EL CENTRO COLLEGE

Course Syllabus for College Physics I_PHYS 1402- Sec 56111
Summer 2013

Instructor: Sanan Abderrahman
E-mail: sabderrahman@dcccd.edu
Office: A-524; Phone: 214-860-2709
Division Office Phone: 214-860-2392
Class Meeting Time/Location: Lecture 8:00 am-10:00 am (A722); Lab 10:10 am-12:10pm (A731)
Office Hours: M, T, W, R, F: 12:10 am – 1:10 pm

Catalog Description
The second semester of an algebra and trigonometry–based physics sequence. Principles and applications of electricity, magnetism, optics and modern physics are studied. Laboratory experiments supporting the topics are included. (3 Lec., 3 Lab.)

Prerequisites
Physics 1401

Student Learning Outcomes
1. State the principles and laws of physics as they apply to electricity, magnetism, light, and nuclear physics.
2. Identify and use relevant equations applicable to electricity, magnetism, light, and nuclear physics.
3. To apply the concepts learned to solve theoretical problems and explain phenomena in the laboratory in the outside world.
4. To perform laboratory experiments that illustrate important concepts and to scientifically analyze the gathered.
5. To develop skills for analytical thinking that will be useful for problem-solving in other fields.
6. Participate in enrichment activities that lead to an appreciation of how physics has developed, how physics affects other fields, and the relevance of learning physics.

Textbooks
ISBN:978-0-470-22355-0

Core Curriculum Information
PHYS 1402 is included in the DCCCD Core Curriculum.

This course provides students with the opportunity to develop the Core Curriculum Intellectual Competencies
of reading, writing, listening, critical thinking and computer literacy. These are defined as follows:

1. **Reading:** Reading at the college level means the ability to analyze and interpret a variety of printed materials – books, articles, and documents. A Core Curriculum class should offer students the opportunity to master both general methods of analyzing printed materials and specific methods for analyzing the subject matter of individual disciplines.

2. **Writing:** Competency in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience. Although correct grammar, spelling, and punctuation are each indispensable elements in any composition, they do not automatically ensure that the composition itself makes sense or that the writer has much – if anything – to say that is worthwhile or relevant to the assignment. Students need to be familiar with the writing process including how to discover a topic, how to develop and organize it, and how to phrase it effectively for their audience.

3. **Speaking:** Competence in speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience. Developing this competency includes acquiring poise and developing control of the language through experience in making presentations to small groups, to large groups, and through the media.

4. **Listening:** Listening at the college level means the ability to analyse and interpret various forms of spoken communication.

5. **Critical Thinking:** Critical thinking embraces methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies.

6. **Computer Literacy:** Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information. Core-educated students should have an understanding of the limits, problems, and possibilities associated with the use of technology, and should have the tools necessary to evaluate and learn new technologies as they become available.

The course also provides students with the opportunity to achieve the following Core Area Exemplary Educational Objectives:

1. **To understand** and apply method and appropriate technology to the study of the natural sciences.
2. **To recognize** scientific and quantitative methods and the differences between these approaches and the other methods of inquiry and to communicate findings, analyses and interpretation both orally and in writing.
3. **To identify** and recognize the differences among competing scientific theories.
4. **To demonstrate** knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values and public policies.
5. **To demonstrate** knowledge of the interdependence of science and technology and their influence on and contribution to, modern culture.

**Course Outline**
The course is divided into five units. See the course calendar on page 4 for topics included in each unit. A detailed schedule containing the objectives, dates on which they will be covered, related reading, problems and assignments is distributed separately.
Evaluation

Tests: There will be a test after each unit. Tests will include multiple choice questions, short answers and problem solving. Students must follow the El Centro College code of student conduct at all times during the course and especially during testing. Dishonesty will not be tolerated. Each test is worth 100 points.

Final Exam: The final exam will be comprehensive and mandatory. 50% of the final exam will cover unit 5 and the other 50% will cover the first four units. If your final exam grade is lower than any test grade, it will count once. However, if your final exam grade is higher than any test grade, the lowest test grade will be dropped and the final exam grade will count twice. The final exam will be held on the scheduled date published by the college. The Final Exam is worth 100 points.

