Mechanics
Physics 1710

Lecture Section 501
Recitation Section 511
Fall 2025

Instructor Information

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The best way to reach me with questions or concerns is via UNT email.

Welcome! As members of the UNT community, we've all committed to fostering a respectful and welcoming environment for everyone. Our university does not tolerate discrimination, harassment, or retaliation based on identity. In our class, you should feel safe and supported in being your authentic self. If you ever have questions, concerns, or need support, please feel free to reach out to me.

Communication Expectations: All course-related material and announcements will be made available via Canvas. The best way to reach me with questions or concerns is via email at andrea.citati@unt.edu. In *most* cases, you can expect to receive a response to emails within 24 hours.

Class Meetings

Lecture (501)	MW 11:00 am - 12:20 pm (FRLD 310) – Frisco Landing
Recitation (511)	MW 12:30-1:20 pm (FRLD 310) – Frisco Landing
Office Hour	Tuesday 11:30 AM – 1:00 PM
	Wednesday 3:00 PM – 4:30 PM (or by Appointment)

Course Description, Structure, and Objectives

This course will introduce fundamental concepts from classical mechanics, including velocity, acceleration, inertia, force, Newton's laws of motion, work and energy, linear momentum, angular momentum, mechanical conservation laws, rotational and oscillatory motion, and (if time permits) gravitation and wave mechanics.

Course Pre-requisites: Students must complete MATH-1710 (Calc I) with a grade of C or better before enrolling in this course.

Course Learning Objectives: Upon successful completion of this course, students will be able to:

- Sketch and perform calculations with vectors, including addition, subtraction, multiplication, and determining magnitudes, angles, and components.
- Describe and analyze an object's position, velocity, and acceleration over time using both equations and graphs.

- Create and interpret free-body diagrams, applying Newton's laws to predict motion in linear, curved, and rotational scenarios.

- Differentiate between a system and its environment and apply conservation of energy and/or momentum to analyze collisions, explosions, and other cases involving non-constant acceleration.

- Translate information across multiple representations: words, equations, graphs, and diagrams, and use units, signs, and orders of magnitude to evaluate the reasonableness of a solution.

Physics 1710 Core Objectives: This course satisfies the core curriculum requirement by developing skills aligned with four key objectives:

- **Critical Thinking** – Involves the analysis, evaluation, and synthesis of information.

- **Effective Communication** – Focuses on the development, interpretation, and expression of ideas through written, oral, and graphical formats.

- **Quantitative Skills** – Emphasizes the ability to compute and manipulate numerical data to draw meaningful conclusions.

- **Teamwork** – Encourages consideration of diverse perspectives and the ability to collaborate effectively within a group.

Attendance

- You are expected to attend all lectures and recitations for the section in which you are enrolled.

- Classes will begin promptly at the scheduled time.

- Refer to the University of North Texas Attendance Policy for official guidelines.

- Cellphone use is not permitted in class except for emergencies, completing in-class quizzes, or taking photos of the board. Earbuds or headphones are not allowed unless used for hearing aids.

- Physics 1710 can be challenging, why not give it your full attention during lectures?

Textbook & Online Homework

For the textbook, please use the following option: University Physics Volume I from OpenStax, which is freely downloadable.

https://openstax.org/books/university-physics-volume-1/pages/preface

OpenStax is a nonprofit ed-tech initiative based at Rice University. It provides free, peer-reviewed, openly licensed textbooks for introductory college. OpenStax is licensed under Creative Commons Attribution License v4.0. Digital Version

Hardcover ISBN-13: 978-1-938168-27-7
Paperback ISBN-13: 978-1-50669-817-5
Digital ISBN-13: 978-1-947172-20-3
iBooks ISBN-13: 978-1-947172-15-9

Homework will be completed through the Physics LE and will be reachable through the following link.

https://www.physicscurriculum.com/

Physics LE has a textbook and homework cost of $27.95 per student per semester.

Homework is intended to be practice, so there is no penalty for an incorrect answer as long as you arrive at the correct answer before the submission deadline.

Learning From Mistakes: Learning involves making mistakes; it's a natural and necessary part of the process. If you're never making mistakes, you may not be challenging yourself enough. The goal is to make most of your mistakes on homework and during in-class practice, where you can ask questions and use your notes or textbook to learn from them before the exam. If you make a mistake on an exam, your objective should be to understand what went wrong and use that insight to avoid repeating it in the future.

Calculator
For exams, you will need a calculator that is not a communication device (e.g., your phone or smartwatch). The calculator needs to be able to do trigonometric calculations, but graphing is not required.

