UNIVERSITY of HAWAI'I®
WINDWARD
COMMUNITY COLLEGE

COURSE SYLLABUS
ASTR 110: SURVEY OF ASTRONOMY

Course Description

This is an online lecture course that concerns the nature of the astronomical universe for non-science majors. In this course, I introduce the history of, the discoveries in, and the methods used in astronomy, with descriptive treatments of planets, the solar system, stars, galaxies, and cosmology. Additionally, I discuss the concepts of size, distance, and time in the observable universe.

Instructor Information

Instructor: Greg Engh
Email: gsengh@hawaii.edu

Virtual Office: Google Meets or Zoom (by appointment only)
Office Hours: Private consultation is by appointment only (on Google Meets or Zoom)
Physical office: NASA IRTF (on the Big Island)

Course details

Course Homepage: ASTR-110-62120 (in the Lamaku system)
The Lamaku system: https://lamaku.hawaii.edu/d2l/home/187572
Credit Hours: 3.0 (expect to spend at least 12 – 24 hours on this course each week)
Section: 0
Schedule Types: Science/Tech/Engineering/Math Division
Astronomy Department
Gen. Ed/Focus: DP – Diversification: Physical Sci
Method: Distance – Completely Online
Grading Options: Standard Letter A-F, Credit/No Credit, or Audit
Course Dates: 08/24/2026 – 12/18/2026

Meeting Times: **(See Course Schedule section below)**

If necessary, we will meet online via Zoom or Google Meets (i.e., the Virtual Office listed above). Zoom and Google Meets are FREE online applications. You may be required to have your camera on or answer questions verbally during parts of live meetings.

Weekly Expectations:

Each week you are expected to complete two chapters from the textbook. I have also recorded lectures on each chapter that you can watch at your leisure, after which you can complete the weekly homework sets.

Note on dates and times:

All time references and possible due-dates with time requirements for this course (both within this syllabus and when reported online) are based on Hawaii-Aleutian Standard Time (HST).

Prerequisites (Not required by all colleges within UH system)**:**

- ENG 22/55 w/C or place ENG 100
- MATH 75x w/C or place MATH 85++

Required Materials, Resources, Supplies, Technology, and Technical Skills:

- **Lamaku:** All of the course materials will be posted or linked from Lamaku: https://lamaku.hawaii.edu/d2l/home/187572
  You are required to log in to Lamaku every week to engage with the learning materials and complete assignments.
- **Textbook:** Astronomy (FREE online textbook provided by Openstax via RICE University)
  Link to book: https://openstax.org/details/books/astronomy?Book%20details
  You can choose to read the book online or download the PDF. I recommend you download the PDF so that you can access it even if you temporarily lose your internet access.
- A recent model **desktop or laptop** computer, preferably less than 5 years old with a current operating system.
- A reliable **webcam, speakers, and microphone**.
- **Reliable high-speed internet connection.**
- **Google Meets** (a FREE online application): Your hawaii.edu email is a google email account, so you already have access to this software. To download the software, go to https://meet.google.com/ and follow the instructions. Zoom is also an option.
- A recent version of the Firefox ESR (Win/Mac/Linux) browser (Firefox is the most compatible with Lamaku)
- For any calculations needed to be done in this course, you can use either a scientific calculator or WolframAlpha (a FREE online calculator). I recommend that you use WolframAlpha, which is available here: https://www.wolframalpha.com/

Distance Learning Student Resources: Given that this is an online course, you should familiarize yourself with the Lamaku system:
https://windward.hawaii.edu/programs-of-study/evening-online-education/

Online technical help:
https://windward.hawaii.edu/services-for-students/tutoring/ka-piko/student-tech-support/

Learning Objectives

This is an introductory course, a survey course, and a general science course for non-science majors. In this course I aim to teach you to think critically, as a scientist, and expand your understanding of both the Universe and the methods employed in the science of astronomy. As such, the principal goals of this course are for you to be able to do the following:

- Describe astronomical structures and phenomena in the Universe.
- Explain how we know what we know about the Universe.
- Think scientifically, thereby to critically analyze information on astronomy and incorporate your new knowledge of astronomy into your everyday life.

