

ASTR 1110/1110H Syllabus

Introduction to Astronomy for Majors and Honors Students

Dr. Inseok Song, Fall 2025

CRN 50294

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary during the course of the semester and will supersede anything written here.

Instructor Information

Dr. Inseok Song

Office: 326A Physics

Email: song@uga.edu

Class Website: The eLearning Common (ELC) will serve as the repository for general information, announcements and lecture materials. You should monitor this website regularly; at minimum, once per week.

Office Hours: One hour after each lecture or by appointment

Class time: TBD

Introduction

Welcome to ASTR 1110/1110H. This course is a general introduction to solar system astronomy for astrophysics majors and honor students. The principal goals of the course are to give you an idea of how a physical science like astronomy works and to introduce

you to some of the latest discoveries about the solar system. Some of the topics we will cover are: our place in the Universe, the celestial sphere, the calendar, the physics of motion and gravity, the formation of the solar system, basic geology of the terrestrial planets, terrestrial planet atmospheres, the jovian planets, and the smaller objects in the solar system. We will examine these things at an introductory level, but in enough detail to give you an understanding of each topic at a level that a well-educated person in the 21st century should have.

NB: Astronomy is a quantitative science. As such, we will treat many of the topics quantitatively using mathematics at the level of high-school algebra. We will also use a

little bit of trigonometry but no calculus. I will expect you to be able to handle numerical problems involving simple algebraic equations and scientific notation, both on the homework and on the exams.

Required Course Materials

Textbook: Astronomy, by Andrew Fraknoi, David Morrison, and Sidney C. Wolff. It is published by the openstax open educational resources project and is available for free in various electronic formats: online, PDF, iBooks, and Kindle. You can also order a print version if you prefer that format (but you'll have to pay for that option). For more details, go to:

<https://openstax.org/details/books/astronomy>

All readings and homework assignments refer to the pdf. Homework will be assigned every week or every other week based on problems at the end of each chapter. A simple scientific calculator is needed for homework and for exams. Graphing calculators are OK.

Structure of the Class

The class will consist primarily of lectures with questions and comments by the students strongly encouraged. Three exams will be given in class every 5-6 weeks. The format of the exams and the specific chapters that they will cover will be specifically discussed in class. Note that the schedule at the end of this syllabus is tentative and subject to change. The final exam will be given at the assigned time (Tuesday, December 12; noon – 3 PM).

Homework

For every chapter we cover, I will assign homework problems which you should attempt to do. I will not collect or grade the homework so your incentives to do it are that 1) doing the homework will help you better understand and master the material, and 2) many of the problems on the exam will be based on the homework questions. Although I will not collect the homework, I will post solutions after a week or two, and I will be happy to discuss the homework with you during office hours or at some arranged time.

Other Resources

Tutoring: Department of Physics and Astronomy has a list of tutors available (<http://www.physast.uga.edu/tutors/>), otherwise visit the UGA Tutorial Program in Milledge Hall or the tutoring options through the Division of Academic Enhancement (<https://dae.uga.edu/>). If you cannot come to my regular office hours, or need additional help, please set up an appointment (by email, by phone (706-5422876), or in person) to talk to me outside of class. For email correspondence (include ASTR 1110 or 1110H) in the subject line) use this address: song@uga.edu.

Grading Policy

Your overall grade will be weighted as follows: 66% based on three in-class exam grades given during the course of the semester. 34% Final exam grade. Your numerical score will be determined from the weights given above and a letter grade will be assigned using the following criteria:

A 91.0 – 100.0

A- 87.0 – 90.99

B+ 84.0 – 86.99

B 80.0 – 83.99

B- 75.0 – 79.99

C+ 70.0 – 74.99

C 65.0 – 69.99

C- 60.0 – 64.99

D 50.0 – 59.99

F less than 49.99

Make-up Exams:

If you must miss an exam for a serious, documentable reason, then you must notify me in advance either in person or via email. You must also provide documentation for your absence within one week of the date of the missed exam. These rules do not apply to the

Final Exam. If you have not notified me in advance or you have not provided documentation of your reason for missing the exam, then your score for the missed exam will be a zero.