Canvas will be used to post some useful course materials and your grades. To get to this resource, go to Canvas: PHYS 1710 and follow the UNT link to log on. (You will log on using your UNT EUID and password.) Once logged on, select this course. You will find an electronic copy of this syllabus and lecture materials.

How to Succeed in this Course

Actively Participate in Class: Class is a wonderful opportunity to practice problems, ask questions, and discuss concepts with your neighbors. If all you do is listen to the instructor, you will get a false sense of understanding. You need to attempt problems on your own or with your neighbor so that when the instructor shows the solution, you recognize the subtle or confusing parts. Review your notes and textbook readings and attempt to complete the Recitation Questions more than once.

Ask Questions: It is OK to ask a question that has already been answered. Any time you ask a question, it shows that you are thinking and trying to learn, and that's the goal. When you come up with a question at home, write it down so you can ask it next class or during my Office Hours.

Utilize the Learning Goals: Each test unit has a set of learning goals and associated practice problems that you will solve in groups, and then the solutions will be posted on Canvas. If you are stuck on the homework, check if there is a similar example in the learning goals. When you prepare for an exam, work through the learning goals so that you know the specific skills that will be assessed on that exam.

Communication Practices

Office hours offer you an opportunity to ask for clarification or find support with understanding class material. Come visit me! I encourage you to connect with me for support. Additional office hours, in person and virtually, will be offered as the semester concludes. Your success is our goal.

Academic Success Resources

UNT strives to offer you a high-quality education and a supportive environment so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and how to succeed at UNT, go to unt.edu/success and explore unt.edu/wellness. To get all your enrollment and student financial-related questions answered, go to scrappysays.unt.edu.

Inclusion

Every student in this class should have the right to learn and engage within an environment of respect and courtesy from others. We will discuss our classroom's habits of engagement, and I also encourage you to review UNT's student code of conduct so that we can all start with the same baseline civility understanding (Code of Student Conduct) (https://policy.unt.edu/policy/07-012).

Lab Credit: You must enroll separately in Physics 1730 for laboratory science credit.

Grades:
The course grades will be calculated as follows:
Recitation 14%
Homework 20%
Test 1 …….....12%
Test 2 ……..... 12%
Test 3 ……..... 12%
Final Exam 20%
Final Exam Review 5%
End of Semester Assignment……..... 5%

Exams scores will not be curved.
An additional F....Exam credit will be given to help the final grade.

Semester grades will be rounded to the nearest percent:
>= 90% = A 80-89% = B 70-79% = C 60-69% = D.

Throughout the semester, you can monitor your grade in Canvas.

Course Evaluation: The Student Perceptions of Teaching (SPOT) is required for all UNT organized classes. This short survey will be made available to you online at the end of the semester and will provide you with an opportunity to provide feedback to your course instructor. SPOT is considered to be an important part of your participation in this class. You will receive an email from "UNT SPOT Course Evaluations" from no-reply@iasystem.org with the survey link. You will have separate SPOT evaluations for lecture, recitation, and lab. During the fall and spring semesters, SPOT surveys are open for students to complete two weeks prior to the final exams.

UNT Policies

Academic Integrity Standards and Consequences: According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to, cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

ADA Accommodation: UNT makes reasonable academic accommodations for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time; however, ODA notices of accommodation should be provided as early as possible during the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information, see the ODA website at https://studentaffairs.unt.edu/office-disability-access/.

Emergency Notification & Procedures: UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials. Campus Closures Policy (https://policy.unt.edu/policy/15-006).

Sexual Assault Prevention: UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment, sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim's compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-565- 2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at oeo@unt.edu or at (940) 565 2759.

Prohibition of Discrimination, Harassment, and Retaliation (Policy 16.004)
The University of North Texas (UNT) prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

Retention of Student Records
Student records pertaining to this course are maintained in a secure location by the instructor of record. All records, such as exams, answer sheets (with keys), and written papers submitted during the duration of the course, are kept for at least one calendar year after course completion. Coursework completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

Acceptable Student Behavior
Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's Code of Student Conduct (https://deanofstudents.unt.edu/conduct) to learn more.

TAMS Students: The Texas Academy of Mathematics and Science (TAMS) administration has made the following statement and has asked us to include it in our syllabus for members of the Academy:

Class attendance and participation is required. Students must be alert, attentive, energetic, and eager to learn. Students who exhibit disruptive behavior or show disrespect to a teacher in the classroom are subject to severe disciplinary sanctions. The Academy does not authorize absences from class. Students must report all absences to the Academic Office within 36 hours of the absence by completing a form in the Academic Office. A student will be assessed 5 disciplinary points for each class absence unless the absence can be justified. Faculty will also be reporting absences to the Academic Office. A student will be assessed 15 disciplinary points for failure to report an absence that is reported by a faculty member.

