

Northern Illinois University

Course Syllabus for Physics 283 --- Modern Physics

Spring Semester, 2023

Instructor: Dennis Eugene Brown Faraday West 208W and/or 213W
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Office Hours: TTh 11-2:00pm tel: 630-910-5512
(always available on a walk-in basis if I am in my office or lab)

Physics 283 WebPage: www.niu.edu/brown

Course Textbook: Modern Physics, 4th edition **Author:** Kenneth Krane

We will be covering the following material in Krane: (Tentative Schedule)

The Special Theory of Relativity:	Chapter 2
Origins of Quantum Theory:	Chapter 3
Wavelike Properties of Particles:	Chapter 4
Rutherford-Bohr Model	Chapter 6
Quiz #1	
The Schrodinger Equation:	Chapter 5
Quiz #2	
The Hydrogen Atom:	Chapter 7
Many-Electron Atoms:	Chapter 8
Quiz #3	
Statistical Physics:	Chapter 10
Solid State Physics:	Chapter 11

Final Exam (Tuesday, May 9, 2-3:50 p.m.)

Problem Sets will be posted on **www.niu.edu/brown** every week, and they will be due one week later at the beginning of the class (**not at the end of class**). Late homework will be penalized 10% per day (however, *the problem sets just before **quizzes&exams***—and the final problem set will not be accepted late).

All quizzes & exams are closed book, no notes. Graphics Calculators and Cell Phones will not be allowed, only scientific calculators can be used.

Tentatively: All Problems Sets will make up 10% of the grade
Surprise short in-class quizzes make up 5% of the grade
Each quiz “ “ 20% ” ”
Final Exam “ “ 25% “ “

If you are taking lab: Lab will make up 25% of the **final** grade and
Lecture will make up 75%.

The lowest scoring Problem Set will not be counted towards the final grade.

There are Physics Tutors available in Faraday East Room 251

Additional Notes:

- (1) When the solutions are posted on Blackboard, late homework will no longer be accepted.
- (2) When graded problem sets are handed back to students in class, late homework for that problem set will no longer be accepted.
- (3) Do not put any homework in the box outside my door—I may never see it and it will get mixed up with graded work. If I am not in my office and you wish to turn in a problem set, slide it under my door or have it put in my office mailbox.
- (4) You will be asked for a codename at the beginning of class. Put this codename on your homework. Do not put your real name or ZID on homework (or you will be penalized).
- (5) Homework must be stapled (or you will be penalized). Homework should have the following format (or you will be penalized):

The diagram illustrates the required format for a homework page. It features a large rectangular box representing the page layout. On the left side of the box, there is a vertical line. To the left of this line, the text 'Put # of problem to the left of the vertical line. If you use graph or blank paper, draw the vertical line.' has two red arrows pointing to the vertical line and the problem numbers '1' and '2' inside the box. Inside the box, at the top right, is a list of labels: 'Codename', 'Course', 'Date', and 'Instructor's Name'. A red arrow points from the text 'Put this info in the upper right hand corner.' to this list. Below these labels, the text 'Homework #1' is centered. Underneath, there are two numbered entries, each consisting of a circled number followed by the text 'Elegant Solution to Problem #1 goes here along with a figure (or picture)...'. A red arrow points from the text 'Make certain the Title is given.' to the top right corner of the box. To the right of the box, a red circle contains the text 'Homework must be written in on a separate sheet of paper, not on the Problem Set handout.'

Make certain the **Title** is given.

Put # of problem to the left of the vertical line. If you use graph or blank paper, draw the vertical line.

Codename
Course
Date
Instructor's Name

Homework #1

1 Elegant Solution to Problem #1 goes here along with a figure (or picture)...

2 Elegant Solution to Problem #1 goes here along with a figure (or picture)...

Put this info in the upper right hand corner.

Homework must be written in on a separate sheet of paper, not on the Problem Set handout.

ACCESSIBILITY: Northern Illinois University is committed to providing an accessible educational environment in collaboration with the Disability Resource Center (DRC). Any student requiring an academic accommodation due to a disability should let his or her faculty member know as soon as possible. Students who need academic accommodations based on the impact of a disability will be encouraged to contact the DRC if they have not done so already. The DRC is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 (V) or drc@niu.edu.

HONOR CODE: Be aware of the policies and procedures regarding your rights as well as responsibilities that are published in the NIU Student Code of Conduct, which is available on line at: [http://www.stuaff.niu.edu/judicial/24430jo\(body\).pdf](http://www.stuaff.niu.edu/judicial/24430jo(body).pdf).

Working with other students on homework is encouraged, but outright copying (plagiarism) of other student's work is strictly forbidden and will be reported to the NIU administration.