NorthWest Arkansas Community College

COURSE GUIDE FOR PHYSICS 2014

COLLEGE PHYSICS I

FALL 2004

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INTRODUCTION

The purpose of this course guide is to provide you with the information that you will need to successfully meet the requirements for College Physics I & II. It is designed to serve as your reference to course topics that have direct application to you.

GENERAL INFORMATION

Course Titles: College Physics I & II  
Course Numbers: PHYS 2014 & 2034  
Credit Hours: 4 each session  
Days & Time: Monday & Wednesday, 10:30 - 1:30 p.m.  
Prerequisites: MATH 1204, MATH 1213. PHYS 2014 is required for PHYS 2034

Course Description: A non-calculus survey of the basic principles of physics primarily focusing on Newtonian Mechanics, Heat, & Waves during the first session and moving into Electricity, Magnetism, & Geometric Optics during the second session. This course integrates lecture, classroom discussion, and a hands-on laboratory, in order to promote scientific awareness, while developing critical thinking and problem solving skills.

Text: Wilson & Buffa; COLLEGE PHYSICS; Fifth Edition.

Resources: In addition to the text, which can be purchased at the Woods Lane Facility & Bookstore, you will need the following supplies: 

(1) 3×5 in. index cards  
(2) Scientific Calculator

Course Goals

⇒ To understand how the scientific method can be used to increase our knowledge of how the physical world and universe work.  
⇒ To describe basic physical processes and relationships.  
⇒ To learn and develop problem solving strategies.  
⇒ To be able to communicate this information to others.

Conduct of the Courses: Your understanding of the material will be assessed by your performance on 3 unit exams. You will be assigned end of the chapter exercises to practice and demonstrate your mastery of the material. These are to be completed and ready to turn in on the designated due date. Selected problems will be graded from each set. Solutions to the other exercises will be available in a Library Folder for each of you to individually check the rest of your homework. No homework will be accepted for grading once the solutions are on file. This course also includes a laboratory portion that enables you to use self-discovery and the scientific method to increase your understanding of the physical world you live in. Three methods will be presented in this course. One will be as a hands-on activity, which guides you through an observation/discovery process. This allows you to draw conclusions based on experience in order to develop your understanding of a particular physical phenomenon. Another uses an experimental approach to test physical laws and theories through data collection and analysis. This allows you to develop your understanding by testing, analyzing, and verifying the validity of these theories. Finally, computer based problems sets will be also be included as part of your learning experience. This helps to develop your analytical and problem solving skills.
Course Requirements:
1. Attendance: You start out with **100 performance points**. Since so much material is covered in each class session, your daily attendance of each session is essential. If you miss a class, three points will be subtracted from your performance points. Both other students and I find excessive talking, whispering, laughing, and carrying on during my lecture to be very disruptive. I interpret such **conduct** as a demonstration that you are not really here to learn from me and will result in the loss of 1 attendance point per participant per occurrence at my discretion.

2. Chapter Homework: You will be assigned end of the chapter exercises to help you practice and master the material. **(210 points)** In general, five points will be given for the correct solution of one to three selected problems in the set. They will be due on the days designated on the schedule. ANY WORK THAT IS ILLEGIBLE OR NOT PRESENTED IN A CLEAR, UNDERSTANDABLE FORM WILL NOT BE GRADED.

3. Computer Homework: You will also be assigned computer problems related to the material we are covering in the regular text. More information about this will be provided. **110 points**

4. Labs: Several Labs are incorporated into each session for a total of **180 points** (15 each). These are designed to give you experience with the subject matter you are learning and work with your fellow classmates to collect and analyze data in order to increase your understanding of physics. ANY WORK THAT IS ILLEGIBLE WILL NOT BE GRADED. SLOPPY GRAPHS WILL NOT BE GRADED.

5. Unit Exams: Each unit exam is worth **100 points** and covers the topics presented in text, lecture, labs, and homework. For each exam, you will be allowed to develop a 3×5-inch index card as a formula/note sheet. Additionally, you will always be allowed to use the front and back inside covers of your book. Each card you develop can be used for each subsequent exam. In other words, for exam one you will have one card, for exam two you will have two cards, and so forth.

6. Final: An end of semester final, worth **100 points** will be given as scheduled by the college.

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<tr>
<th>Grading:</th>
<th>Contribution</th>
<th>Total Points Possible</th>
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<tbody>
<tr>
<td>Attendance</td>
<td>100</td>
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<tr>
<td>Chapter Homework</td>
<td>210</td>
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<td>Computer Homework</td>
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<td>Labs</td>
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<td>Unit Exams</td>
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<td>Final</td>
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<td><strong>Total:</strong></td>
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Provided the required criteria for receiving a passing grade are met, a letter grade will be assign on the basis of where your points accumulation falls within the following scale:

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<th>Grade</th>
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<tr>
<td>A</td>
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<tr>
<td>B</td>
<td>800 - 899</td>
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<td>C</td>
<td>700 - 799</td>
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<td>D</td>
<td>600 - 699</td>
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<td>F</td>
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**OTHER INFORMATION**

**Attendance:** As described in the Student Handbook pg. 40, “Students are expected to attend all classes.” In accordance with this policy, attendance is required and will contribute to 10% of your total grade.

**Conferences with Instructor:** I will be available on Tuesday and Thursday from 4:30 to 8:00 in the MAT computer lab. Any other conference time will be by arrangement.

**Academic Dishonesty:** According to the Student Handbook:

“Academic dishonesty involves acts which may subvert or compromise the integrity of the educational process at NWACC. Included is any act by which students gain or attempt to gain an academic advantage for themselves or another by misrepresenting their or another’s work or by interfering with the completion, submission, or evaluation of another’s work.”

Acts constituting academic dishonesty are listed in the Student Handbook, p. 174. Any student involved in an act of academic dishonesty is in violation of the Student Code of Conduct and may face sanctions as prescribed in the Student Handbook.

**Inclement Weather Policy:** It will be the general policy that if the school does not close, we will be meeting for class. The decision to close the school due to bad weather and/or emergency situations is made by the President of NWACC. Usually, this information is available by 6:00 a.m. for day activities and 3:00 p.m. for evening activities. Information regarding school closing can be obtained through the College Hotline, 619-4377, or through broadcast by KURM 790AM in Rogers.

**Caveat:** This syllabus represents my intent for the course at the time of planning. In the event that I find it necessary to make any changes, you will be notified.