

## Physics 252 – University Physics II – Fall 2024

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**Instructor:** Dr. Andrew B. Croll  
Room 212b, South Engineering  
1211 Albrecht Blvd  
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**Office Hours:** Monday and Tuesday 12:00 to 3:00

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**Aim:** To learn how electricity and magnetism interact with matter and energy, how such properties can be useful, and how quantitative problem solving skills are necessary for a correct interpretation of Nature.

**Description:** Electric charge, field, potential and current; magnetic field; capacitance; resistance; inductance; RC, RL, LC and RLC circuits; EM waves; optics.

Students should expect to meet the following outcomes as a result of this course:

Outcome #5: Students will learn to comprehend concepts and methods of inquiry in science and technology, and their application for society.

Outcome #6: Students will learn to integrate knowledge and ideas in a coherent and meaningful manner.

Outcomes #5 and #6 are met by readings, lectures, and homework through the development of conceptual understanding and the ability to quantify concepts in specific physical situations. Students demonstrate their level of comprehension in homework, quizzes and exams.

**Prerequisites:** PHY 251, and 251L or ME 221 and 222;

**Corequisite:** Math 166;

**Class:** M 9:00 - 10:50, W/F 9:00 – 9:50 - NDSU A. Glenn Hill Center, room 112 (Participation is highly recommended but not required! See NDSU policy 333.)

**Required Course Materials:** (available at NDSU Bookstore)

(1.) Halliday, Resnick, Walker, Fundamentals of Physics 11<sup>th</sup> edition

(2.) Scientific calculator.

(3.) Computer/internet access.

**Evaluation:**

6 of 7 tests	50%	or	25%	or	75%
1 final exam	25%	or	50%	or	
13 assignments	20%	or	20%	or	20%
2 Extra Assignments	5%		(for research purposes, not graded!)		

The third option treats all tests the same, and allows a student to drop their lowest test grade over the semester.

**Grading:**

85%	-100%	A,
70%	- 85%	B,
60%	- 70%	C,
50%	- 60%	D,
0%	- 50%	F.

**Marking Scheme:**

three point marking system

- 0 – nothing of any value is written down
- 1 – something useful has been written down
- 2 – the main idea of how to solve the problem appears
- 3 – mostly a correct answer (1 minor mistake permitted)

**Make-up Policy:** There shall be no make-up allowed for missed assignments or tests. If the test is missed and a student provides written documentation of a legitimate reason a make-up will be provided.

**Assignments:** Homework problem sets on current course material will be assigned via the LON-CAPA online homework system. There will be a problem set for each chapter, which may be completed at any time, but are required to be submitted at the time indicated on each problem. No late homework will be accepted. You may work together on homework sets, but do not simply copy another's answers; this will not benefit you when it comes to the exams or in real life applications (i.e. MCAT, ...).

**Tests:** will be taken on the Lon-Capa system at some time during the test day (not in class). Once started, the test problems will remain active for 1 hour, then the test is over. Be sure you are familiar with the Lon-Capa system before you do the first test.

**LON-CAPA Instructions:** The online homework 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**), and your password is your student ID number (**with leading zeros, but without the W**). For example, if your email address is Isaac.Newton.1@ ndsu.edu, and your ID is 0123456, then your LON-CAPA username is isaac.newton.1, and your password is 0123456. For help using LON-CAPA, please contact your instructor or Paul Omernik ([paul.omernik@ndsu.edu](mailto:paul.omernik@ndsu.edu), 231-7047).

**Communication:** Announcements will be made in class or through the Blackboard system. Marks will be displayed through the Blackboard system. Discussion may be posted below each assignment problem in the LON-CAPA environment, and 'email' may also be sent to me within the environment.

**Attendance:** According to [NDSU Policy 333 \(http://www.ndsu.edu/fileadmin/policy/333.pdf\)](http://www.ndsu.edu/fileadmin/policy/333.pdf), attendance in classes is expected.

**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.

**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 the instructor and contact the [Disability Services Office \(http://www.ndsu.edu/disabilityservices/\)](http://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 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).

**Tentative Schedule:**

10 – Jan.		25 – Mar.	
12 – Jan.		27 – Mar.	(A10 due) (T5 all day)
15 – Jan.	Martin Luther King, Jr. Day	29 – Mar.	Spring Recess
17 – Jan.		1 – Apr.	Spring Recess
19 – Jan.	(A1 due)	3 – Apr.	
22 – Jan.		5 – Apr.	(A11 due)
24 – Jan.		8 – Apr.	
26 – Jan.	(A2 due) (T1 all day)	10 – Apr.	
29 – Jan.		12 – Apr.	(A12 due) (T6 all day)
31 – Jan.		15 – Apr.	
2 – Feb.	(A3 due)	17 – Apr.	
5 – Feb.		19 – Apr.	(A13 due)
7 – Feb.		22 – Apr.	
9 – Feb.	(A4 due) (T2 all day)	24 – Apr.	
12 – Feb.	<Online Day>	26 – Apr.	(T7 all day)
14 – Feb.	<Online Day>	29 – Apr.	Dead Week
16 – Feb.	(A5 due)	1 – May	Dead Week
19 – Feb.	Presidents' Day	3 – May	Dead Week
21 – Feb.		6 – May	Finals
23 – Feb.	(A6 due) (T3 all day)	8 – May	<b>Finals</b>
26 – Feb.		10 – May	Finals
28 – Feb.			
1 – Mar.	(A7 due)		
4 – Mar.	Spring Break		
6 – Mar.	Spring Break		
8 – Mar.	Spring Break		
11 – Mar.			
13 – Mar.			
15 – Mar.	(A8 due) (T4 all day)		
18 – Mar.			
20 – Mar.			
22 – Mar.	(A9 due)	<b>8 – May</b>	<b>10:30 am – FINAL EXAM!!!!</b>