

Physics 303

Instructor: Dr. Cecille Labuda
Class time/location: 8:00 am Lewis 101
Office: 1031 NCPA

Office Hours: MWF 9:00 – 9:50am, T 2:00 – 2:45pm
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Text

Haliday, Resnick and Walker. Fundamentals of Physics, 8th edition, Wiley, 2005. ISBN: 0471216437 (Provided to students).

- $68\% \leq \mathbf{C} < 72\%$
- $64\% \leq \mathbf{C-} < 68\%$
- $50\% \leq \mathbf{D} < 64\%$
- $\mathbf{F} < 50\%$

Description

This course formulates physical principles of classical and modern physics as mathematical problems in differential and integral calculus. It is intended for students who have declared a major in physics after completing the algebra-based Physics 213/214 sequence and is designed as a bridge from algebra – based physics into the calculus-based physics that is needed for the physics major. Many of the topics previously covered in the 213/214 sequence will be revisited and given a calculus-based treatment. The application of calculus will allow for analysis of more complex and interesting phenomena.

Prerequisites / Corequisites

Students enrolled in Physics 213 must have passed Math 121 and Math 123 or Math 125 or Math 261. Students must also be concurrently enrolled in or have passed Physics 223.

Course Objectives

Students will learn how to:

- Apply differential and integral calculus to physical problems.
- Interpret mathematical formalism applied to physical problems in a conceptual manner.
- Develop and improve analytical reasoning and problem solving skills.
- Develop and improve oral and written presentation of work.

Grading: Weighted average, Plus-Minus

- $92\% \leq \mathbf{A} \leq 100\%$
- $88\% \leq \mathbf{A-} < 92\%$
- $84\% \leq \mathbf{B+} < 88\%$
- $80\% \leq \mathbf{B} < 84\%$
- $76\% \leq \mathbf{B-} < 80\%$
- $72\% \leq \mathbf{C+} < 76\%$

Course Topics

- Kinematics and dynamics
- Electromagnetism
- Thermodynamics
- Other topics of interest

Evaluation

Tests

3 closed-book tests

- Test 1: 15%
- Test 2: 15%
- Test 3: 15%

Total test weighting: 45%

Homework

- Homework assignments will be assigned in class and posted on Blackboard. These will be a combination of end of chapter problems from the textbook, conceptual problems and additional assigned problems. Homework must be complete, with explanations and diagrams to aid clarity, and written in a logical manner that is easy to follow. Pages must be stapled together with smooth (not torn) edges. Students may be requested to redo poorly presented homework.
 - No late homework will be accepted.
- Total homework weighting: 20%*

Oral Presentations

Each student must select a physics topic for classroom presentation. This can be a topic covered in class, any other physics topic or an application of physics. Students should get approval for their topic before presenting to determine whether it is appropriate. Presentations should be no longer than 15 minutes and should be accompanied by a written abstract of the talk to be turned in before the

presentation. The grade will be based on content and the quality of the presentation (oral, visual, organization, clarity). Computers and projectors will be available in the classroom for Powerpoint presentations. Presentations will be in the last week of class.

Oral presentation weighting: 10%

Final exam

- Comprehensive, closed-book final.
- *Final exam weighting: 25%*

Total: 100%

Policies

Attendance

- Students are expected to attend all classes although attendance will not be recorded.
- On test days, absences due to illness, unexpected emergency or university sanctioned activities may be excused and the test rescheduled. A doctor's note is required for an illness. In the case of an unexpected emergency, you must contact me as soon as possible and provide documentation from a parent or guardian with a contact number on your return to the university. For university sanctioned activities, an official notification must be submitted before the activity. For ALL absences on test days, you must contact me by email or telephone within 24 hours of the absence or no tests will be rescheduled under any circumstances.
- Students are encouraged to work together on homework assignments. Copying, is of course, not allowed.
- Tests will be returned in class typically within 7 days after the test. There is no guarantee that a test will be returned later if it is not picked up at the time the test is handed back in class.
- Cheating on homework, tests or any assignments is, will result in a zero grade for the given assignment. If a second case of cheating is discovered, the student will receive a grade of F for the course.
- Important information pertinent to the course will be communicated to students via his/her university email address.

Students are responsible for information communicated via email.

Resources

- Course grades will be posted on Blackboard. Grades posted on Blackboard are intended to keep students up to date with their grades. Blackboard grades are NOT an official record of the grades. The posted midterm and final grades are the only office grade records. These grades are based on the Excel grade record that I keep on my computer. Any differences between Blackboard grades and my Excel grades will be overridden by the Excel grades.
- Free tutoring by graduate students is provided in the Tutoring Room in Lewis Hall. Students are, of course, welcome to meet with me for help with homework or general questions.

Important Dates

- August 26 – classes begin
- September 9 – last day to add
- October 7 – last day to drop
- November 25 – 29 - Fall break
- December 6 – last day of class
- December 9 (8:00 am) - final exam

Examinations

Test dates and topics are subject to change. The final exam date is fixed and cannot be changed.

Test 1: Chapters 1 - 4	09/18
Test 2: Chapters 19 – 22	10/16
Test 3: Chapters 23 – 26	11/20

Final Exam: Chapters 1 - 12	Monday
December 9th, 8:00 am	

