PHYS-1402 SYLLABUS
GENERAL PHYSICS II (WEB VERSION)

Link to CCCCD General Course Syllabi

Instructor: Meade Brooks
Phone: 972-377-1640 (office)
Office: suite D-213 (Science Building)
Email: mbrooks@ccccd.edu
Web Site: iws.ccccd.edu/mbrooks
Office Hours: See instructor web site

TEXTBOOK

This course uses a digital physics text book developed by Kinetic Books. The book title is Principles of Physics and must be purchased at the Kinetic Books web site (purchase information is given below). All "lectures" in this course are given by the student reading and interacting with the digital textbook.

The digital physics textbook contains the usual textual information found in most physics books that outline and explain physics concepts. However. the Kinetic Books digital physics textbook is unique in that woven into the digital text are animations, audio & video information, interactive examples & practice problems, and games. The digital textbook can be accessed via CD or on-line from the Kinetic Books web site.

Chapters covered:

Electricity and Magnetism
23 Electric Charge and Coulomb's Law
24 Electric Fields
25 Electric Potential
26 Electric Flux and Gauss' Law
27 Electric Current and Resistance
28 Capacitors
29 Direct Current Circuits
30 Magnetic Fields
31 Electric Currents and Mag Fields
32 Electromagnetic Induction
33 Alternating Current Circuits
34 Electromagnetic Radiation

Light and Optics
35 Reflection
36 Refraction
37 Lenses
38 Interference
39 Diffraction

Modern Physics
40 Special Relativity
41 Quantum Physics Part One
42 Quantum Physics Part Two
43 Nuclear Physics

The laboratory section of this course is taught as a traditional on-campus lab. The lab manual to purchase for labs is: Wilson, Physics Laboratory Experiments, 6th Edition, for CCCCD.

STUDENT LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

1. Apply the concepts of static electrical charge to problems involving Coulomb's Law and electric fields
2. Solve problems involving the concepts of electrical potential energy, electrical potential energy difference, and potential
3. Apply the concepts of capacitance and electrical power by solving problems

4. Solve problems utilizing Ohm's Law and electrical resistance
5. Apply Kirchhoff's laws to electrical circuits
6. Apply the concepts of magnetism and electromagnetism to electrical circuits
7. Solve problems using the principles of alternating current
8. Understand and apply the principles of geometric optics
9. Explain and apply the concepts pertaining to optical instruments
10. Develop an understanding of the various applications of modern physics including: relativity, quantum theory, quantum mechanics, nuclear structure, radioactivity, and fission and fusion

HOW TO PURCHASE YOUR DIGITAL PHYSICS TEXTBOOK

Students should purchase their digital textbook immediately upon enrolling in this course. Digital textbooks are purchased at the Kinetic Books on-line store via credit card at:

https://webstore.kineticbooks.com/

Click the "Products" link (under "Categories") to see a list of available textbooks for purchase. The textbook to purchase for this course is titled "Principles of Physics" (scroll down to find available versions).

For this course two versions of "Principles of Physics" are available. **Version 1** is mailed out on CD and may be installed to only **one** computer. This textbook version may only be accessed from this one computer. **Version 2** is the preferred choice and is delivered by download from the Kinetic Books web site upon purchase. The version 2 text may be accessed from any computer (a small installation must be done to configure the computer browser). More details follow below.

Version 1 - (Click following link for direct purchase connection)
Principles of Physics - INDIVIDUAL LICENSE **$39.95**

The Individual Purchase model allows students to install a single copy on a single computer. The products do not time out. This product is not transferable - it cannot be returned for use by another student another year. The textbook will be delivered by mail on CD.

Version 2 - (Click following link for direct purchase connection)
Principles of Physics - WEB ACCESS LICENSE **$34.95**

The Web Access license is a 1 year subscription to the digital textbook, over the internet, from Kinetic Books servers. The digital textbook may be access from any computer with an internet connection (a small installation must be done). After 1 year this web version digital textbook will expire and will no longer be accessible.

NOTE: Each textbook contains content for **both** PHYS 1401 and PHYS 1402 courses. With the web access license, PHYS 1402 must be taken within one year of PHYS 1401 to use the same textbook before it expires.

COURSE DESCRIPTION

Prerequisite: Physics 1401 with a "C" or better.