Course Components

Readings: All the information that you will need to know in order to pass this course is in the textbook. You should set aside time each week to read the textbook. All other material is supplementary and designed to help you learn the topics. If you ever have questions about a topic then you should contact me. I will respond to questions via email and on occasion I will address some questions via a classwide announcement. I highly encourage you to ask yourself three questions when reviewing the material:

- What do we know?
- How do we know it?
- How or why is this important, i.e., what are the implications?

Homework: Homework sets are available for a week and due each week and all are 100% online. I encourage you to work together to complete the assignments and discuss the topics.

Quizzes: There are four online quizzes throughout the course. These help you to estimate your own knowledge of material between/prior-to exams. **Quizzes are available for a week and once you begin a quiz you will have a limited time to complete it.**

Exams: There are three exams throughout the course. They are all open-note and open-book. **Exams are available for one day and once you begin an exam you will have a limited time to complete it. You may drop one exam in this course for ANY reason.**

Final Exam: The final exam is a comprehensive exam and will be open-note and open-book following the same format as the other exams. **You cannot drop the final exam.**

Due dates are given on the course web page. Late work is not accepted unless you can provide proof of a legitimate excuse, such as a medical emergency.

Grades

Computation of Final Grade

- **Homework:** 45% (15 sets worth 3% of your grade each, i.e. 30 points each)
- **Quizzes:** 5% (4 quizzes worth 1.25% each, i.e. 12.5 points each)
- **Exams:** 30% (3 exams 10% each, i.e. 100 points each)
- **Final Exam:** 20% (1/3rd of exam concerns the last 8 chapters; 200 points)
- **Total Possible score:** 100% [Total possible points: 1,000 (1,050 with Extra Credit)]

Computation of Letter Grade

- A = 90% – 100%
- B = 80% – 89%
- C = 70% – 79%
- D = 60% – 69%
- Failing = <60%

Course Schedule

WCC Academic Calendar: 08/24/2026 – 12/18/2026
https://windward.hawaii.edu/campus-life/events-calendar/academic-calendar/

Section One: Observational Methods

Week 1:	08/24 – 08/28:	Review Ch. 1 – 2	
Week 2:	08/31 – 09/04:	Review Ch. 3 – 4	
Week 3:	09/07 – 09/11:	Review Ch. 5 – 6	**[1st quiz on Ch. 1 – 3]**

Section Two: Planets and the Solar System

Week 4:	09/14 – 09/18:	Review Ch. 7 – 8	**[1st exam on Ch. 1 – 6]**
Week 5:	09/21 – 09/25:	Review Ch. 9 – 10	
Week 6:	09/28 – 10/02:	Review Ch. 11 – 12	**[2nd quiz on Ch. 7 – 10]**
Week 7:	10/05 – 10/09:	Review Ch. 13 – 14	

Section Three: The Sun and Stars

Week 8:	10/12 – 10/16:	Review Ch. 15 – 16	**[2nd exam on Ch. 7 – 14]**
Week 9:	10/19 – 10/23:	Review Ch. 17 – 18	
Week 10:	10/26 – 10/30:	Review Ch. 19 – 20	**[3rd quiz on Ch. 15 – 18]**
Week 11:	11/02 – 11/06:	Review Ch. 21 – 22	

Section Four: Galaxies and Cosmology

Week 12:	11/09 – 11/13:	Review Ch. 23 – 24	**[3rd exam on Ch. 15 – 22]**
Week 13:	11/16 – 11/20:	Review Ch. 25 – 26	
Week 14:	11/23 – 11/27:	Review Ch. 27 – 28	**[4th quiz on Ch. 23 –26]**
Week 15:	11/30 – 12/04:	Review Ch. 29 – 30	
Week 16:	12/07 – 12/11:	READING WEEK	
Week 17:	12/14 – 12/18:	–	**[FINAL EXAM – cumulative]**

To Be Successful in this Class

- Keep up with assignments and turn them in on time.
- Watch all lecture videos as scheduled and study for exams.
- Follow all criteria for the assignments.
- Ask a question when something is not clear.
- Commit to working 3 – 6 hours per week on assignments and reading course material.
- Check your hawaii.edu email at least once per day for updates, communication, etc.
- Be disciplined and diligent!

