

# PHYS-3331 Mechanics

## Course Schedule

Date	Chapter	Topic
Jan 24	1	Newton's Laws of Motion
Jan 31	2	Projectiles
Feb 7	2	Projectiles
Feb 14	3	Momentum
Feb 21	4	Energy
Feb 28	4	Energy
Mar 7	5	Oscillations
Mar 21	5	Oscillations
Mar 28	7	Lagrange's Equations
Apr 4	8	Two-Body Central-Force Problems
Apr 11	8	Two-Body Central-Force Problems
Apr 18	9	Mechanics in Noninertial Frames
Apr 25	9	Mechanics in Noninertial Frames
May 2	11	Coupled Oscillators and Normal Modes
May 9	11	Coupled Oscillators and Normal Modes

Instructor: Charles Allen

Email: [charles.allen@angelo.edu](mailto:charles.allen@angelo.edu)

Phone: 325-486-6780

Office: VIN 126

Office Hours: MWF 08:30–09:30, MTWR 11:00–12:00, or by appointment

## Course Information

### Course Description

Vectors, Newtonian mechanics, non-inertial reference frames, central forces, systems of particles, Lagrangian mechanics, and oscillating systems.

### Prerequisite and Co-requisite Courses

Physics 2326/2126, and credit for or parallel registration in Physics 3301.

## Prerequisite Skills

Ability to use a scientific calculator and ability to use a printed integral table.

## Student Learning Outcomes

Upon completion of this course, students will be able to:

- gain factual knowledge in physics,
- learned fundamental principles of physics, and
- apply course material to problem solving.

## Course Delivery

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

## Required Texts and Materials

- *Classical Mechanics*, Taylor, publisher University Science Books

A printed math handbook with integral tables for use in class. Commonly used math handbooks:

- *Schaum's Mathematical Handbook of Formulas and Tables*
- *Pocket Book of Integrals and Mathematical Formulas*
- *CRC Standard Mathematical Tables and Formulae*

A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

## Technology Requirements

To successfully complete this course, students need to be able to use Blackboard, a scientific calculator, and complete the IDEA student ranking of instruction.

## 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 Collaborate.

# Grading

## Evaluation and Grades

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

Assessment	Percent of Total Grade
In-class activities	40
Chapter/Topic quizzes	40
Comprehensive final exam	20
Total	100%

## Grading System

Course grades will depend on completing course requirements and meeting the student learning outcomes.

This course uses the following grading scale:

A = 90.00-100 points

B = 80.00-89.99 points

C = 70.00-79.99 points

D = 60.00-69.99 points

F = 0-59.99 points (Grades are not rounded up)

## Assignment and Activity Descriptions

This class will be conducted in a combined studio/lecture format. During each scheduled meeting, the students will participate in instructor-led lectures and student-led activities. The in-class activities will be in a format that can be graded. In addition, homework will be assigned each session. Homework is due at the beginning of the next session, at which point we'll go over the assignment in class.

## 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](#)<sup>2</sup>
- [Angelo State University Catalog](#)<sup>3</sup>

## **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](#)<sup>4</sup> (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](mailto:ADA@angelo.edu). For more information about the application process and requirements, visit the [Student Disability Services website](#).<sup>5</sup> 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](mailto: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](#)<sup>6</sup> for more information.

## Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity Statement](#)<sup>7</sup> 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](#).<sup>8</sup>

## 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](#)<sup>9</sup> 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](#)<sup>10</sup>

Face to Face: Mayer Administration Building, Room 210

Phone: 325-942-2022

Email: [michelle.miller@angelo.edu](mailto: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](#).<sup>11</sup>

## Information About COVID-19

Please refer to ASU's [COVID-19 \(Coronavirus\) Updates](#)<sup>12</sup> 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.

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<sup>1</sup> <https://blackboard.angelo.edu/>

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

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

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

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

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

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

<sup>8</sup> [https://www.angelo.edu/current-students/writing-center/academic\\_honesty.php](https://www.angelo.edu/current-students/writing-center/academic_honesty.php)

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

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

<sup>11</sup> <https://www.angelo.edu/title-ix>

<sup>12</sup> <https://www.angelo.edu/covid-19/>