This course is an Algebra-based physics course designed for dental, biology, medical, pharmacy, architectural, and other students needing to satisfy requirements for a two-semester technical course in physics. Topics include: motion, force, work, energy, properties of matter, waves, heat, and sound.
4 credit hours

COURSE MATERIALS

Students need to have the following items:
- scientific calculator
- access to a computer with internet access
- the digital physics textbook (purchase information below)
- access to on-line assignments (more information below)
- SCANTRON forms for exams

INSTRUCTOR WEB SITE

Instructor information, including office hours, is available at iws.ccccd.edu/mbrooks. Useful course information is also given including a library of physics animations that illustrate course concepts. Note that grades for this course are only available at the Blackboard site and are NOT available on Professor Books' personal web site. The grades option on Professor Books' personal web site are for students attending on-campus courses only.

ASSIGNMENTS

Your assignments for this class consists of the following components:

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

Your chapter assignment problems will be completed online at the Kinetic Books website and are based on the digital physics textbook you must purchase. Assignments cannot be completed without the textbook. Students **must purchase** (cost is $10) an online assignment account to access and complete their assignments. Online assignments accounts may be purchased at:

Kinetic Books Store - Physics Online Homework

Upon purchase students may log in to their assignment page at http://homework.kineticbooks.com. To see your assignments you must first use the menu options to APPLY for this course (under Professor Brooks at CCCCD). I will then accept you into my class at which time you will have access to your assignments for this course. Detailed assignment information, including due dates, is available at this website. Students log on to the server to confirm their identity and create a password in order to be able to upload their answers. You do not need to be online to answer the questions, but you do need to be online to submit your answers.

Completing homework assignments thoroughly and on time is **very** important. 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 digital textbook

You may ask questions regarding homework assignments by emailing Professor Brooks using Blackboard mail or, preferably, by posting a discussion question in Blackboard.

Additional assignment information is available once class begins under the "Assignments" link on the course Blackboard website.

LABS

All labs are performed on-campus in a physics laboratory. Students will participate in at least 12 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

All tests will be given on-campus at the PRESTON RIDGE CAMPUS testing center in Founders Hall (room F209). Tests are not available at other campuses. See the 'Testing and Assignments" page for the testing schedule. Students must bring a SCANTRON form to the testing center as all tests are multiple choice.

Students may bring to each test a 5"x8" note card with notes and equations written on both sides. For the midterm students may bring one index card, for the final exam two index cards. Any type of paper can be used for making index cards, but oversized index cards will not be allowed in the testing center by the staff. So if in doubt, measure. The testing center staff will clear in and out any programmable calculators brought to the testing center. Students should make back up copies of any programs that will be deleted. Additionally, many programmable calculators will default to the RADIAN mode when cleared. Keep this in mind when doing trig calculations. Be sure to check the testing center hours before taking a test. For information on hours visit www.ccccd.edu/cs/currentstudents.html and select "Testing."

Tests for this course consist of approximately 40 multiple choice questions and problems that reflect concepts covered in the digital physics textbook. Several of the test questions come directly from the assigned homework problems. Some of the problems pose a conceptual question that requires a non-numeric (qualitative) answer. Other problems involve equations and mathematical calculations with a numeric (quantitative) answer. The best way to prepare for tests is to complete the homework assignments thoroughly.

Tests are not given back to students. Test scores will be posted online (via Blackboard) usually within 1 or 2 days after the test ends. Students who wish to review their test may schedule an appointment with Professor Brooks.

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 (Click "Student Resources" then "Learning Styles").

Upon completion of these Learning Style surveys, you may email me copies of your results, or drop them by my mail box in D-158 at PRC.

CLASS COMMUNICATIONS

Communication with your instructor and peers is vitally important in this class, especially in regards to completing assignments. All communication for this course will be handled through Blackboard via the communication tools available through this course website. You are expected to interact with this class site on a regular basis (that means at least once a week, if not more frequently). I will usually reply to emails or discussion questions the same or next day. See the **course orientation** for more information.

TECHNICAL SUPPORT

Technical support for Blackboard is available 24 hours a day, 7 days a week, 365 days a year. You may contact technical support toll-free by calling 1-866-350-5119. In addition, online support is available through the college Online Support Center. This course includes distance learning components which may contain links to Web sites operated and maintained by other public or private entities. While Collin College instructors provide link information to these sites, the College assumes no responsibility for the privacy practices or the content of such web sites. It is recommended that users consider the individual privacy policy statements of each web site they visit.

GRADES

Course averages will be calculated as follows:

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

Grades will be determined as follows:

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

ADA STATEMENT

It is the policy of Collin County Community College to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, State and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ACCESS office, SCC-G200 or 972.881.5898 (V/TTD: 972.881.5950) in a timely manner to arrange for appropriate accommodations.