PHYSICS 203 COLLEGE PHYSICS I (GEP: NSC GDR: NS)

Fall 2017
 Prerequisite: ONE YR HS ALGEBRA & ONE YR HS GEOM, OR EQUIV

**Lecture: A121 SCI, Mon., Wed., Fri., 11:00-11:50**

**Lab: B104 SCI, (Day of week and time of day depends on section)**

**Discussion: A106 SCI, (Day of week and time of day depends on section)**

 **Instructor**: Dr. Chris Verzani

 **Laboratory** **Instructor**: Dr. Chris Verzani (sect. 1)

 Art Stevenson (sect. 2 and 3)

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  **Phone**: 715-346-4764

 **Office**: SCI B103

 **Office Hours**: Mon 15:00-15:50, Tues. 16:00-16:50, Wed. 10:00-10:50

 Fri. 9:00-9:50, other times by appointment

 **Text**: Physics, Walker, 5th edition

**Goals**

This semester you will be presented with a variety of physics topics including; motion in one and two dimensions, vector formalism, laws of motion, work and energy, momentum and collisions, rotational motion and equilibrium. Other selected topics may include; fluid statics and dynamics, heat transfer, thermodynamics and waves and sound. Ideas will be presented both mathematically and conceptually in lecture and the laboratory. During the semester there will be three main goals:

1. Make a connection between the conceptual, mathematical, and laboratory (or “hands-on”) aspects of physics.
2. Be able to accurately explain physics to others.
3. Understand how physics applies to the world around us, i.e. applications.

Attendance: Although attendance is not recorded for the lectures, it is highly recommended that you attend. Regular attendance will help you learn the material and, thus, lead to better performance on homework, laboratory exercises and exams. **Laboratory attendance** **is** required to receive a laboratory grade.

**Grading**

Your grade will be composed from your work in the following three areas.

1. Laboratory
2. Homework
3. Examinations

**Laboratory**

The laboratory is mandatory. There is no laboratory manual. Each week, a new lab will also be posted on D2L, and it is recommended that you read over the lab prior to coming to the laboratory. Laboratory handouts can be printed at the beginning of each laboratory session. Each lab will be graded out of 25 points. Over the entire semester, it is planned to have 10 laboratory session. Your total laboratory score is worth 25% of your total grade in the course.

**Homework**

Homework assignments will be assigned throughout the semester. Homework due dates will be posted on D2L, and also announced in class. Homework is to be turned in (written or typed), at the beginning of the class period, on the date that it is due

Keeping a copy of your homework will be helpful when studying for exams (you may see the same problems again!)

 Late homework will be considered for grading, on a case by case basis, but may incur a penalty for being late. Late homework will not be accepted after that assignment has been graded and turned back for the class.

 Discussing strategies for homework problems with your classmates should strengthen your understanding of the material and is encouraged. However, you should only turn in work that is your own, representing your own understanding of the material. In order to receive full credit for a homework problem, you should show all your work, including explanations for your approach when appropriate.

 Randomly selected problems will be graded (not all problems will count towards your homework score). Some homework assignments will have more problems graded than others. Usually a graded problem is worth 5 points. At the end of the semester, your homework is calculated on a percent basis. So if the total number of homework points is 140, and you’ve earned 138, you have a 98.6% for your homework. You homework counts as 15% of your total grade in the course.

**Examinations**

Four examinations will be given during the semester. Three 50 minute, in-class (A121) exams will be given. The fourth (final) exam will be given during the final examination period (Dec 21st, 2:45 pm – 4:45 pm, RM A121). The final exam will not be a cumulative exam, and is weighted equally with the first three exams. Every exam, including the final exam, will be graded out of 100 points. Every exam, including the final, is worth 15% of your total grade in the course.

 You will be allowed to create your own reference sheets, which you can use during the exams. It’s up to you what to include on your reference sheet (More information about reference sheets will be provided as the date of the first exam approaches. Exams reviews will be posted on D2L, which will clearly indicate what format the exams will be, and what topics you should focus on.

