

Physics 214

Updated 12/27/2015

Instructor: Dr. Cecille Labuda
Class time/location: 8:00 am Lewis 101
Office: Lewis 211 MW 9 – 10 am/ 1031 NCPA by appt

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Syllabus last updated 12/27/2015.

Text

Option 1 (Preferred)

- Giancoli, D. Physics: Principles With Applications 7/E, 2013, ISBN **978-0321625922**. Students may alternatively use the 6/E, ISBN **978-0130606204**
- MyLab and Mastering access code; **must** be purchased by logging in through Blackboard or will not work.

OR

Option 2

- MyLab and Mastering access code with e-book and online homework access; **must** be purchased by logging in through Blackboard or will not work.

Description

This is the second semester of a two-semester sequence in introductory general physics. Topics include electricity and magnetism, geometric and wave optics and thermodynamics.

Prerequisites / Corequisites

Students enrolled must have passed Physics 213 and be enrolled in or have passed Physics 224.

Course Objectives

- Develop/improve analytical and problem solving skills. Students should be able to:
 - Analyze a problem to reduce it to its fundamentals and determine the related physics concepts.
 - Identify methods of solving problems.
 - Apply various problem solving techniques.
- Learn and apply physics concepts. Students should be able to:
 - Describe electromagnetic fields and explain how they arise.
 - Describe how electricity and magnetism are related.
 - Describe the properties of light and the electromagnetic spectrum.
 - Explain what temperature and heat are and how they are related.

Grading: Weighted average, Plus-Minus

- $92\% \leq \mathbf{A} \leq 100\%$
- $88\% \leq \mathbf{A-} < 92\%$
- $84\% \leq \mathbf{B+} < 88\%$
- $80\% \leq \mathbf{B} < 84\%$
- $76\% \leq \mathbf{B-} < 80\%$
- $72\% \leq \mathbf{C+} < 76\%$
- $68\% \leq \mathbf{C} < 72\%$
- $64\% \leq \mathbf{C-} < 68\%$
- $50\% \leq \mathbf{D} < 64\%$
- $\mathbf{F} < 50\%$

Evaluation

Tests

- 3 closed-book tests: 17% each
- Total test weighting: 51%**

Homework

- Online homework will be completed on Pearson MyLab and Mastering.
- Students must keep a bound notebook with complete write-ups of the homework problems as well as completing the homework online. Students must turn in a copy of the written-up homework at the beginning of the first class after the online homework is due. One or more problems in the written homework may be graded. Grades from the written homework will replace the online grades from the corresponding problems. Students may be randomly requested to turn in notebooks for examination by the instructor.
- Problems **MUST** be written up according to the homework rubric posted on Blackboard or the grade will be zero.
- No late homework will be accepted.
- Total homework weighting: 15%**

Preparatory and Comprehension Exercises

- Pre-lecture exercises will be given. These may be online or in class.
- Total quiz weighting: 9%**

Final exam

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

Total: 100%

Policies

Attendance

- Students are expected to attend all classes. It is difficult to do well in this course with poor attendance.
- 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.
- Homework is intended for you to practice application of the concepts discussed in class. Students are encouraged to work together on homework assignments. Copying is unhelpful to achieving mastery of the material and to good test performance.
- Tests are designed to determine whether you have learned and understood the concepts covered in class. Typically, test problems will not be identical to the homework problems. 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. Consult the Olemiss M Book for clarification of what constitutes cheating.
- 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

- Homework discussion session with instructor
 - Discussion sessions will be held from time to time. These sessions will be announced ahead of time but will typically be on Wednesdays for 5 – 6 pm.
 - Students may ask questions about homework problems that they are having difficulty with. Students may NOT just show up and ask how to do a problem without having looked at it at all.
 - Discussion and solutions to problems will be given by other students who have worked on the problems under discussion or by the instructor.
- Course grades will be posted on Blackboard. Grades posted on Blackboard are intended to keep students up to date with their grades and are NOT an official record of the grades. The posted midterm and final grades are the only official grade records. These grades are based on the grade record that I keep on my computer. Any differences between Blackboard grades and my grade record will be overridden by my record
- Free tutoring by graduate students is provided in the Tutoring Room in Lewis Hall.

Important Dates

- January 25 – classes begin
- February 5 – last day to add
- February 6 – last day to drop
- March 4 – last day to withdraw
- March 7 – Midterm grades
- March 14 - 18 - Springbreak
- May 6 – last day of class
- Monday May 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 16 - 19 02/29

Test 2: Chapters 19 – 23 04/04

Test 3: Chapters 23 – 24, 13 – 14 04/25

Final Exam: Chapters 13 - 25

Monday May 9, 8:00 am

Tentative Course Schedule:

About one chapter of the textbook will be covered each week. The following schedule is subject to change.

Week	Topic	Textbook Sections
01: 01/25 – 01/29	Electric charge, field	Ch 16
02: 02/01 – 02/05	Electric charge, field, potential	Ch 16, Ch 17
03: 02/08 – 02/12	Electric potential, current	Ch 17, Ch18
04: 02/15 – 02/19	Current, DC circuits	Ch 18, Ch19
05: 02/22 – 02/26	DC Circuits	Ch 19
06: 02/29	Test 1	
06: 02/29 – 03/04	DC Circuits, Magnetism	Ch 19, Ch 20
07: 03/07 – 03/11	Magnetism, induction, Faraday's law	Ch 20, Ch 21
08: 03/14 – 03/18	SPRING BREAK	
08: 03/21 – 03/25	Induction, Faraday's law, electromagnetic waves	Ch 21, Ch 22
09: 03/28 – 04/01	Geometric optics	Ch 23
10: 04/04	Test 2	
10: 04/04 – 04/08	Geometric optics, optical instruments	Ch 23, 25
11: 04/11 – 04/15	Wave nature of light, temperature, kinetic theory	Ch 24, Ch 13
12: 04/18 – 04/22	Temperature, kinetic theory, heat	Ch 13, Ch 14
13: 04/25	Test 3	
13: 04/25 – 04/29	Heat, laws of thermodynamics	Ch 14, Ch 15
14: 05/02 – 05/06	Laws of thermodynamics	Ch 15