



**School of Arts & Science
PHYSICS DEPARTMENT**
PHYS 114-section
Fundamentals of Physics 1
Semester/Year, eg, 2007F or 2007Q1

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:	Bob Sedlock		
(b)	Office Hours:	M, Tu, Th, F 9:30-10:30, W 1:30-2:30		
(c)	Location:	F340C		
(d)	Phone:	370-3510	Alternative Phone:	
(e)	Email:	sedlock@camosun.bc.ca		
(f)	Website:	none		

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 and describe the following properties of waves: period, frequency, wave speed, and amplitude. State the principal of superposition and understand the properties of waves undergoing constructive and destructive interference.
2. State the conditions for standing waves and identify nodes and anti-nodes. Solve problems of vibrating strings and air columns, including fundamental nodes and harmonics.
3. Solve technical problems involving the behavior of light at an interface between media (laws of reflection, refraction, dispersion).
4. Solve technical problems involving geometric optics (lenses, mirrors, simple optic devices).
5. Solve technical problems associated with the effects of light interference, including Young's double-slit, diffraction gratings, spectral analysis and thin films.
6. Demonstrate proficiency in solving vector algebra problems, including coordinate system conversions, use of unit vectors, vector addition, dot product, and cross product.
7. Solve technical problems involving particle kinematics and dynamics with non-constant force using calculus in two and three dimensions.
8. Provide descriptions of early atomic models and/or the twentieth century experiments that lead to the modern quantum theory of the atom.
9. Solve technical problems involving photoelectric effect, atomic spectra, and energy levels in atoms.
10. Solve technical problems involving properties of the nucleus, radioactivity and nuclear energy.

11. Assemble experimental apparatus using written instructions.
12. Observe, record, organize and display data in tables, graphs or charts.
13. Analyze linear graphs (determine area, slope, intercept, etc.).
14. Observe and record sources of error and estimate the range of uncertainty in results.
15. Interpret meaning of experimental results in the context of the experimental objectives.
16. Write scientific reports in an acceptable, traditional format.

3. Required Materials

- (a) Texts: Serway. Physics 7th Ed
- (b) Other: P114/115 lab manual

4. Course Content and Schedule:

3 in-class quizzes and weekly labs

5. Basis of Student Assessment (Weighting)

(Should be linked directly to learning outcomes.)

- (a) Assignments 5%
- (b) Quizzes: 30%
- (c) Exams Final 50%
- (d) Other (e.g., Attendance, Project, Group Work) Labs 15%

6. Grading System

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Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	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 E-1.5 at camosun.ca for 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i>
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.

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.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED