PHYSICS 167 – General Physics 2 –

SPRING 2023

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General Info: This course is classified as "Zero Textbook Cost." The material for the course is available at the course website.

Course website: http://www.lehman.edu/faculty/anchordoqui/167.html

Texts: No textbook required. You may use any textbook to complement the lectures.

Lectures: Tuedays and Thusrdays 2:00 – 3:40 PM, Gillet 226. Lectures begin January 26, 2023.

Office Hours: Tuesdays and Thursdays. 3:45 – 4:15 PM

Laboratory: Attendance at the weekly laboratory is mandatory. Department policy is that students who miss more than two labs will fail the course. Labs can only be made up for documented medical emergencies, and only during the week they are originally scheduled. If you miss a lab let me and your lab instructor know as soon as possible.

Worksheets: Problem sets are available on the course website. Each problem set consists of questions used as worked examples in lecture and exercises covered during discussion sessions.

Tests: Three tests will be given during the semester (see schedule on page 3)**.**

Final: There will be a comprehensive final exam; Thursday May 18, 2023 2:00 -4:00 PM.
The final is mandatory and you are responsible for making sure that you can attend at this time.

Grading policy:

The overall course grade will be determined as follows:
25% - from problems in discussion sessions
30% - midterm exams (10% each)
25% - comprehensive final exam
20% - laboratory

Letter grades will be assigned according to the guidelines

A = 90 - 100
B = 80 - 90
C = 65 - 80
D = 50 - 65
F = below 50

The cutoffs for +'s and -'s will be decided at the end of the semester.

How to be successful in Physics 167 — *PLEASE READ CAREFULLY*

1. This is not a correspondence course; attendance at lectures and discussions is highly encouraged.

2. Make sure you visit the course website regularly. Check the announcements. You will have to download a set of problems every week.

3. The importance of basic math cannot be over-emphasized. You absolutely *must* be comfortable with basic algebra, trigonometry, and arithmetic. You are expected to handle problems that use only algebraic variables.

4. DISCUSSION SESSIONS: Every Tuesday (beginning on January 31st, 2023) we will have a group discussion session to go over the material covered in recent lectures and assigned problems. At the end of each discussion class, every group (made out of min 6 and max 7 students) will hand in a solution of the group's assigned problems that will be graded. The same grade will be given to each member of the group.

5. TESTS: Test problems are loosely based on those you will find in the homework sets. Please note that this does not mean these problems will simply be repeated on tests. Please check the schedule of tests for conflicts with religious observance. Please let me know ASAP if you see any conflicts; a different time will be arranged so that you can take the test. Make-up tests will be given only for valid reasons.

6. Make sure you bring a scientific calculator to lecture and discussion. You will need a calculator during tests.

7. Please contact me immediately if you think that a genuine mistake has occurred in the grading of tests. Clerical errors in grading will of course be rectified as soon as possible.

8. Students with special requirements/learning disabilities should see me as early as possible during the semester. **Note** that it is the responsibility of students with special accommodations to contact the instructor as early as possible to make the appropriate arrangements for testing. Please note that I cannot allow students to take tests under conditions different from those experienced by the rest of the class (extra time, separate room, etc.) *unless they have the appropriate paperwork (VISA form) from the Student Accessibility Center*. The Student Accessibility Center will issue formal instructions to me about how students with disabilities are to be accommodated.

General Education Requirement (GER):

This course carries GER credit in the area of Natural Sciences. You will explore the foundations underlying our knowledge of the physical world, with the goal of gaining an understanding of the physical laws governing electricity and magnetism. Physics is not about memorizing facts or formulas, but about developing the conceptual framework to connect experiments to the models, theories, and physical laws used to describe the natural world, including how experimental science can be used to distinguish among competing theories. Throughout the course – in lectures, discussion sessions, and exams – you will be required to critically assess the presented concepts and be able to apply your knowledge to the solution of physical problems.

Provisional Course Outline

(Please note this may be revised during the course to match coverage of material during lectures, etc.)

1st week: *Electric Charge and Coulomb's Law*

2nd week: *Electric field*

3th week: *Gauss Law*

4th week: *Electric Potential*

5th week: *Capacitance*

6th week: *Electric Circuits*

7th week: *Magnetism*

8th week: *Faraday's Law of Induction*

9th week: *Maxwell's Electromagnetic Waves*

10th week: *Laws of Geometric Optics*

11th week: *Relativity of Magnetic and Electric Fields*

12th week: *Wave Particle Duality*

Midterm Exams: *March 7, April 27, May 16, 2023*

Complementary Material:

Douglas G. Giancoli, Physics Principles with Applications
https://www.docdroid.net/OFMOth4/giancoli-physics-principles-7th-ed-pdf#page=12

Instructor Manual with Problems and Solutions
https://doctor2019.jumedicine.com/wp-content/uploads/sites/10/2019/09/Giancoli-Physics-Principles-With-Applications-7th-c2014-solutions-ISM.pdf