If you are a TAMS student and if you are absent for any reason, you are required to file an absence report with the TAMS Academic Office.

Student Support Services
Mental Health
UNT provides mental health resources to students to help ensure there are numerous outlets to turn to for wholehearted care and for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:
• Student Health and Wellness Center (https://studentaffairs.unt.edu/student-health-and-wellness-center)
• Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
• UNT Care Team (https://studentaffairs.unt.edu/care)

• UNT Psychiatric Services (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)

Chosen Names

A chosen name is a name that a person goes by that may or may not match their legal name. Please let the instructor know if you have a chosen name that is different from your legal name and would like that to be used in class. Below is a list of resources for updating your chosen name at UNT.

• UNT Records
• UNT ID Card
• UNT Email Address
• Legal Name

*UNT euIDs cannot be changed at this time. The collaborating offices are working on a process to make this option accessible to UNT community members.

Pronouns

Pronouns (she/her, they/them, he/him, etc.) are a public way for people to address you, much like your name, and can be shared with a name when making an introduction, both virtually and in-person. Just as we ask and don't assume someone's name, we should also ask and not assume someone's pronouns.

You can add your pronouns to your Canvas account so that they follow your name when posting to discussion boards, submitting assignments, etc.

Below is a list of additional resources regarding pronouns and their usage:

- What are pronouns and why are they important?
- How do I use pronouns?
- How do I share my pronouns?
- How do I ask for another person's pronouns?
- How do I correct myself or others when the wrong pronoun is used?

Additional Student Support Services

• Registrar (https://registrar.unt.edu/registration)
• Financial Aid (https://financialaid.unt.edu/)
• Student Legal Services (https://studentaffairs.unt.edu/student-legal-services)
• Career Center (https://studentaffairs.unt.edu/career-center)
• Multicultural Center (https://edo.unt.edu/multicultural-center)
• Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
• Pride Alliance (https://edo.unt.edu/pridealliance)
• UNT Food Pantry (https://deanofstudents.unt.edu/resources/food-pantry)

Academic Support Services

• Academic Resource Center (https://clear.unt.edu/canvas/student-resources)
• Academic Success Center (https://success.unt.edu/asc)
• UNT Libraries (https://library.unt.edu/)
• Writing Lab (http://writingcenter.unt.edu/)

Tentative Weekly Schedule - the instructor reserves the right to amend the topic schedule

Lecture	Date	Day	Topic
1	18 Aug.	M	Introduction; Ch. 1, Units, Physical Quantities
2	20 Aug	W	Kinematics in One Dimension
3	25 Aug.	M	Problem Solving & Vectors
4	27 Aug.	W	Motion in Two Dimensions
-	**1 Sept.**	**M**	**NO CLASS – Labor Day**
5	3 Sept.	W	Motion in Two Dimensions Cont. & Projectile Motion
6	8 Sept.	M	Projectile Motion & Circular Motion
7	10 Sept.	W	Newton's Laws of Motion
8	15 Sept.	M	Newton's Laws of Motion Cont.
9	17 Sept.	W	Applications of Newton's Laws
10	22 Sept.	M	Applications of Newton's Laws Cont. & Review
11	24 Sept.	W	**Test I**
12	29 Sept.	M	Work and Kinetic Energy
13	1 Oct.	W	Potential Energy & Conservation of Energy
14	6 Oct.	M	Conservation of Energy Cont.
15	8 Oct.	W	Applications of Energy Conservation
16	13 Oct.	M	Linear Momentum and Collisions
17	15 Oct.	W	Linear Momentum and Collisions Cont.
18	20 Oct.	M	Rotation of Rigid Bodies
19	22 Oct.	W	**Test II**
20	27 Oct.	M	Rotational Dynamics
21	29 Oct.	W	Rotational Dynamics Cont.
22	3 Nov.	M	Angular Momentum
23	5 Nov.	W	Static Equilibrium
24	10 Nov.	M	Universal Gravitation
25	12 Nov.	W	Periodic Motion
26	17 Nov.	M	Periodic Motion Cont.
27	19 Nov.	W	Wave Mechanics
-	24 Nov.	M	**NO CLASS – Fall Break**
-	26 Nov.	W	**NO CLASS – Fall Break**
28	1 Dec.	M	Material Review
29	3 Dec.	W	**Test III**
30	TBD		**Final Exam - https://registrar.unt.edu/exams/final-exam-schedule/fall.html**