Withdrawal and Incomplete

The Undergraduate Bulletin and the Registrar's Office website describe the University policies regarding withdrawals and incomplete (<http://reg.uga.edu/policies/withdrawals>). If you are considering withdrawing from the course, you should discuss your choice with me beforehand. In many cases, students are doing better in the course than they think. A grade of Incomplete is not appropriate for a student who has missed a large portion of the course assessments, for whatever reason. An incomplete is intended for a student who has completed a substantial part of the course, but, for non-academic reasons beyond their control was unable to finish the course.

The Withdrawal Deadline is October 23, 2025.

Classroom Policy

We would like to have a constructive learning environment and so the atmosphere must be free from distractions and disruptive behavior. If you are attending class in person, please make a reasonable attempt to arrive on time and refrain from packing up your things and leaving early. Laptops, cell phones, and tablets may be useful for taking notes, however, they can be distracting when used for social media sites, shopping, checking email, or playing games. Be mindful and respectful of those around you.

Student Responsibilities: Arrive on time to class and do not distract your fellow classmates. You are responsible for all announcements made during class – whether or not you are attending in person. You are responsible for all topics covered in class, in the assigned book chapters, and on the homework problems. You are strongly encouraged to read the material that is to be covered in class ahead of time. If the schedule changes, then those changes will be announced in class. Know the rules concerning withdrawals and incompletes, published in the UGA undergraduate Bulletin.

Maintain “A Culture of Honesty” (see below).

Ask me if you don't understand anything about the course materials. There are no dumb questions as far as astronomy is concerned. Be curious!

Academic Honesty

The University of Georgia has a comprehensive policy on academic honesty, described in a document entitled A Culture of Honesty. This document is available through the Office of the Vice President for Instruction or online at <https://ovpi.uga.edu/academic->

[honesty.](#)

This policy covers all academic work. As a UGA student, you are responsible for knowing and understanding this policy. If you have any question about the appropriateness of your actions or your work, you are obligated to ask me for clarification.

Tentative Class Schedule

Any modifications to this schedule will be announced during class. Be prepared for class by reading the assigned section(s) of a chapter before class. Exam dates below are tentative (except for the final). Any changes will be announced well ahead of time during class.

Week Date Topics

- 1) Aug. 17 – Syllabus; Introduction to Astronomy in general
- 2) Aug 22, 24 – The birth of Astronomy – Ch. 2
- 3) Aug. 29, 31 – Keeping time – Ch. 4
- 4) Sep. 5, 7 – Orbits and Gravity – Ch. 3
- 5) Sep 12, 14 – Motions of satellites, the Newtonian world – Ch. 3
- 6) Sep. 19, 21 – Special Relativity and the transition to General Relativity – Ch. 24
- Exam 1, September 21, 2023 – covers Ch. 2, 3, 4

- 7) Sep. 26, 28 – Newtonian versus Relativistic Mechanics – Ch. 24
- 8) Oct, 3, 5 – Radiation and Spectra – Ch. 5
- 9) Oct. 10, 12 – Other worlds: An introduction to the Solar System – Ch. 7
- 10) Oct. 17, 19 – Earth as a planet – Ch. 8
- 11) Oct. 24, 26 – Cratered worlds; Earthlike Planets – Ch. 9-10
- Exam 2, October 26, 2023 – covers Ch. 24, 5, 7

- 12) Oct. 31, Nov. 2 – Mars and Venus – Ch. 10
- 13) Nov. 7, 9 – The giant planets – Ch. 11
- 14) Nov. 14, 16 – Rings, Moon, and Planets – Ch. 12
- 15) Nov. 20, 22 – Comets, Asteroids, debris – Ch. 13
- Exam 3, November 21, 2023 – covers Ch. 8, 9, 10, 11

- 16) Nov. 28, 30 – Ch. 22, 23 – Origin of Solar System – Ch. 14
- Tuesday, Dec. 5th is a FRIDAY schedule, so there will be NO ASTR1110/1110H class that day.

December 6th – Reading Day

Final Exam – Tuesday, December 12th, noon to 3 PM - cumulative