Lab experiments & Reports: There will be 300 points allotted to lab work. The experiments are chosen to correlate with the lecture material as much as possible and they are designed to illustrate concepts and confirm laws. Making accurate measurements and recording and analyzing data appropriately will be required for the lab report. Format for lab reports will be discussed in lab.

Quizzes: Five quizzes would hopefully keep all students in a continuous mode of preparation and is used as a tool/reminder for all students not to fall behind. Quizzes should test on the fundamentals of the recent topics being discussed in class. Each Quiz is worth 40 points.

The final grade will be calculated as follows:
- 4 tests + final = 500 points
- Labs = 300 points
- Quizzes = 200 points
- Total = 1000 points

Divide the total by 10 to obtain your final grade.
A = 90 to 100   B = 80 to 89   C = 70 to 79   D = 60 to 69   F = Below 60

Incomplete grades are given only when an unforeseen emergency prevents a student from completing the course work. Division Dean must approve all "I" grades.

Special Help
Please come and see me during my office hours if you need help during the semester. You can also schedule a meeting at other times. Tutoring is also available in the Learning Center A-350 during posted hours.
# COURSE CALENDAR

| UNIT 1 | Week 1     | Electric Force & Electric Field | Chapter 18 |
|        |            | Electric Potential              | Chapter 19  |
| UNIT 2 | Week 1 & Week 2 | Electric Circuits              | Chapter 20  |
|        |            | Electric Circuits              | Chapter 20  |
| UNIT 3 | Week 3     | Magnetic Forces & Fields       | Chapter 21  |
|        |            | Electromagnetic Induction      | Chapter 22  |
| UNIT 4 | Week 3 & Week 4 | Electromagnetic Waves    | Chapter 24  |
|        |            | Reflection & Refraction       | Chapter 25 & 26 |
| UNIT 5 | Week 4 & Week 5 | Reflection & Refraction       | Chapter 25 & 26 |
|        |            | Nuclear Physics & Energy       | Chapter 31 & 32 |
|        |            | Nuclear Physics & Energy       | Chapter 31 & 32 |
|        |            | Nuclear Energy                 | Chapter 31 & 32 |
|        |            | Review for Final               |              |
|        |            | Final Exam Week (in class)     |              |
Academic Honesty
Academic dishonesty (cheating) will not be tolerated in either lecture or laboratory sections of the course. If cheating is observed, points for that activity will be disallowed, and grades of zero given; for cheating, students may not be dropped. Academic dishonesty includes activities such as copying lab report answers from other students and collaboration with students who have completed Chapter Tests and Proctored Exams. It can be assumed that tests/exams showing the same or similarly missed questions as evidence of dishonesty. All tests involved can receive a score of zero. Also, students missing similar questions when taking the test at or near the same time will be more closely scrutinized. The instructor reserves the right to schedule separate testing times for students.

Withdrawal Policy
If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar’s Office before the last drop day. It is YOUR responsibility to withdraw from a course. Your instructor cannot initiate this procedure for you. Failure to drop by the deadline will result in your receiving your actual performance grade, usually a grade of “F”. If you drop a class before the official drop/withdrawal deadline, you will receive a “W” (Withdraw) in each class dropped. The last day to drop for this semester is Thursday, August 1, 2013.

Disability Accommodations
Any student who may need accommodation due to a disability should contact the Disability Services Office, Room A110 phone number (214) 860-2411.

Financial Aid Statement
Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment by the end of the semester. Students who fail to attend or participate after the drop date are also subject to this policy.

Stop Before You Drop
For students who enrolled in college-level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access:
https://www1.dcccd.edu/coursedrops

Religious Holidays Statement
A student who is absent from classes for the observance of a religious holiday shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time frame after the absence if – not later than the fifteenth day after the first day of the semester- the student notified the instructor of each class scheduled on the date that the student would be absent for a religious holiday. A “religious holiday” means a holiday observed by a religion whose places of worship are exempt from property taxation under Section 11.20, Tax Code. The notice shall be in writing and shall be delivered by the student personally to the instructor, with receipt acknowledged and dated by the instructor or by certified mail, return receipt requested, addressed to the instructor. A student who is excused under this section may not be penalized for the absence, but the instructor may appropriately respond if the student fails to satisfactorily complete the assignment or examination.