



Hunan University

ASTR 12: Astronomy II

Professor: To be announced

Total contact hours: 54 hours

Credit: 4

Course Description

Astronomy is one of civilization's greatest achievements that the human mind can encompass and, to some extent at least, understand the nature of the vast cosmos within which we find ourselves. This Course intended to:

To tell you what we know about the observable universe;

To show how we have made the discoveries which have led us to our present understanding;

To introduce you to the wonders of the night sky, through the use of telescopes and images;

To show you how astronomers actually do their research, and to introduce you to the human side of science;

To explore the relevance of astronomy to modern life;

To consider the origins of life itself, the prospect of the existence of life outside the Solar System, and the chance that we might make contact with extraterrestrial life forms;

To explore, although perhaps only superficially, the representation of astronomy in myth, music, literature, and art.

Required Textbook

The Cosmic Perspective: Stars and Galaxies (8th Edition), Jeffrey O Bennett, Megan O. Donahue

Grading

- Quizzes 20%
- Homework 10%
- Reading Report 25%
- Mid-exam 20%
- Final Exam 25%



A+ 96-100	A 90-95	A- 85-89
B+ 82-84	B 78-81	B- 75-77
C+ 71-74	C 66-70	C- 62-65
D 60-61	F < 60	

Assignment

Format: Your homework should be written in a 12 point font and double spaced.

Late assignment would NOT be accepted.

Course Schedule

The course has 24 class sessions in total. All sessions are 2 hours and 15 minutes in length.

Note: the course outline and required readings are subject to change.

Class 1:

The fundamental properties of the Sun; the sun as a representative star

Class 2:

The fundamental properties of the Sun; the sun as a representative star (con't)

Class 3:

Thermonuclear reactions within the stars

Class 4:

Thermonuclear reactions within the stars (con't)

Class 5:

The observable properties of stars

Class 6:

The observable properties of stars (con't)

Class 7:

Developing a deeper understanding of stars

Class 8:

Developing a deeper understanding of stars (con't)

Class 9:

How do the stars 'evolve?' (i.e. change in appearance and structure as they age)



Class 10:

How do the stars 'evolve?' (i.e. change in appearance and structure as they age) (con't)

Class 11:

The dramatic fate of more massive stars

Class 12:

The dramatic fate of more massive stars (con't)

Mid-exam

Class 13:

Black holes: the ultimate fate for very massive objects

Class 14:

Black holes: the ultimate fate for very massive objects (con't)

Class 15:

Star formation: the birth of stars

Class 16:

Star formation: the birth of stars (con't)

Class 17:

The Milky Way galaxy

Class 18:

The Milky Way galaxy (con't)

Class 19:

The discovery of other galaxies

Class 20:

The discovery of other galaxies (con't)

Class 21:

The expansion of the universe

Class 22:

The expansion of the universe (con't)

Class 23:

Modern cosmology: the past and future of the universe



Class 24:
Final Exam

Attending Policy

Regular and prompt attendance is required. Under ordinary circumstances, you may miss two times without penalty. Each absence over this number will lower your course grade by a third of a letter and missing more than five classes may lead to a failing grade in the course. Arriving late and/or leaving before the end of the class period are equivalent to absences.

Policy on "Late Withdrawals"

In accordance with university policy, appeals for late withdrawal will be approved **ONLY** in case of medical emergency and similar crises.

Academic Honesty

Hunan University expects all students to do their own work. Instructors will fail assignments that show evidence of plagiarism or other forms of cheating, and will also report the student's name to the University administration. A student reported to the University for cheating is placed on disciplinary probation; a student reported twice is suspended or expelled.

General Expectations:

Students are expected to:

- Attend all classes and be responsible for all materials covered in class and otherwise assigned;
- Complete the day's required reading and assignments before class;
- Review the previous day's notes before class and make notes about questions you have about the previous class or the day's reading;
- Participate in class discussions and complete required written work on time;
- Refrain from texting, phoning or engaging in computer activities unrelated to class during the class period;
- While class participation is welcome, even required, you are expected to refrain from private conversations during the class period.

Special Needs or Assistance

Please contact the 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. Our goal is to help you learn, not to penalize you for issues which mask your learning.