

PHYS 1303

Fundamentals of Astronomy



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Course Description

Physics 1303, Fundamentals of Astronomy, is a three credit hour introductory study of the current knowledge and techniques of astronomy and astrophysics. Broad topics in the field will be covered, but the emphasis will be on stellar astronomy and cosmology.

Course Delivery

This is a face-to-face course with online components that students are expected to access in [Blackboard](#).¹

Required Text



Astronomy by Fraknoi, Morrison, & Wolff

Print:

ISBN-10: 1-938168-28-3

ISBN-13: 978-1-938168-28-4

Digital:

ISBN-10: 1-947172-24-7

ISBN-13: 978-1-947172-24-1

iBooks:

ISBN-10: 0-9986257-3-6

ISBN-13: 978-0-9986257-3-7

Technology Requirements

Access to exams and quizzes will be through Respondus Lockdown Browser. For best results, use an ethernet cable to connect to your Internet source instead of relying on Wifi. Refer to the Blackboard course for Respondus installation instructions.

Communication

Faculty 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.

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 to faculty, include the course name and section number in your subject line.

Virtual communication: Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

Assessing Outcomes & Grade Determination

Method of Assessing Outcomes

Student learning outcomes will be assessed with:

- Worksheets/Quizzes (20%) for material are assigned each week. Worksheets will *normally* be posted on Mondays and ALL quizzes AND worksheets will be completed/submitted through Blackboard and due on Fridays.
- Conceptual Activities (20%) will be posted on Blackboard and due as given below.
- Four midterm exams (40%) completed **using Respondus LockDown Browser** and due as given below.
- A comprehensive Final Exam (20%) on **Wednesday May 11th at 8am completed in person in the planetarium.**
- Extra credit will be given for attending public planetarium shows. You will receive 1% on your overall semester grade for every show you attend, up to a possible 5% total. Public shows are Monday & Thursday nights at 7 PM.

NOTE: Blackboard assignments are due “at the end of the day” which means 11:59PM. However, tests are timed and WILL NOT be available all the way until the end of the day (e.g. tests with 1-hour time limits will not be available starting at 11:00PM). Blackboard issues **will** arise, if you wait until the last minute to complete assignments you run the risk of missing them. I can fix problems such as browser crashes and internet outages, but **NOT** the hour before it is due. You have multiple days to complete work, so **due dates are firm.**

Late Work

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.

Planetarium Class Etiquette

- **No food, drinks, or tobacco products are allowed in the planetarium or the outer lobby area.**
- Please do not leave trash in the planetarium or lobby.
- Please do not disturb fellow students during class time.
- **Please do not put your feet up on the chair in front of you.**
- **Silence cell phones and other electronic devices.**
- No texting/messaging during class.
- Please let me know if you will be using any electronic device during class.

Grade Determination

Your final grade will be determined by your scores on all tests and exams.

Assessment	Percent of Total Grade
Worksheets/Quizzes	20
Conceptual Activities	20
Midterm Exams	40
Final Exam (May 11)	20
Total	100%

Angelo State University employs a letter grade system. Grades in this course are determined on a percentage scale: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = 59% and below

Class Attendance

- Class attendance is both an ASU and course requirement.
- You are expected to attend all scheduled class meetings.
- You are responsible for all course material and information that is presented in class.
- If you miss class, get the class notes and information from a fellow student.
- Attendance (or lack thereof) often makes a difference in your success in this class.

Final course grades will also be determined in part based on attendance as follows:

Number of Absences	Highest Grade Possible
0-6 (>85% attendance)	A
7-10 (75-85% attendance)	B
11-14 (65-75% attendance)	C
15-19 (55-65% attendance)	D
20+ (<55% attendance)	F

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 (Page 97).

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:

Dr. 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 Statement](#)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.

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

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Miller, J.D. You may submit reports in the following manner:

Online: [Incident Reporting Form](#)¹⁰

Face to Face: Mayer Administration Building, Room 210

Phone: 325-942-2022

Email: michelle.miller@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State's policy please visit the [Title IX website](#).¹¹

Information About COVID-19

Please refer to ASU's [COVID-19 \(Coronavirus\) Updates](#)¹² web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification on potentially short notice based on developing circumstances.

¹ <https://blackboard.angelo.edu/>

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

³ <https://www.angelo.edu/academics/catalog/>

⁴ <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=97>

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

⁶ <https://angelo.policystat.com/policy/10659448/latest/>

⁷ <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=97>

⁸ https://www.angelo.edu/current-students/writing-center/academic_honesty.php

⁹ <https://angelo.policystat.com/policy/10659368/latest/>

¹⁰ <https://www.angelo.edu/incident-form>

¹¹ <https://www.angelo.edu/title-ix>

¹² <https://www.angelo.edu/covid-19/>

Course Schedule

Week	Reading	Work Due
Unit #1: Background Science		
Jan 18 – 21	Chapter 1: Science & the Universe: A Brief Tour	Ch 1 Quiz
Jan 24 – 28	Chapter 2: Observing the Sky: The Birth of Astronomy	Ch 2 Quiz <i>Astrology vs Astronomy Activity</i>
Jan 31 – Feb 4	Chapter 3: Orbits & Gravity	Ch 3 Quiz
Feb 7 – 11	Chapter 5: Radiation & Spectra Chapter 6: Astronomical Instruments	Ch 5 & 6 Quiz Midterm Exam #1
Unit #2: Stellar Properties		
Feb 14 – 18	Chapter 17: Analyzing Starlight Chapter 18: The Stars: A Celestial Census	Ch 17 Quiz
Feb 21 – 25	Chapter 18: The Stars: A Celestial Census Chapter 19: Celestial Distances	Ch 18 & 19 Quiz <i>HR Diagram Activity</i>
Feb 28 – Mar 4	Chapter 15: The Sun: A Garden Variety Star Chapter 16: The Sun: A Nuclear Powerhouse	Ch 15 & 16 Quiz Midterm Exam #2
Unit #3: Life Cycle of Stars		
Mar 7 – 11	Chapter 20: Between the Stars: Gas & Dust in Space Chapter 21: The Birth of Stars	Ch 20 & 21 Quiz
Mar 14 – 18	<i>Spring Break</i>	
Mar 21 – 25	Chapter 22: Stars from Adolescence to Old Age	Ch 22 Quiz <i>Low-Mass Stellar Evolution Activity</i>
Mar 28 – Apr 1	Chapter 23: The Death of Stars Chapter 24: Black Holes and Curved Spacetime	Ch 23 & 24 Quiz Midterm Exam #3
Unit #4: Galaxies		
Apr 4 – 8	Chapter 25: The Milky Way Galaxy	Ch 25 Quiz <i>Galaxy Classification Activity</i>
Apr 11 – 15	Chapter 26: Galaxies	Ch 26 Quiz
Apr 18 – 22	Chapter 27: Active Galaxies, Quasars, and Supermassive Black Holes	Ch 27 Quiz
Apr 25 – 29	Chapter 28: The Evolution and Distribution of Galaxies	Ch 28 Quiz Midterm Exam #4
May 2 – 6	Chapter 29: The Big Bang Chapter 30: Life in the Universe	Ch 29 & 30 Quiz
May 11	FINAL EXAM @ 8am	