



**School of Arts & Science
PHYSICS DEPARTMENT**

**PHYS 200-001
Mechanics 2
2006F**

COURSE OUTLINE

The Approved Course Description is available on the web @ _____

Ω Please note: this outline will be electronically stored for five (5) years only.
It is strongly recommended students keep this outline for your records.

1. Instructor Information

(a)	Instructor:	Ed Nelson		
(b)	Office Hours:	MTWTh 10:30 – 11:20 (F at Interurban)		
(c)	Location:	F314D		
(d)	Phone:	370-3515	Alternative Phone:	
(e)	Email:	nelson@camosun.bc.ca		
(f)	Website:			

2. Intended Learning Outcomes

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Upon completion of this course the student will be able to:

1. Define the concept of moment of inertia and solve technical problems related to the rotational dynamics of rigid bodies (parallel and perpendicular axis theorems, moment of inertia of symmetric objects).
2. State the law of Universal Gravitation and describe the interior and exterior shell theorems. Solve technical problems related to gravitational attraction between extended objects and a point mass. State and apply Kepler's Laws of Planetary motion to simple problems of celestial mechanics.
3. State and describe the principles of special relativity and use spacetime diagrams to solve simple problems involving time dilation, length contraction, and the addition of velocities.
4. State the ideal gas equation of state and underlying assumptions, and define molecular flux. Solve technical problems associated with the ideal gas.
5. State the equation and conditions for simple harmonic motion, and solve technical problems related to small-amplitude oscillations of mechanical systems, including free, damped and forced oscillations.
6. State Archimede's Principle, Pascal's Principle, Bernoulli's Principle and the equation of continuity, and solve technical problems related to hydrostatic fluids and fluid flow.
7. Solve problems involving the superposition, interference, transmission and reflection of mechanical traveling waves, including the Döppler effect for moving sources and receivers.

3. Required Materials

(a)	Texts	Physics for Scientists and Engineers, Serway & Jewett, 6 th ed.
(b)	Other	PHYS 200 Lab manual

4. Course Content and Schedule

(Can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

LEC MTh 9:30 – 10:20 W 8:30 – 9:20 LAB W 9:30 – 10:20

5. Basis of Student Assessment (Weighting)

(Should be linked directly to learning outcomes.)

(a)	Final Exam	50%
(b)	Midterms	25%
(c)	Lab Reports	15%
(d)	Special Proj.	5%
(e)	Quizzes	5%

6. Grading System

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
95-100	A+		9
90-94	A		8
85-89	A-		7
80-84	B+		6
75-79	B		5
70-74	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at camosun.ca or information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.

IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at **camosun.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section.

Camosun College

Physics Department

PHYS 200 Mechanics 2

Instructor: Ed Nelson

Office: Fisher 314D

Phone: (370) 3515

email: nelson@camosun.bc.ca

Office Hours: 10:30 – 11:30 Monday through Friday.

Consultation at more convenient times is always possible; if my office door is open, just come in. Send an email or leave a voicemail message to schedule other times.

Required Materials for this course:

1. Course Textbook: *Physics for Scientists and Engineers*, 6th Edition, Raymond A. Serway and John W. Jewett [Note: any good 1st year Physics textbook, such as Serway and Beichner, Halliday, Resnick & Crane, Tipler, Ohanian, etc. will provide the same background material]
2. PHYS 200 Course Outline and Timeline (provided) and information page
3. PHYS 200 Laboratory Manual (supplementary lab materials will be provided)
4. Laboratory Report Book/ Scientific Calculator/ Graph Paper/ Ruler

Evaluation:

- | | | |
|-----------------------|-------------|--------------------------------------|
| 1. FINAL EXAM | 50% | |
| 2. Midterm exams (2) | 25% | (at equal intervals in the semester) |
| 3. Laboratory reports | 15% | |
| 4. Special Project | 5% | |
| 5. Weekly Quizzes | 5% | |
| | <u>100%</u> | |

NOTE #1: A passing mark in the laboratory reports is required to obtain credit in PHYS 200

NOTE#2: To go on in other Physics/Engineering courses, an overall grade of C or better must be achieved.

Letter Grade Scale:

A+	A	A-	B+	B	B-	C+	C	D	F
95-100%	90-95%	85-90%	80-85%	75-80%	70-75%	65-70%	60-65%	50-60%	<50%

FAQ about Physics Courses

Is “this” going to be on the exam? I cannot tell you in advance what is going to be on any exam or quiz (but I will say that most of what you will encounter on exams will look a lot like assigned problems). *Everything in the course is testable material.*

What is going to be on the exam? I cannot tell you specifically what will be on any exam or quiz. The final exam and midterm exams will consist of three parts: word problems (answer in your own words), concept problems (a formula sheet/programmable calculator won't help you), and calculation problems. The midterm exams will test you on material covered since the previous exam. The final exam is cumulative.

Do we have to know this? Since you are responsible for learning all the material presented in this course, the answer is “yes”.

How do I pass Physics 200? Your main objective should be to write an excellent final exam. Ask questions in class about anything that is not clear. Do at least 10 problems every week. Participate in class activities (they are designed to help you learn the material). Talk to your instructor about what works or doesn't work for you.

Is there a formula sheet? A formula page will be provided; however most students should have a graphing calculator which can store numerous formulae.

This is not a course in memorization, so I do not expect you to remember a lot of algebraic results for specific problems. What you are expected to come away

