AST 101 Astronomy I

Winter 2024

Course Credits: 4
Contact Hours: 56 hours
Instructor: TBA
Email:TBA

COURSE OBJECTIVES

This course is designed for students who are interested in exploring the mysteries of the universe but without prior knowledge of Astronomy. By learning the course, students will fully understand the Earth, the Moon and the other planets in the solar system, as well as comets and asteroids. In addition, students will learn to observe the night sky without a telescope. The topics will include the use of telescopes and probes, the history of astronomy, human activities in the space too.

Upon Completion of this Course, students will be able to:

1. Describe the basic information of the planets in the solar system, and some other celestial bodies like comets
2. Use telescopes to observe and to recognize the patterns and the main stars in the night and day sky
3. Interpret the phases of the moon and the relationship between the Earth and the moon,and the Sun and the moon
4. Introduce the human activities in the space and how these activities contribute to the understanding of the universe
5. Explain how astronomers measure electromagnetic radiation from various sources and use that information to derive an understanding of astronomical objects and phenomena
6. Use planetarium software like STELLARIUM to find the planets in the universe

PREREQUISITES

N/A

GRADING

Grades will be determined by accumulating points, with 100 points being the maximum, as follows:

ITEM	POINTS
Quizzes	20 Points
Midterm 1	20 Points
Midterm 2	20 Points
Final Exam	40 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

A ≥ 90 > B ≥ 80 > C ≥ 70 > D ≥ 60 > F.

We reserve the right to make adjustments to the overall grading policy.

COURSE MATERIALS

Required Texts:

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

Recommended (Optional) Texts or Other Materials:

None

COURSE TOPICS

MODULE	TASKS
Module 1	**Topics:** Topic 1: A Modern View of the Universe Topic 2: Patterns in the Night Sky Topic 3: Light and Matter: Reading Messages from the Cosmos Topic 4: Understanding Motion, Energy, and Gravity **Assessments:**

	Quiz#1
Module 2	**Topics:** Topic 5: The History of Astronomy Topic 6: The Science of Astronomy Topic 7: Telescopes and Observations Topic 8: Telescopes: Portals of Discovery **Assessments:** Quiz#2
Module 3	**Topics:** Topic 9: The Solar System Topic 10: Our Planetary System Topic 11: Formation of the Solar System Topic 12: Planetary Geology: Earth and the Other Terrestrial Worlds **Assessments:** Midterm#1
Module 4	**Topics:** Topic 13: Planetary Atmospheres: Earth and the Other Terrestrial Worlds Topic 14: The Planetary Bodies Topic 15: Jovian Planet Systems Topic 16: Asteroids, Comets, and Dwarf Planets: Their Nature, Orbits and Impacts **Assessments:** Midterm#2
Module 5	**Topics:** Topic 17: Other Planetary Systems: The New Science of Distant Worlds Topic 18: Space and Time Topic 19: Einstein's Revolution and Relative Motion Topic 20: Final Exam Reviews **Assessments:** Final Exam

ATTENDANCE

1) Class attendance is required. 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.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

LEARNING REQUIREMENTS

1) Late assignments are not acceptable and are subjected to grade deductions.
2) Assignments submitted in the wrong format will be counted as not submitted.
3) Failure to submit or fulfill any required course component results in failure of the class.
4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

TECHNOLOGY POLICY

The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (eg., note taking, reading course documents).

ACEDEMIC INTEGRITY POLICY

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors

and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

DISABILITY ACCOMMODATION

Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.