CAMOSUN COLLEGE	**School of Arts & Science** **PHYSICS DEPARTMENT** **PHYS 115** **Fundamentals of Physics 2** **Quarter or Semester/Year**

COURSE OUTLINE

The course description is online @ http://camosun.ca/learn/calendar/current/web/phys.html

Ω *Please note: the College electronically stores this outline for five (5) years only.*
*It is **strongly recommended** you keep a copy of this outline with your academic records.*
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

(a)	Instructor:	Bob Sedlock		
(b)	Office Hours:	TBA. Usually at the end of each class/lab.		
(c)	Location:	LANS		
(d)	Phone:	250-370-3510	Alternative Phone:	250-656-1773
(e)	Email:	sedlock@camosun.ca		
(f)	Website:	none		

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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

1. Solve technical problems for systems undergoing Simple Harmonic Motion.
2. 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.
3. 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.
4. Solve technical problems involving thermometry, thermal expansion, specific heat and calorimetry, equivalence of work and heat, First Law of Thermodynamics, Heat Engines and the Second Law of Thermodynamics, entropy.
5. Solve technical problems involving the behavior of light at an interface between media (laws of reflection, refraction, dispersion).
6. Solve technical problems involving geometric optics (lenses, mirrors, simple optic devices).
7. Solve technical problems associated with the effects of light interference, including Young's double-slit, diffraction gratings, spectral analysis and thin films.
8. Solve technical problems involving forces between electric charges, electric field due to point charges and one-dimensional charge distributions, motion of charged particles in electric fields, the electric potential and electric potential energy.
9. Solve technical problems for multi-branch direct current circuits, including current, resistance, equivalent resistance, power, and Kirchhoff's Rules.
10. Solve technical problems involving magnetic fields and forces, motion of charged particles in magnetic fields, magnetic forces on current-carrying wires and loops, and the Hall effect.
11. Provide descriptions of early atomic models and/or the twentieth century experiments that lead to the modern quantum theory of the atom.
12. Solve technical problems involving photoelectric effect, atomic spectra, and energy levels in atoms.
13. Solve technical problems involving properties of the nucleus, radioactivity and nuclear energy.
14. Assemble experimental apparatus using written instructions.
15. Observe, record, organize and display data in tables, graphs or charts.

16. Analyze linear graphs (determine area, slope, intercept, etc.).
17. Observe and record sources of error and estimate the range of uncertainty in results.
18. Interpret meaning of experimental results in the context of the experimental objectives.
19. Write scientific reports in correct format.

3. Required Materials

(a) Texts: Serway, 8th

(b) Other; Department lab manual

4. Course Content and Schedule

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

5. Basis of Student Assessment (Weighting)

(This section should be directly linked to the Intended Learning Outcomes.)

(a) Assignments 5%

(b) Quizzes 30%

(c) Exams 50%

(d) Other: Labs and reports 15%

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

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	*Incomplete*: 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	*In progress*: 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. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*

CW	*Compulsory Withdrawal:* 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 the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED