

PHYS 1304 SUMMER 2022

Astronomy of the Solar System



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Virtual Office Hours: By appointment only (via Blackboard Collaborate)

Course Information

Course Description and General Course Goals

Physics 1304, Astronomy of the Solar System, is a three credit hour introductory study of the current knowledge and techniques of planetary astronomy. Broad topics in the field will be covered, but the emphasis will be on the birth of modern planetary astronomy and planetary geology. There are two general goals for Physics 1304:

1. After completing the Astronomy of the Solar System course, you should be able to comprehend, apply, and analyze the most important scientific models governing modern solar system astronomy and planetary geology and be familiar with the properties of the planets and smaller members of the solar system studied by planetary astronomers.
2. After completing the Astronomy of the Solar System course, you should be able to comprehend, apply, and analyze the practices and methodologies used by modern astronomers in constructing planetary models.

Student Learning Outcomes

Upon completion of the Fundamentals of Astronomy course, you should be able to:

1. Recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry used in modern solar system astronomy and planetary geology and to communicate the findings, analyses, and interpretations in writing.
2. Identify and recognize the differences among competing modern planetary science scientific theories

3. Demonstrate the ability to translate, interpret, and extrapolate the most important scientific models governing modern planetary science, the practices and methodologies used by modern planetary astronomers in constructing planetary models, and to be familiar with the solar system objects studied by astronomers.
4. Further develop critical/logical thinking, scientific reasoning, and problem solving skills in the area of planetary astronomy.

Required Texts and Materials

- Textbook: Astronomy by Fraknoi, Morrison, & Wolff
 - This book is available freely from OpenStax by going to this webpage:
 - <https://openstax.org/details/books/astronomy>
- A calculator is needed for this course; a scientific calculator will work best. It is not necessary to have a graphing calculator.

Course Delivery

This is an online course that will be delivered via [Blackboard](#).¹

Communication

Written communication via email: All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails, include the course name and section number in your subject line. I will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Technology

You will be required to have a computer with internet access for this course. You will be required to turn in assignments on Blackboard using a scanner or camera.

Grading

Evaluation and Grades

Course grades will be determined as indicated in the table below.

Assessment	Percent of Total Grade
Worksheets and Quizzes (due Fridays)	30
Activities (due Saturdays)	15
Unit Tests (due Sundays)	35
Final Exam (cumulative; due Aug 12)	20
Total	100%

- **Worksheets and Quizzes:** These are assigned each week. They will be available Monday morning and due Friday by end of day (11:59 pm). Worksheets will be turned in via Blackboard (they need to be printed and handwritten, then

scanned with a camera or phone; see Blackboard for more instructions). Quizzes will be administered through Blackboard and timed (they are open book/notes)..

Activities: These will be posted in Blackboard and also need to be printed with handwritten answers. They will need to be scanned and uploaded to Blackboard. The activities will be dispersed throughout the semester and are due at the end of the week they are posted. These are listed in the course schedule on the last page of the syllabus.

- **Unit Tests:** There will be 4 unit tests throughout the course (see schedule for dates). They are posted on Thursday and due on Sunday of each week. They will be administered through Blackboard and timed. I will not be using Respondus Lockdown Browser but the usage of search engines/websites is allowed. In taking this course, you have agreed to an academic honesty policy. If I learn that this policy was broken, it will result in you failing the exam and an academic misconduct report will be filed with ASU.
- **Final Exam:** The final exam is cumulative, timed, and will be available Monday through Thursday during the week of finals (May 10-13).

Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes. The following grading scale is in use for this course:

A = 90.00-100%

B = 80.00-89.99%

C = 70.00-79.99%

D = 60.00-69.99%

F = 0-59.99%

Late Work and Assignment Policy

You are expected to keep track of due dates and complete each assignment. Missed assignments, quizzes, and exams cannot be made up. Unexcused late work or missed tests will not be accepted. If your assignments are not submitted by the posted deadline you will receive a zero for that assignment. You must contact your professor before the assignment is due if you believe it will be late or as soon as possible after the due date in the case of an unexpected emergency. NOTE: You are NOT automatically dropped if you stop completing assignments. The last day to drop this course is August 1, 2022.

General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)²
- [Angelo State University Catalog](#)³

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university's [Statement of Academic Integrity](#).⁴

Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the [Student Disability Services website](#).⁵ The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#)⁶ for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)⁷ in the Student Handbook. Plagiarism is the action or practice of taking someone else's work, idea, etc., and passing it off as one's own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list. I encourage you to work together on homework assignments and to study together for exams. However, anything you turn in must be in your own words.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the [ASU Writing Center](#).⁸

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for [Observance of Religious Holy Day](#)⁹ for more information.

Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification.

Course Schedule (subject to change)

Week	Topics	Worksheets and Quizzes	Activities and Exams
#1: 7/11 - 7/15	Ch. 1: Science and the Universe: A Brief Tour Ch. 2: Observing the Sky: The Birth of Astronomy Ch. 3: Orbits and Gravity Ch. 4: Earth, Moon, and Sky	Chs. 1-4 worksheets and quizzes due 7/15 at 11:59pm	Activity #1 due 7/16 at 11:59p Unit Test #1 due 7/17 at 11:59pm
#2: 7/18 - 7/22	Ch. 5: Radiation and Spectra Ch. 6: Astronomical Instruments History of Spaceflight (Blackboard Material) Ch. 7: Other Worlds: An Intro to the Solar System Ch. 21: The Birth of Stars & Discovery of Planet outside the Solar System	Chs. 5-7, 21, spaceflight worksheets and quizzes due 7/22 at 11:59pm	Activity #2 due 7/23 at 11:59p Unit Test #2 due 7/24 at 11:59pm
#3: 7/25 - 7/29	Ch. 8, 9 and Blackboard material: Earth Ch. 10 and Blackboard material: Mercury & Venus Ch. 10 and Blackboard material: Mars Ch. 13, 14 and Blackboard material: Asteroids	Chs. 8-10, 13, 14, BB material worksheets and quizzes due 7/29 at 11:59pm	Activity #3 due 7/30 at 11:59p Unit Test #3 due 7/31 at 11:59pm
#4: 8/1 - 8/5	Ch. 11, 12 and Blackboard material: Jupiter Ch. 11, 12 and Blackboard material: Saturn Ch. 11, 12 and Blackboard material: Uranus and Neptune Ch. 12 and Blackboard material: Dwarf Planets Ch. 13, 14, and Blackboard material: Comets	Chs. 11-14, BB material worksheets and quizzes due 8/5 at 11:59pm	Activity #4 due 8/6 at 11:59p Unit Test #4 due 8/7 at 11:59pm
#5: 8/8 - 8/12	Final Exam	Cumulative	Due 8/12 at 11:59pm

¹ <https://blackboard.angelo.edu/>

² <https://www.angelo.edu/student-handbook/>

³ <https://www.angelo.edu/catalogs/>

⁴ <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

⁵ <https://www.angelo.edu/services/disability-services/>

⁶ <https://www.angelo.edu/content/files/14197-op-1011-grading-procedures>

⁷ <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

⁸ https://www.angelo.edu/dept/writing_center/academic_honesty.php

⁹ <https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of>