

PHYS 2326.020

Fundamentals of Physics II

Spring 2022, TR 9:30am – 10:45am, VIN 147



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Office Hours: MTWRF 11a – Noon, and by appt.

Course Information

Course Description

A comprehensive course with emphasis placed on the capacity to use fundamental concepts of electricity, magnetism, and optics in the solution of problems.

Prerequisite and Co-requisite Courses

Concurrent enrollment in, or credit for, Physics 2126 and Mathematics 2414 is required.

Student Learning Outcomes

Upon completion of Physics 2326, students will have an increased understanding of the fundamental concepts, theories and physical laws relevant to the broad topical areas of electricity, magnetism, circuits, and optics. Students will have practiced and demonstrated a satisfactory level of mastery in critical reading, critical thinking, and problem solving skills. These outcomes will be assessed using online [Blackboard](#)¹ homeworks, daily grades, and test grades.

Course Delivery

This is a Face-To-Face course offering with some material through [Blackboard](#).

Required Texts and Materials

Any calculus-based physics text will work for this course. Lectures will follow University Physics from Openstax, Volume II and Volume III. If you prefer a hard copy of a text, then check online for old editions of Halliday, Serway, Openstax, etc... For lab, you need

Physics 2126 Laboratory Manual (2021) available from the University Bookstore. You also need a calculator.

Grading

Evaluation and Grades

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

Assessment	Percentage
Homework, Attendance, Daily grades	30%
Exams 1 - 3	51%* (17% each)
Exam 4	19%*
Total	100%

*If beneficial, Exam 4 grade will replace lowest of Exams 1 – 3. Replaced exam grade must be higher than 50% to be replaced. Missed Exams or Exam grades lower than 50% will not be replaced.

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% +

B = 80% – 89.99%

C = 70% – 79.99%

D = 60% – 69.99%

F = Less than 59.99% (Grades are not rounded up)

Assessment Descriptions

There are three methods of assessment for Student Learning Outcomes:

- Attendance, participation, and daily grades will be 10% of your total grade. All in-class work cannot be made up if you are absent regardless of excuse. It is possible to attend 0 days and still earn an A.
- Each chapter will have online problems and exercises that will be 20% of your total grade. You will have infinite attempts at these homeworks. Your highest grade for each homework will count. The course schedule and Blackboard will provide all homework due dates. Every day that a HW is late, the HW will lose 10% value. If the HW is 4 days late, the maximum score is 60%.

- Exams 1,2 and 4 are traditional in-class exams. Exam 2 will be take-home so that spring break doesn't separate lecture and exam. The first three exams are worth 17% of your grade and exam 4 is worth 19%. If advantageous to your grade, Exam 4 will replace your lowest of Exams 1,2, and 3. As mentioned above, you will need to score at least a 50% for your lowest exam grade to be replaced by your exam 4 grade. Makeup exams will only be given for documented, university-excused absences according to the [Student Handbook](#) and [Academic Regulations Concerning Student Performance, OP 10.04](#).

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.

Course Schedule

Lec. #	Day	Topic	Openstax	Due
1	18-Jan	Syllabus, What is light?	V3, U1, Ch1, §1	
2	20-Jan	Reflection & Refraction	V3, U1, Ch1, §2-4	HW0
3	25-Jan	Dispersion & Polarization	V3, U1, Ch1, §5-7	
4	27-Jan	Images with Mirrors	V3, U1, Ch2, §1-2	HW1
5	1-Feb	Images with Lenses	V3, U1, Ch2, §3-4	

6	3-Feb	Optics Applications	V3, U1, Ch2, §5-8	
7	8-Feb	Interference	V3, U1, Ch3, §1-5	HW2
8	10-Feb	Diffraction	V3, U1, Ch4, §1-4	HW3
9	15-Feb	Ch3&4 Applications	V3, U1, Ch4, §5-7	
10	17-Feb	Review		HW4
11	22-Feb	In-Class Exam 1	V3, U1, Ch1-4	
12	24-Feb	Electric Charge & Force	V2, U2, Ch5, §1-3	
13	1-Mar	Electric Field	V2, U2, Ch5, §4-7	
14	3-Mar	Gauss' Law	V2, U2, Ch6, §1-4	HW5
15	8-Mar	Electric Potential	V2, U2, Ch7, §1-6	HW6
16	10-Mar	Capacitors / Review	V2, U2, Ch8, §1-5	HW7
	15-Mar	Holiday		
	17-Mar	Holiday		
	21-Mar	Exam 2 Due Mon. 21-Mar	V2, U2, Ch5-8	HW8
17	22-Mar	Current & Resistance	V2, U2, Ch9, §1-6	
18	24-Mar	DC Circuits	V2, U2, Ch10, §1-6	HW9
19	29-Mar	Magnetic Force	V2, U2, Ch11, §1-7	HW10a / HW10b
20	31-Mar	Magnetic Fields	V2, U2, Ch12, §1-4	HW11
21	5-Apr	Ampère's Law / Review	V2, U2, Ch12, §5	HW12a / HW12b
22	7-Apr	Exam 3	V2, U2, Ch9-12	
23	12-Apr	Induction	V2, U2, Ch13, §1-7	
24	14-Apr	Inductance	V2, U2, Ch14, §1-3	HW13
25	19-Apr	RL Circuits	V2, U2, Ch14, §4-6	
26	21-Apr	AC Circuits	V2, U2, Ch15, §1-5	HW14
27	26-Apr	Magnetic Materials	V2, U2, Ch15, §6	
28	28-Apr	Maxwell's equations	V2, U2, Ch16, §1-2	HW15
29	3-May	Properties of Light	V2, U2, Ch16, §3-5	
30	5-May	Review		HW16
31	12-May	Exam 4 @ 8:00 am	V2, U2, Ch13-16	

¹ <https://angelo.blackboard.com/>

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- 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/>