 Missing an exam will earn a grade of 0 (zero). In extraordinary circumstances, a make-up exam may be granted (at the discretion of the instructor). Make-up exams are oral exams, and are structured differently than in-class exams. Examinations are not group projects. Plagiarism and cheating are serious offenses and may be punished by failure on the exam; failure in the course; and/or expulsion from the university.  For more information refer to <http://library.uwsp.edu/vrd/plagiarism.htm>

**Discussion Handouts**

Discussion sections are held each week. During most discussion sessions this semester you will be given handouts. Discussion handouts have problems to solve, which are designed to strengthen your understanding of the subject matter. You are strongly encouraged to break into small groups (max. group size = 4 students), and work out the exercises with your group-mates. Discussion handouts are not graded, but you are highly encouraged to complete these, as you will see problems like these on exams.

Grades:

|  |
| --- |
| Percentage of total grade |
| Exams 1, 2 and 3 | 3\*15% = 45%  |
| Final Exam | 15% |
| Homework | 15% |
| Laboratory | 25% |
| TOTAL | 100%  |

Final grades will be determined from your overall percentage as follows:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | F |
| 93.%-100% | 90.%-92.9% | 87%-89.9% | 83.%-86.9% | 80%-82.9% | 77%-79.9% | 73%-76.9% | 70%-72.9% | 69.9%- 66.% | 60.%-65.9% | Below 60% |

D2L: A great deal of information about this class will be posted on D2L. Some of these items are:

 Scores from handouts, homework, exams, and labs, and your final grade.

 Announcements: Such as deviations from the course calendar, quiz times, class cancellations, etc.

 Solutions to some handouts, homework, exams

 Some lecture notes, … etc.

Email: Occasionally, announcements and information will be emailed to you in addition to being posted on D2L.

Individual Help and Tutoring:  Any student who wishes individual help is encouraged to see me during my office hours, or other times by appointment.

The Department of Physics and Astronomy has several student tutors available to help students taking introductory physics courses. You can stop by SCI A105 if you need some extra help. The tutoring schedule can be viewed on the web at http://www.uwsp.edu/physastr/tutor\_schedule.htm. The tutoring is free of charge.

In addition, free tutoring is available through the TLC (more information to come!).

Note:  **If you have any condition such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it or which will require academic accommodations, please notify me and contact the** [**Office of Disability Services**](http://www.uwsp.edu/special/disability/) **during the first two weeks of the semester in order to request accommodation.  A** [**Reasonable Accommodation Request-Report Form**](http://www.uwsp.edu/centers/rights/reasonable%20accommodation%20form.pdf) **is available online.**

Tentative Course Schedule: College Physics 203, Fall 2017

Exam 1: Units, Vectors, One dimensional motion, Two dimensional motion,

Exam 2: Newton’s Laws, Friction, Springs and Strings, Circular Motion

Exam 3: Work, Energy, Power, Momentum

Exam 4: Rotational Motion, Angular Momentum, Static Equilibrium, Waves & Sound,.

Course Schedule:

This is a rough outline of the material being covered. More detailed reading and homework assignments will be handed out in class.

**Tentative Schedule**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Date** | **Topic** | **Lab** |
| 1 | 9/04 | Unit Conversion | No Lab / No discussion sessions |
| 2 | 9/11 | One dimensional motion | Lab #1 |
| 3 | 9/18 | Vector math | Lab #2 |
| 4 | 9/25 | Two dimensional motion | **Exam #1 (09/29)**  |
| 5 | 10/02 | Forces/ Newton’s Laws | Lab #3 |
| 6 | 10/09 | More one Forces/Friction | Lab #4 |
| 7 | 10/16 | Work/Energy/Power | Lab #5 |
| 8 | 10/23 | Conservation of Energy | **Exam #2 (10/27)** |
| 9 | 10/30 | Momentum | Lab #6 |
| 10 | 11/06 | Rotational Motion  | Lab #7 |
| 11 | 11/13 | Torque | Lab #8 |
| 12 | 11/20 | Angular Momentum | No Lab |
| 13 | 11/27 | Ang. Mom. Cont. | **Exam #3 (12/01)** |
| 14 | 12/04 | Waves and Sound | Lab #9 |
| 15 | 12/11 | Waves and Sound | Lab #10 |
| 15 | 12/18 | Final Exam Monday | **Dec 21st, 2:45 pm – 4:45 pm, RM A121** |