

Instructor: Kyle T. Strand

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Office Location: South Engineering, Rm 201

Office Hours: TThF: 10:00AM - Noon, or by appointment

Course Website: [http://www.ndsu.edu/physics/lon\\_capa](http://www.ndsu.edu/physics/lon_capa)

**Course Description:** Beginning course for students without a calculus background. Includes basic principles of bodies at rest and in motion, fluids, vibrations, waves, sound and thermodynamics.

**Prerequisite(s):** MATH 105 or higher.

**Credit Hours:** 3

**Recommended Text:** *College Physics: Reasoning & Relationships*, 2<sup>nd</sup> Edition

**Author(s):** Nicholas J. Giordano; **ISBN:** 978-1-111-57102-3

### Grading:

Weekly Homework	50%
Midterm Exams (2)	20%
Final Exam	10 %

88%	A
77%	B
66%	C
55%	D

- Homework assignments will be handled using LON-CAPA. Answering 90% of the problems correctly will result in full homework credit for the course. However, if you score less than 90% on an assignment, the raw score will be the grade for that assignment. The lowest homework score will be dropped.
- All homework assignments will be weighted evenly regardless of how many points or questions are available.
- Assignments and due dates will be announced in class and posted on LON-CAPA. Homework for the week will usually be assigned on Monday morning and due by Sunday at 11:59pm. Any changes will be announced in class and posted on LON-CAPA.
- Late assignments will have a grading penalty of 20% per day.
- No make up exams will be allowed except in cases of emergency circumstances.
- Each exam grading scale will be curved based on class performance at the instructor's discretion.
- Each test will contain 10 questions at 15 points per question. Each test is worth 120 points. In order to receive 100%, you only need to answer 8 questions, and any additional points will be considered extra credit.
- I reserve the right to adjust grades as I see fit, but any adjustments can only be made to the student's benefit.

## Student Responsibilities:

- Attending each class is highly encouraged. This course can be very challenging, especially during the abbreviated summer session. If a class must be missed, the student is responsible for acquiring material from that session.
- Reading the sections of the book covered in class is strongly recommended. Reading lists will be posted on LON-CAPA.
- In class participation is strongly encouraged. I may propose a question at any time during lecture and if no one volunteers an answer, I may just put you on the spot.
- We will attempt to solve problems in groups as much as possible as time permits. Groups will elect someone to present the solution to the class.
- Coming to office hours are a great way to get extra help. If you are unable to make it to office hours, we can attempt to arrange special appointments to meet. You can also send questions via email and I will do my best to give a prompt response. If there is interest, I am willing to hold additional "coffee shop" office hours.
- Studying in groups are also an excellent way to learn in a physics course. I encourage you to arrange study groups to work together outside of class.
- Most of all, work hard and have fun! This course can be very enjoyable and I will do my best to make sure we can maximize the enjoyment. If you have any concerns, let me know. I welcome all feedback to help make the course better.

## LON-CAPA:

The LON-CAPA course management system will be used to post homework, lecture notes, grades, and other information. LON-CAPA can be accessed by selecting the appropriate server at [http://www.ndsu.edu/physics/lon\\_capa/](http://www.ndsu.edu/physics/lon_capa/). Your username is everything to the left of the @ in your NDSU email address (use all lowercase letters). For example, if your email address is Sheldon.Cooper.2@ndsu.edu, then your LON-CAPA username is sheldon.cooper.2. Initially you create your own password by following the link "Forgot Password". (Use your NDSU email address *without the "my"* here.) For help using LON-CAPA contact your instructor or laboratory technician Paul Omernik (SE110, Paul.Omernik@ndsu.edu, 231-7047) A \$5 course fee is assessed for LON-CAPA server upgrades and maintenance.

## Tentative Course Outline:

The weekly coverage might change as it depends on the progress of the class. Any changes to this schedule will be announced in class.

Week	Content
Week 1: Jun 11-14	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Chapter 1: Sig figs, units, algebra, trigonometry, vectors (1.1-1.8)</li> <li>• Chapter 2: Principles of motion (2.1,2.2)</li> </ul>
Week 2: Jun 17-21	<ul style="list-style-type: none"> <li>• Chapter 2: Inertia and Newton's laws (2.3-2.5)</li> <li>• Chapter 3: Forces and motion in one dimension, friction, tension (3.1-3.7)</li> </ul>
Week 3: Jun 24-Jun 28	<ul style="list-style-type: none"> <li>• Chapter 4: Forces and motion and two and three dimensions (4.1-4.5)</li> <li>• Chapter 5: Circular motion (5.1-5.2)</li> </ul>
Week 4: Jul 2-5	<ul style="list-style-type: none"> <li>• Chapter 6: Work, kinetic and potential energy, conservative and non-conservative forces (6.1-6.8)</li> <li>• Chapter 7: Momentum, impulse, conservation of momentum (7.1-7.3)</li> <li>• <b>Exam 1: Wednesday, July 3.</b> Review in class on Tuesday July 2/ <ul style="list-style-type: none"> <li>– <i>If there is enough class interest, we can schedule a review session outside of class hours.</i></li> </ul> </li> <li>• <b>NO CLASS, THURSDAY, JULY 4</b></li> </ul>
Week 5: Jul 8-12	<ul style="list-style-type: none"> <li>• Chapter 7: Collisions, center of mass (7.4-7.6)</li> <li>• Chapter 8: Rotational motion, torque, rotational equilibrium, moment of inertia (8.1-8.4)</li> </ul>
Week 6: Jul 15-19	<ul style="list-style-type: none"> <li>• Chapter 9: Rotational energy, conservation of energy and rotations, angular momentum (9.1-9.3)</li> <li>• Chapter 10: Pressure, density, fluids (10.1-10.3)</li> </ul>
Week 7: Jul 22-26	<ul style="list-style-type: none"> <li>• Chapter 10: Fluids (10.4-10.6)</li> <li>• Chapter 11: Harmonic motion (11.1-11.3)</li> <li>• <b>Exam 2: Friday, July 26.</b> Review in class on Thursday July 25. <ul style="list-style-type: none"> <li>– <i>If there is enough class interest, we can schedule a review session outside of class hours.</i></li> </ul> </li> </ul>
Week 8: Jul 20-Aug 2	<ul style="list-style-type: none"> <li>• Chapter 12: Waves, superposition and interference (12.1-12.3,12.5)</li> <li>• Review</li> <li>• <b>Final exam: Friday, August 2.</b></li> </ul>

## Coursepack:

*-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 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 Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at*

[www.ndsu.edu/academichonesty](http://www.ndsu.edu/academichonesty).

*-All access to NDSU computers must respect NDSU Senate Policy, section 158: Acceptable use of Electronic Communication Devices*

[www.ndsu.nodak.edu/policy/158.htm](http://www.ndsu.nodak.edu/policy/158.htm)

*-Any students with disabilities or other special needs, who need special accommodations in this course are invited to share concerns or requests with the instructor and to contact the Disability Services Office as soon as possible.*