

UNIVERSITY PHYSICS I

Fall 2024

Instructor: Noah Seekins	Time: Asynchronous/Online
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Course Page:

1. <https://blackboard.ndsu.edu/>

Office Hours: TBD Based on student availability (see the Office Hours Poll under Week 1)

Optional Textbook: David Halliday, Robert Resnick, Jearl Walker, *Fundamentals of Physics*, 12th Edition, 978-1-119-77351-1

Course Description: Newtonian mechanics of translational and rotational motion, work, energy, power, momentum, conservation of energy and momentum, periodic motion, waves, sound, heat, and thermodynamics.

Course Objectives: After successfully completing University Physics I, you should be able to:

- Develop conceptual understanding of the physical world alongside problem solving skills.
- Solve Newtonian mechanics problems that require both conceptual and mathematical understanding of the material.
- Use conceptual tools, such as free-body diagrams, in a variety of circumstances as a tool for correctly framing a physical situation.
- Develop an understanding of how to approximate solutions to help to hypothesize mathematical models.

Prerequisite(s): Math 165 - Calculus I

Course Evaluation:

Weekly Homework - 5 Points Total of 75 Points
Written Quizzes - 10 Points Total of 150 Points
Discussion Board - 5 Points Total of 75 Points

- **Weekly Homework:** Homework will be assigned via Blackboard weekly. Homework will unlock on Mondays at 8 AM, and will not close throughout the semester. All homework problems allow unlimited attempts, however homework must be completed with a score of 100% to allow access to the next week's Written Quiz.
- **Written Quizzes:** In lieu of formal exams, this class will have a written quiz assigned each week via Blackboard, with each quiz being based on the prior week's homework. Quizzes will have an open period of 75 minutes after they are first opened, but will be available to be opened until 11:59 PM on the Sunday following their opening date, and must be submitted with all steps shown to solve each problem. A grade will be assigned based on both the work shown and the answer given. Should a quiz question depend on the answer of a prior question, no points will be taken off for an incorrect answer due to utilizing a prior incorrect answer as a starting point. The Quiz will open 1 week following the homework assignment's opening. All Quizzes must be submitted as **Upright, Legible** documents in **PDF form**. A scanning app such as "Genius Scan" is recommended for this.

- **Discussion Board:** There will be a discussion board open each week at the same time as the Weekly Homework, where students can collaborate, ask questions about the week's lectures, and discuss related topics. Activity in the discussion board will be graded based on the productive participation of students, so though both what you post and that you participate will have an effect on whether you receive points, the points are awarded on an "All or Nothing" basis. Though the first few weeks of the discussion board will be aided by the instructor, the students will need to lead the discussion themselves from that point on, with the instructor continuing to monitor and moderate the discussions as needed. These discussion boards will close at 11:59 PM on the Sunday following their opening.

Grading Scale:

A	270-300 Points
B.....	240-269 Points
C.....	210-239 Points
D	180-209 Points
F	<180 Points

Tentative Course Outline:

Week 1 (Aug 26-Sep 1)

- Introduction
- Chapter 1: Sections 1.1-1.3
- Chapter 2: Sections 2.1-2.3

Week 2 (Sep 2-Sep 8)

- Chapter 2: Sections 2.4-2.6
- Chapter 3: Section 3.1
- **No classes Sep 3**

Week 3 (Sep 9-Sep 15)

- Chapter 3: Sections 3.2-3.3
- Chapter 4: Sections 4.1-4.2

Week 4 (Sep 16-Sep 22)

- Chapter 4: Sections 4.3-4.7
- Chapter 5: Section 5.1

Week 5 (Sep 23-Sep 29)

- Chapter 5: Sections 5.2-5.3
- Chapter 6: Sections 6.1-6.2

Week 6 (Sep 30-Oct 6)

- Chapter 6: Section 6.3
- Chapter 7: Sections 7.1-7.3

- Week 7 (Oct 7-Oct 13).....
- Chapter 7: Sections 7.4-7.6
 - Chapter 8: Section 8.1
- Week 8 (Oct 14-Oct 20).....
- Chapter 8: Sections 8.2-8.5
- Week 9 (Oct 21-Oct 27).....
- Chapter 9: Sections 9.1-9.6
- Week 10 (Oct 28-Nov 3).....
- Chapter 9: Sections 9.7-9.9
 - Chapter 10: Section 10.1-10.3
- Week 11 (Nov 4-Nov 10).....
- Chapter 10: Sections 10.4-10.8
 - Chapter 11: Section 11.1-11.2
- Week 12 (Nov 11-Nov 17).....
- Chapter 11: Sections 11.3-11.9
 - **No classes Monday, Nov 11**
- Week 13 (Nov 18-Nov 24).....
- Chapter 12: Sections 12.1-12.3
- Week 14 (Nov 25-Dec 1).....
- Catch up! Extra discussion this week.
 - **No classes Wednesday, Nov 27 - Friday, Nov 29**
- Week 15 (Dec 2-Dec 8).....
- Chapter 13: Sections 13.1-13.5.
- Week 16 (Dec 9-Dec 15).....
- Dead Week - Week 15 Quiz, no other assignments.
- Finals Week (Dec 16-Dec 20).....
- Finals Week! (No final for this class)

Attendance and Participation: This is an online course, with no physical attendance. The course has been developed to foster engagement through online and digital interactions. The assigned lecture videos have response questions assigned with them which are required to be answered. These responses will be used as part of the final grade. The online discussion forum will also be used to promote student engagement. Even though we will not be present in a classroom, we will be present in the forums, presenting ideas and

questions while collaborating for a better learning experience! In this course, engagement and participation is paramount to success.

