Syllabus
Phys 201 [P]: Physics for Scientists and Engineers
Fall 2007

Instructor: Gayle Gossett
Meeting Times: Tu,Th 7:45-9:00
Office hours: Tu 9:00-10:00, F 8:00-9:00 or by appointment
Office: VCLS 50A
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Required Materials:

- Text: Physics for Scientists and Engineers: A Strategic Aproach, by Randall D. Knight and accompanying student workbook.
- Other materials: Scientific calculator. Lab manual (which will be available for purchase in the bookstore sometime during the first week of class).

Attendance/Participation: It is important for your success in this course to attend lectures regularly. Each day, attendance will be taken either via a sign in sheet that will be passed around or via collection of short assignments completed during class. It is up to you to make sure your attendance is counted each day.

Homework: Homework will be assigned each class period and will be due at the beginning of the next class period. It is recomended that you begin each homework assignment as soon as possible as they will not be accepted late and you will want to make sure you have ample time to understand the problems completely. All homework should be stapled and clearly labled with your name, date, class, and assignment number in the upper right hand corner. I will pick a few problems from each assignment at random to grade.

Labs: You must register for one of the three lab sections available for this course. Attendance in the laboratory is mandatory. Deficient performance (defined as less than 50%) in the laboratory will result in a failing grade for the course. Lab sessions begin the second week of class. You will be required to write a lab report for each lab performed and there will be a lab exam given during lab time in the last week of classes. You should plan on including at least one of your labs in your e-portfolio. More details on the laboratory portion of the course is available in the lab syllabus that accompanies the lab manual.

Midterm Exams: Two midterm exams will be given. The first one will cover chapters 1-6 and will be given during the 6^{th} week of class. The second midterm will cover chapters 7-11 and will be given during the 11^{th} week. The exams will each be 60 minutes in length and cannot be made up.

Final Exam: The final exam will be given on Tuesday of finals week from 8:00-10:00am in our regular classroom. The exam will be over all material covered in the course with more emphasis on chapters 13, 14, 15, 20, and 21 which will be covered during the last 5 weeks of the term. The final exam cannot be rescheduled or made-up.

Grading: The final grade is compiled and weighted as follows:

Attendance and Participation	5%
Homework	10%
Lab	25%
Midterm Exams	30% (15% each)
Final Exam	30%

Final grades will be given as indicated for final percentages in the following ranges(including plus and minus grades):

A	90%-100%
B	80%-90%
C	70%-80%
D	60%-70%
F	<60%

Academic Integrity: Academic dishonesty, including all forms of cheating, plagiarism, and fabrication, is prohibited. The instructor reserves the right to take appropriate action. Consult the WSU Student Handbook for further details.

Disability Accommodation: Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. Late notification may mean that requested accommodations might not be available. All accommodations must be approved through the Assistant Director for Student Development (VSSC 20C, 360-546-9155)

GER: This course carries GER credit. This course will primarily focus on the learning goal of quantitative and symbolic reasoning. After completion of this course students will be more proficient at analyzing and communicating appropriately with mathematical and symbolic concepts. They will demonstrate quantitative and symbolic reasoning by their ability to:

- Estimate and check answers to mathematical problems to determine reasonableness, identify alternatives, and select optimal results.
- Use available technology and tools to apply quantitative and symbolic methods to solve problems.
- Draw conclusions from computational and symbolic representations in order to check the logic and validity of statements and models.

Students will interact with the campus theme "Global Change in a Local Context" by exploring the fundamental nature of physical interactions and the changes that occur through these interactions. We will explore the physics of everyday objects that we are used to interacting with when we explore kinematics, Newton's laws of motion, energy and work. We will also explore physics on a much larger scale when we learn about gravitation. We will discuss how phenomena that occur on a very small(atomic) scale affect things on a much larger scale. Students will gain an understanding for the basic physical principles that govern the connections

between the large and the small, the global and the local. Connections will be made in this course to the prerequisite calculus course as we will use those mathematics skills profusely.

The following is a tentative schedule of the topics we will cover:

Week 1: Ch 1-Concepts of Motion and Ch 2-Kinematics

Week 2: Ch 2-Kinematics, Ch 3-Vectors

Week 3: Ch 4-Forces, Ch 5-Dynamics I-1D Motion

Week 4: Ch 5-Dynamics I-1D Motion, Ch 6-Dynamics II-2D Planar Motion

Week 5: Ch 6- Dynamics II-2D Planar Motion, Ch 7-Dynamics III-Circular Motion

Week 6: Midterm Exam I, Ch 7- Dynamics III-Circular Motion

Week 7: Ch 8-Newton's Third Law

Week 8: Ch 9-Impulse and Momentum

Week 9: Ch 10-Energy

Week 10: Ch 11-Work

Week 11: Midterm Exam II, Ch 13-Rotational Motion

Week 12: Ch 14-Oscillations

Week 13: Ch 15-Fluids and Elasticity

November 19-23 Thanksgiving Vacation

Week 14: Ch 20-Travelling Waves

Week 15: Ch 21-Superposition

Week 16: Final Exam Tuesday 8:00-10:00am

Rationale Statement
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Learning Outcomes: This course will primarily focus on the learning goal of quantitative and symbolic reasoning. After completion of this course students will be more proficient at analyzing and communicating appropriately with mathematical and symbolic concepts. They will demonstrate quantitative and symbolic reasoning by their ability to:

- Estimate and check answers to mathematical problems to determine reasonableness, identify alternatives, and select optimal results. This will be practiced when students work homework problems related to lecture material and when completing lab write-ups. Students will constantly need to be understanding and interpreting results of mathematical calculations in a physical context. Student achievement of this learning goal will be assesed through midterm and final exams.
- Use available technology and tools to apply quantitative and symbolic methods to solve problems. Students will be using a computer program during lab sessions to collect and analyze data. Lab reports will be graded on, among other things, succesful achievement of this learning goal.
- Draw conclusions from computational and symbolic representations in order to check the logic and validity of statements and models. Through homework assignments and lab write-ups, students will practice this learning goal. Students will be expected to write a summary at the end of each lab report stating and interpreting results of experiments and corresponding calculations. Students are expected to recognize if lab results are valid or not and where errors may have occurred.

Campus theme: Students will interact with the campus theme "Global Change in a Local Context" by exploring the fundamental nature of physical interactions and the changes that occur through these interactions. We will explore the physics of everyday objects that we are used to interacting with when we explore kinematics, Newton's laws of motion, energy and work. We will also explore physics on a much larger scale when we learn about gravitation. We will discuss how phenomena that occur on a very small(atomic) scale affect things on a much larger scale. Students will gain an understanding for the basic physical principles that govern the connections between the large and the small, the global and the local.

Linking: Connections will be made in this course to the prerequisite calculus course as we will use those mathematics skills profusely.

Writing and E-portfolio: Students will write up lab reports for each weekly lab performed. The lab grade counts for 25% of the course grade and 80% of the lab grade is based on the lab reports. Students are required to include at least one lab report in their e-portfolios.