

PHYSICS 1402

GENERAL PHYSICS II - Lecture Collin County Community College

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TEXTBOOKS:

Wilson/Bufa/Lou, College Physics with Mastering Physics, 7th Edition.
Packaged with MasteringPhysics assignment system, ISBN: 0321650778

Wilson, Physics Laboratory Experiments, Special Edition for CCCC

Optional – Lou, Bo, Study Guide and Selected Solutions Manual II for College Physics, 7/e
ISBN: 0321592786

COURSE DESCRIPTION:

Prerequisite: Two years of high school algebra, trigonometry, or equivalent, & PHYS-1401.

This course is designed for dental, biology, medical, pharmacy, architectural, and other students needing to satisfy requirements for a two-semester technical course in physics. Topics include: electricity, magnetism, light, optics, relativity and modern physics.

The approach of this course will be to present physics as it relates to the world around us. Topics will be introduced with concrete observations and experiences that students can directly relate to. Examples and applications will be drawn from other fields such as biology, medicine, architecture, technology, earth sciences, the environment, and daily life. A key focus of this course will be on learning how to approach and solve problems.

COURSE MATERIALS:

Students need to have the following items:

- scientific calculator
- protractor
- metric ruler
- graph paper
- text and lab manuals
- SCANTRON forms for exams

COURSE WEB SITE:

Information for this course is available at iws.ccccd.edu/mbrooks. Students wishing to view their grades will need an ID and password.

ATTENDANCE POLICY:

Regular and punctual attendance is expected of all students. Attendance will be checked at the beginning of each class, and bonus points will be awarded at the end of the semester based on each student's attendance record.

HOMEWORK ASSIGNMENTS:

Your assignments for this class consists of the following components:

1. Homework problems which you will complete online via the MasteringPhysics website
2. Physics Video Worksheets which you will complete as you watch the Mechanical Universe physics video series
3. A "Physics of Technology" project

BY FAR your assignments have the greatest impact on your final grade. So how well you do largely depends on how hard you work, not your test scores.

1. HOMEWORK PROBLEMS

The homework problems for this class will be accessed online via the MasteringPhysics assignment system. Student assignment account information (registration code) is included with textbook purchase. Students may access their MasteringPhysics assignments at:

www.masteringphysics.com

The MasteringPhysics course ID for Spring 2010 is **PHYS1402SPRING10**. How to use the MasteringPhysics system will be addressed in class. The best way to study for tests in this course is to thoroughly complete and understand the homework. Test problems will reflect an understanding of both homework problems and examples worked in the lecture.

2. PHYSICS VIDEO WORKSHEETS

This is an easy way to get a grade of 100 that will count 10% of your final average! Complete the video worksheets as you watch what many consider to be the best physics video series ever produced (The Mechanical Universe). Due dates are coordinated to follow the textbook material you will be covering. All videos are available online (high-speed connection recommended) at this location:

http://iws.ccccd.edu/mbrooks/documents/mechanical_universe/PHYS_1402_Physics_Videos.htm

3. PHYSICS OF TECHNOLOGY PROJECT

Physics is best learned and appreciated through real-world applications. All sports involve physics and this project will give you a chance to explore the physics of your favorite sport. You will give a brief presentation of your project near the end of the semester. Project information is available at:

http://iws.ccccd.edu/mbrooks/documents/Physics_of_Technology.pdf

LABS:

Students will participate in at least 13 experiments during this course, each designed to investigate concepts covered in the lectures. Individual lab instructors will provide more information on lab grading policies and guidelines.

TESTS:

A midterm and final exam will be given during this course. The final exam will be comprehensive. All tests will be given in class. Reviews for each exam are available at Professor Brooks' website.

LEARNING STYLES EXTRA CREDIT:

Current research clearly shows that we all learn differently and, in fact, have a preferred learning style. We also tend to teach to our learning style. In an effort to further study and evaluate the learning needs of students in this course, extra credit will be given to students who participate in taking two free on-line personality/learning style surveys. These learning style surveys are accessible at iws.ccccd.edu/mbrooks.

The first survey is based on the Keirsey Temperaments and is provided free of charge at the Keirsey website. Note that the test and scoring is free, but you may be asked to provide a credit card number to receive detailed information on your learning style. You do not need to pay to receive further information unless you so desire. After completing the on-line survey, print a copy of the web page showing your Keirsey type (Guardian, Artisan, Idealist, or Rational) to receive credit. Your instructor will provide you with a learning style profile based on your Keirsey personality type. The learning style profiles are not free of charge at this website.

The second survey distinguishes between auditory, kinesthetic, and visual modalities. You will need to print this survey to complete it. A printed, completed copy must be turned in to the instructor to receive credit.

CCCCD COURSE REPEAT POLICY:

You may repeat this course only once after receiving a grade, including W.

GRADES:

Course averages will be calculated as follows:

<i>Homework Problems</i>	30 %
<i>Physics Video Assignments</i>	10 %
<i>Technology Physics Project</i>	5 %
<i>Lab Reports</i>	25 %
<i>Midterm</i>	15 %
<i>Final Exam</i>	15 %
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	100 % possible

Grades will be determined as follows:

90 – 100	= A
80 – 89	= B
70 – 79	= C
60 – 69	= D
0 – 59	= F