



# Hunan University

## ASTR 11: Astronomy I

**Professor:** To be announced  
**Total contact hours:** 54 hours  
**Credit:** 4

### Course Description

This course is to develop a qualitative (i.e. non-mathematical) understanding of the entire observable universe! We will begin with a detailed study of the stars, which can loosely be thought of as the 'atoms' of the universe, and work our way to ever larger scales, right out to the observable bounds of the universe -- and indeed beyond, as we address some of the deep cosmological questions about the origin and fate of the cosmos. Fundamentally, therefore, we will move continuously from small (if indeed an object the size of a star can be thought of as 'small!') to large.

### Required Textbook

*The Cosmic Perspective: Stars and Galaxies (8th Edition), Jeffrey O Bennett, Megan O. Donahue, Pearson, ISBN: 0134073827*

### 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:

A modern view of the Universe: astronomy is a science, one which is unique in several ways

Class 2:

A modern view of the Universe: astronomy is a science, one which is unique in several ways (con't)

Class 3:

Understand the fundamental motions of stars and planets

Class 4:

Understand the fundamental motions of stars and planets(con't)

Class 5:

The science of astronomy

Class 6:

The science of astronomy (con't)

Class 7:

Understand the fundamental physical principles that control the universe: motion, energy and Gravity

Class 8:

Understand the fundamental physical principles that control the universe: motion, energy and Gravity (con't)

Class 9:

Interpret the message delivered by light and matter

Class 10:

Interpret the message delivered by light and matter(con't)

Class 11:

Mid-term

Class 12:

Telescopes and observatories that carry out our astronomical investigations



Class 13:

Telescopes and observatories that carry out our astronomical investigations (con't)

Class 14:

Understand the origin, formation and age of the solar system

Class 15:

Understand the origin, formation and age of the solar system (con't)

Class 16:

Understand the internal structure of the planets

Class 17:

Understand the nature of planetary atmospheres (con't)

Class 18:

Our solar system is full of 'leftover debris' that poses a continuing threat to us

Class 19:

Our solar system is full of 'leftover debris' that poses a continuing threat to us (con't)

Class 20:

The space exploration that we have carried out for the solar system

Class 21:

The space exploration that we have carried out for the solar system (con't)

Class 22:

Searches for life elsewhere in the universe

Class 23:

Searches for life elsewhere in the universe (con't)

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.