Course Information: Although this is an asynchronous and online course, we will still be adhering to a schedule as the semester progresses. Each week, a set of lecture videos, reading assignments, discussion prompts, a homework set, and a written quiz will be assigned. Any of these materials can be accessed 24 hours a day throughout the week and you are just required to complete the assignments, discussions before the set due dates.

- **What should I do first?** Before anything, make sure you read the welcome and introduction posts provided on Blackboard. These posts will serve as both a greeting and an orientation for the course, and will provide a format for how the course will be presented. After that, feel free to move on to the other assigned materials in the ‘Week 1’ folder in Blackboard! These materials will be due by 11:59 PM on Sunday, September 1.
- **Set the routine for the semester:** New material will be introduced each week on Monday morning at 8 AM. Each week, it is suggested to check Blackboard on Monday to see what is coming up for the week. Set a time in which you are able to watch the lecture videos, complete the readings and reading quizzes, participate in the discussions, and do the homework set. Since we aren’t meeting in person, it is of the highest priority to always be aware of what is currently assigned. It should be expected to put about 8-10 hours of work and study on this course per week.
- **Student help hours and meetings:** The Instructor will be available for drop in Zoom student help hours four hours a week (hours TBD based on student feedback). Additional appointment times may be made with the instructor. Please contact them to schedule a time to meet.
- **Communication:** Each week, a set of announcements for the week will be posted to Blackboard. These will include upcoming lecture videos, readings, homework, quizzes, etc. Any additional announcements will be posted to Blackboard. A copy of all announcements will be sent via email.
 - **Discussion Forums:** We engage in discussions via Blackboard. This will be used for discussions involving coursework. We will also use discussion forums to post other general course related questions, such as technical issues, or other concerns. These discussion forums will be a strong part of communication and collaboration in this course, so please use them frequently!
 - **Etiquette:** Since this is an online course, it can be easy to fall into our typical online habits. While communicating via the forums, please be sure to maintain professional and academic language. Please refrain from using any jargon or ‘netspeak.’ All content will be moderated by the instructor.

Technical Assistance: Issues with Blackboard should be directed to the NDSU IT Help Desk (<https://www.ndsu.edu/it/help/>). In the case of Blackboard issues, please also be sure to inform the instructors in the case that additional arrangements must be made.

Student Resources: As a member of the NDSU community, resources are available for you should you need help in dealing with adverse reactions to things happening in the world today. A variety of resources are listed below:

- **For students on campus and remotely (telehealth):**
 - NDSU Counseling Services: 701-231-7671, <https://www.ndsu.edu/counseling>
 - NDSU Disability Services: 701-231-8463, <https://www.ndsu.edu/disabilityservices>
 - Student Health Service: 701-231-7331, <https://www.ndsu.edu/studenthealthservice>
 - Dean of Students Ofce: 701-231-7701, <https://www.ndsu.edu/deanofstudents>

- **For tutoring and academic support:**

- Physics Help Line: Drop in help from Physics TAs is available in person in SE 218. View schedule at www.ndsu.edu/physics/students/current_students/physics_help_room/.
- Drop in Zoom help link: TBA
- ACE Tutoring: <https://www.ndsu.edu/ace/tutoring/>
- TRIO Student Support Services: 701-231-8028, <https://www.ndsu.edu/trioss/about/>

- **In a crisis or emergency situation:**

- Call University Police: 701-231-8998
- Call 9-1-1
- For physical health crises: Go to a Hospital Emergency Room
- For mental health crises: Go to Prairie St. Johns for a Needs Assessment: 701-476-7216 (510 4th St. S.)
- Call the FirstLink Help Line: 1-800-273- TALK (8255) or 2-1-1
- Call Rape and Abuse Crisis Center: 701-293-7273

Additional Information:

- **Veteran Status and Student Service Members:** Veterans and student service members with special circumstances or who are activated are encouraged to notify the instructor as soon as possible and are encouraged to provide Activation Orders
- **Americans with Disabilities Act for Students with Special Needs:** Any students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with instructor and contact the Disability Services Office (www.ndsu.edu/disabilityservices) as soon as possible.
- **Academic Honesty:** The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in University Physics I (PHYS 251) Fall 2024 which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Ofce of Registration and Records. Informational resources about academic honesty for students can be found at www.ndsu.edu/academichonesty.
- **Family Educational Rights and Privacy Act (FERPA) Statement:** Your personally identifiable information and educational records as they relate to this course are subject to FERPA. <https://catalog.ndsu.edu/academic-policies/ferpa/>