

## Portland State University - Department of Physics

### Physics 201 General Physics Part I: Mechanics

**SYLLABUS Fall 2007 / / UPDATED 09/27/2007**

**Instructor:** Bjoern Seipel

**Contact:** Email : [bseipel@pdx.edu](mailto:bseipel@pdx.edu) (prefered way of contact)

Phone : 503-725-4226

**Office hours:** **Wednesday from 11.30-13.30 at SB2 314**

**Text book:** **Giambattista Richardson Richardson - College Physics 2nd edition & ARIS (online course management system)**

**Full Text (for PH 201,202,203) ISBN 0073222747**

**or Volume I ISBN 0073256412 (for PH201 only) & ARIS**

**Volume II ISBN 0073256420 (both volumes needed for PH202 and PH203) & ARIS**

**To get access to ARIS use this link <http://www.mhhe.com/grr/> and go to the "super site"**

**and register**

If you do not have a textbook you can buy a code online

To enroll in General Physics 201 use **Student Section Code: 4DF-3B-AC7 (YOU**

**SHOULD, but don't have to enroll)**

**Web:** <http://www.physics.pdx.edu/~bseipel/>

**Class:** **Tuesday and Thursday, 4.40pm-6.30pm in SB1 #107**

The course covers the basic concepts of mechanics. **We will cover most of the first 11 chapters of the textbook**

#### Lecture Notes

---

#### **Lecture 1&2:**

Introduction

Vectors & Forces - CH2

#### **Lecture 3&4:**

Kinematics 1D - CH3

#### **Lecture 5&6:**

Newton's Laws and Kinematics in 2D - CH4

-----

-----

**Lecture 7,8&9** Work and Energy Energy Conservation CH 6

**Lecture 10,11&12** Momentum & Center of Mass CH7

practice EXAM

-----

#### **Lecture 12-15**

Circular Motion , Moment of inertia & rolling(CH5)

Torque and angular Monentum (CH8)

#### Homework

---

The homework is meant to **help the students**

apply the concepts from the lecture and to review the covered theory. Homework problems will be assigned

but will not be graded. The homework should help the students to **prepare for the exams**. Some of the homework problems might also appear in a slightly changed form in the exams. **The solutions will be on hold in PSU's library.**

**All Conceptual Questions and Multiple Choice** questions at the end of each chapter.

**Suggested Problems (Solutions to the problems are on hold in the library):**

**Ch-1:** 1, 2, 5, 6, 7, 9, 11, 13, 14, 15, 17, 20, 22, 25, 27, 29, 33, 36,37, 38, 39, 47, 49, 50, 64, 65, 68, 70, 73, 74, 77

**Ch-2:** 1, 2 , 4, 5, 7-12, 13, 14, 16,17, 19, 20, 21, 23, 24, 25, 26, 27, 29, 31, 33, 34, 35, 36, 41, 42, 44, 45, 49, 51, 56, 58, 61, 63, 65, 67, 69, 72, 73, 74, 82, 86, 87, 92, 94, 96, 99, 98, 101, 106, 108, 109

**Ch-3:** 3, 5, 9, 12, 13, 16, 19, 22, 26, 30, 37, 41, 47, 49, 52, 53, 57, 58, 61, 65, 66, 69, 74, 77, 79, 81, 84, 85, 89, 91, 93, 96,98

**Ch-4:** 1, 4-6, 9, 11, 13, 16, 19, 21, 23, 25, 26, 28, 30, 33, 37, 38, 40, 41, 44, 45, 49, 53, 56, 58, 62, 64, 67, 69, 71, 73, 77, 81, 85, 86, 89, 90

**Ch-5:** 2, 5, 7, 11, 13, 16, 18, 21, 24, 25, 27, 32, 36, 37, 39, 41, 43, 48, 49, 53, 54, 55, 57, 60, 61, 65, 69, 71, 73, 77, 81, 83, 85,

**Review CH 1-5:** 5, 9, 11, 12, 13, 17, 21, 25, 29

**Ch-6:** 1,2, 8, 10,11,15, 18, 21,23,24, 26, 32, 33, 36,44, 47, 49, 53, 57, 60, 61, 67, 71, 75, 85, 87, 94

**Ch-7:** 1, 4, 7, 9, 13, 16, 19, 21, 25, 26, 27, 32, 33, 35, 42, 43, 45,46, 49, 53, 54, 58, 59, 60, 61, 65, 72, 77, 81, 83, 88, 89

**Ch-8:** 2,4,9,11,13,14,17, 23, 25, 28, 30, 31, 33, 36, 39, 40, 42, 43, 45, 48, 49, 51, 55, 56, 60, 61, 64, 73, 74, 75, 77, 78,79, 85, 87, 94, 95, 97, 104, 110, 112

**Ch-9:**

**Ch-10:**

## Quizzes

Besides the homework additional online-quizzes (ARIS) will be given occasionally. These quizzes can consist of both conceptual questions and problems and will be graded online. The quizzes count 30% to your final grade.

## Exams

The course grade is based on the quizzes (30%) three exams (70%). **The best exam of each student is worth 50%, and the two other are worth 30% (2<sup>nd</sup> best) and 20% of the total grade.** The exams can have both conceptual questions and problems. The exams are **non-comprehensive**, but exam 2 and 3 **may include** general concepts already covered in previous exam.

---

Exam1	Tuesday, October 16	<b>4.40pm-6.30pm</b>
Exam2	Thursday, November 8	<b>4.40pm-6.30pm</b>
Exam3	Tuesday, December 4	<b>5.30pm-7.20pm</b>

Allowed is

**One piece of paper** is allowed with anything **YOU** want to write on it. **Handwritten** on both sides. Format: Letter 8.5 x 11

**Calculator is required!!**

Make-up exams will be only given in case of emergencies or illness (with proof) at the

end of the term.

---

### **Grading Scale**

---

**>=90% A, 80%-89% B, 70%-79% C, 60%-69% D, < 59% F**

Lowest in the range will be a MINUS, highest will be a PLUS

(E.g. 90% = A- and 89% = B+)

You can calculate your final score

Option 1: with Quizzes

Final Score =  $(e1 * 0.5 + e2 * 0.3 + e3 * 0.2) * 0.7 + Q * 0.3$

e1,e2,e3 = your exam scores in %; Q = Quiz Factor

The Q - factor will be calculated as follows:

Total quiz score =

80% --> Q = 100

70% --> Q=90

60% --> Q=80

50% --> Q=70

Option 2: Without quizzes or quiz score < 50%

Final Score =  $e1 * 0.5 + e2 * 0.3 + e3 * 0.2$

### **Tutoring**

---

The Skills Enhancement and Tutoring Center (SETC) provides FREE drop in tutoring in Biology, Chemistry, Chinese, French, German, Spanish, Arabic, Russian, Psychology, Physics, Statistics, and Writing. It is a FREE resource available for PSU students sponsored by Student Services Resource Fees and Student Affairs. The SETC has trained undergraduate and graduate tutors and has flexible drop in tutoring hours. The SETC is located in Smith Memorial Student Union (SMSU) in room 425. More information can be found at [www.setc.pdx.edu](http://www.setc.pdx.edu).