Online Étiquette (Netiquette)

Interaction with each other online and responding to the issues and questions posed in online lectures or discussions is optional and not worth any credit but is treated as supplementary to the course to help you learn the topics. If you choose to post anything, please offer information that is relevant to the topic and substantive. Below are guidelines about netiquette and considerations specific to our online course:

- When communicating with your fellow students do so with the utmost respect. There may be times and instances when controversial topics come up for discussion and students will have different points of view. Even if you passionately disagree with others, treat your peers and their perspectives with great consideration.

- Although some of the topics discussed will relate to your personal opinions, engage in discussions and lectures in an informed and scientific manner: investigate and think things through before writing, to best demonstrate your knowledge and opinions; also demonstrate that you have accessed resources (textbook, lectures, peer-reviewed/scholarly research) that have enhanced your knowledge about the topic.

- Write in complete sentences using proper grammar and with correct spelling. Continued errors will result in a loss of points. Longer messages are easier to read if they are presented in a series of paragraphs.

- Hawaiian is an official language of the State of Hawaii (together with English), and you may use Hawaiian in your postings. However, your instructor can only speak English, so anything you write in Hawaiian must be accompanied with an English translation. Failure to provide an English translation for any work submitted in any language other than English will result in no credit being awarded for that work.

- Please refrain from using words and phrases you believe will offend classmates, such as ones that are widely recognized as racist, sexist, etc.

- Read and reread your online comments before you post them.

Online Technical Assistance
If you have trouble downloading or opening Lamaku materials, or need to know more about a Lamaku tool you can:

- Click and **try the Help link in the Course menu to the left first**. Depending upon your problem you may be able to find a quick answer there.

- Email UH system Lamaku Admin. and get a quick response by scrolling to the bottom of every Lamaku portal page and clicking on the "Request Assistance" link. An email message form will open. Complete it giving as many details as possible and click "Submit." A confirmation email will immediately appear at the email address you provide and a response from one of the techs will follow within an hour to 24 hours.

- To contact me, email me at: gsengh@hawaii.edu

You are responsible for maintaining your own computer system:

- Check to make sure that you have all the necessary software and audio components to access all components of the course online.

- Update and run your virus protection on a regular basis to protect your and your classmates' computers.

- Back-up your files daily!

If you need assistance with a computer or software problem: Contact the ITS Help Desk toll free at (800) 558-2669 or send an email to help@hawaii.edu

Helpful Resources

- IT Help Desk - This page provides contact information for live IT support.

- Online Learning Academy - This page offers students online tutoring in Math, Science, and Writing.

- Help for DL Students webpage - This page provides general Distance Learning (DL) FAQs, software support, and more.

Course Policies and Help

- Be scientific and do not be shy about asking questions. You are paying to take this course and the best way to ensure that you truly understand the material is to ask questions.

- Students serving in the Military need to communicate with the instructor about their service obligations.

- Students that are members of any athletic, band, or other university related team must provide their travel schedule with the instructor at the beginning of the semester to be excused from class.

- All students are graded at the same standard.

- Students with an official form from the Student Services Center may request disability accommodations, but it is important to remember that the instructor cannot make this kind of determination singlehandedly. Only the Disability Resource Center can do so.

- All students are required to read and adhere to The Student Conduct Code.

- Student behavior may not disrupt a class in any way.

WCC provides a wide variety of support to students including tutoring, disability services, mental health counseling, and EEO-Title IX support.

Academic Dishonesty

Students are strongly encouraged to familiarize themselves with the Student Code of Conduct for UH. I expect you to behave with integrity and hold both yourself and your peers to the highest standards of ethical behavior. Academic dishonesty encompasses, but is not limited to: (1) plagiarism (i.e., copying another individual's words or ideas without appropriately citing the source); (2) turning in assignments that somebody else has completed; (3) referring to notes or other written/electronic materials, collaborating with others, copying someone else's work, or providing answers to others in any fashion during an examination. Please note that knowledge of others' cheating and failure to report this to me can also be construed as being complicit in academic dishonesty.

Should you be found responsible for academic dishonesty possible sanctions could include a failing grade for the course, suspension or even expulsion from the University. For first time offenders, such will result in an automatic failure of the associated assignment or exam. If you are found responsible for academic dishonesty a 2nd time, then it is an automatic failure of the course and I will need to report the incident to administration, meaning the action will go on your permanent academic record. Such consequences can affect your candidacy for graduate and professional programs or for some jobs.