asteroids, Comets, and Dwarf Planets: Their Nature, Orbits and Impacts

5. Week of July 6th: **Final Exam (30%)**

Other Planetary Systems: The New Science of Distant Worlds

Einstein's Revolution and Relative Motion

Review for the Final Exam