University of North Texas at Dallas
Fall 2024
SYLLABUS

PHYS 1410 Section 0001 : General Physics I (3 Hrs)	
Department of Natural Sciences	**School of Liberal Arts and Sciences**

Instructor Name:	Faranak Zarnani, Ph.D.
Office Location:	Founders Hall (FH) 207
Email Address:	Faranak.Zarnani@untdallas.edu
Phone:	972-338-1355
Office Hours:	Mondays 1:00 – 3:50 PM, Wednesdays 3:00 – 3:50 PM, and by appointment.
Classroom Location:	FH 339
Class Meeting Days & Times:	Monday & Wednesday 4:00 – 5:20 PM
Course Catalog Description:	Non-Calculus based physics sequence suitable for life sciences majors and pre-professional students. Principles and applications of mechanics, sound and heat.
Prerequisites:	Proficiency in algebra and trigonometry.
Co-requisites:	PHYS 1430
Required Text:	Modified Mastering Physics with eText for Knight, Jones & Field : College Physics, A Strategic Approach (4th edition) ; 2020; Pearson.
Access to Learning Resources:	UNT Dallas Library: phone: (972) 780-3625; web: http://www.unt.edu/unt-dallas/library.htm UNT Dallas Bookstore: phone: (972) 780-3652; e-mail: 1012mgr@fheg.follett.com

Course Goals or Overview: The goal of this course is to provide students with understanding the basic physics concepts and laws.

Learning Objectives/Outcomes: At the end of this course, the student will

1	Demonstrate good understanding of physics concepts • Be able to accurately define basic physics concepts and laws. • Have a solid understanding of the relationship between the mathematical representations and the associated physical concepts and principles • Demonstrate the ability to use those physics law and concepts in solving problems. • Demonstrate the ability to combine concepts in solving multiple-step problems.
2	Students should develop effective problem-solving skills • Satisfactorily solve standard textbook problem • Develop the ability to solve multi-step or multi-concept problems

3	Develop student cognitive attitudes: • See physics as a coherent framework of ideas that can be used to understand the world around us. • See what they are learning in the classroom as useful and strongly connected to the real world • Have the laboratory skills for the analysis of physical systems including data and error analysis, instrumentation statistics and dimensional analysis.
4	Have appropriate oral and written communication skills to explain their work to people from a wide variety of backgrounds.

Course Outline

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated by the instructor in class.

Class Dates	Chapters / Activities
Week 1 **August 26 & 28**	Course Introduction Chapter 1 – Representing Motion Chapter 2 – Motion in One Dimension
Week 2 **September 4**	**September 2 — Labor Day — No Classes** Chapter 2 – Motion in One Dimension — *Continued*
Week 3 **September** **9 & 11**	Chapter 3 – Vectors and Motion in Two Dimensions Chapter 4 – Forces and Newton's Laws of Motion *Census Date — September 11*
Week 4 **September 16 & 18**	Chapter 5 – Applying Newton's Laws
Week 5 **September 23 & 25**	Chapter 6 – Circular Motion, Orbits, and Gravity **Exam 1 (Ch. 1 – 5) — Wed. Sep. 25**
Week 6 **September 30 & October 2**	Chapter 7 – Rotational Motion
Week 7 **October 7 & 9**	Chapter 8 – Equilibrium and Elasticity
Week 8 **October 14 & 16**	Chapter 9 – Momentum
Week 9 **October 21 & 23**	Chapter 10 – Energy and Work

Week 10 **October 28 & 30**	Chapter 11 – Using Energy **Exam 2 (Ch. 6 – 10) — Wed. Oct. 30**
Week 11 **November 4 & 6**	Chapter 12 – Thermal Properties of Matter *Last Day to Withdraw with a Grade of W — November 8 (Retaining at Least One Course)*
Week 12 **November 11 & 13**	Chapter 13 – Fluids
Week 13 **November 18 & 20**	Chapter 14 – Oscillations *Last Day to Withdraw from All Classes — November*
Week 14 **November 25**	Chapter 15 – Traveling Waves and Sound
Week 15 **December 2 & 4**	**Exam 3 (Ch. 11 – 15) — Wed. Dec. 4** Chapter 16 – Superposition and Standing Waves *Last Day of Session / Last Day to File for an Incomplete Grade — December 5*
Week 16	**Final Exam (Comprehensive) — Monday, December 9, 4:00 — 6:00 PM**

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Exams – There will be three exams and a comprehensive final exam in class. The best two grades of Exams 1, 2, 3, plus the comprehensive final count towards the final course grade. The final exam grade will not be dropped. There are no make-up exams unless due to documented medical emergencies.

Homework – Designed to supplement and reinforce course material. Homework is posted on Mastering Physics and accessible through Canvas. Registration and information can be found on Canvas. Late assignments are accepted with a 20% per day penalty. The two lowest homework grades are dropped except the Introduction to Mastering Physics, Physics Primer, and Mathematics Review assignments.

Quizzes – Each chapter covered will have a quiz upon completion, and will be available on Canvas. No late submissions are accepted. Each quiz can be attempted twice and the highest score will be kept. The two lowest quiz grades are dropped.

Grading Matrix:

Homework…… 25%
Quizzes……20%
Two Exams……30%
Final Comprehensive Exam…….25%
Total……..100%

Grade Determination:
A = 90% or better
B = 80 – 89 %
C = 70 – 79 %
D = 60 – 69 %
F = less than 60%

University Policies and Procedures

Students with Disabilities (ADA Compliance):
The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. Grades assigned before an accommodation is provided will not be changed as accommodations are not retroactive. For more information, you may visit the Student Life Office, Suite 200, Building 2 or call Laura Smith at 972-780-3632.

Student Evaluation of Teaching Effectiveness Policy:
The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Exam Policy:
Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook).

Academic Integrity:
Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity at https://president.untdallas.edu/sites/default/files/07.002_code_of_academic_integrity.pdf for complete provisions of this code.

Bad Weather Policy:
On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy:
The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent. The instructor will take attendance, however, no grade is assigned for attendance.

Diversity/Tolerance Policy:
Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Office of Student Life as the instructor deems appropriate.

Artificial Intelligence (AI) Policy
UNT Dallas acknowledges the evolving capabilities of Artificial Intelligence (AI) technologies and their various effects on student writing and content creation. The Department of Natural Sciences takes a use-with-permission approach to AI. Students are only permitted to use AI technology in the creation of any course content if permitted by the course instructor. If the use of AI technology is detected, without specific instructor permission, the student will be deemed in violation of the plagiarism policy.