



School of Arts & Science
PHYSICS DEPARTMENT
PHYS 295-X01
Physics (Engineering Bridge)
2008Q3

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:	Nilgun Kulan		
(b)	Office Hours:	Monday through Friday 1:30 pm – 2:30 pm		
(c)	Location:	Tech-220		
(d)	Phone:	4437	Alternative Phone:	
(e)	Email:	kulann@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. Describe the operation of several temperature sensors including the function and temperature calculations for a constant volume gas thermometer.
2. Solve problems involving thermal expansion in one and three dimensions. and derive from first principles the expressions required to solve these problems.
3. Solve problems involving the transfer of thermal energy with regard to specific heat capacity, latent heat and change of phase.
4. Solve problems involving the displacement wave function for transverse and longitudinal waves in elastic media with attention to wave number angular frequency, phase constant, and wave and particle velocities.
5. Derive the pressure wave function for sound waves and solve related problems.
6. Derive from first principles, the wave equation, the solution, and the expression for the wave velocity.
7. Derive the expressions for the interference of two or more waves including the phenomena of beats and standing waves.
8. Derive the expressions for, and solve problem involving the Doppler Effect.
9. Derive the expressions for, and solve problems involving physical optics phenomena including: double and multiple slit interference, thin films, diffraction and resolution of images.
10. Solve problems in geometrical optics including lenses, mirrors, prisms, and total internal reflection.
11. Use Coulomb's Law to solve problems in electrostatics for two or more charges.
12. Solve problems involving electric fields, electric potential, and potential difference for discrete charges and continuous charge distributions.

13. Analyze series and parallel electric circuits.
14. Solve problems involving magnetic flux density and magnetic forces on charges including forces on current carrying wires and torques on current loops.
15. Assemble experimental apparatus using written instructions.
16. Observe, record, organize and display data in tables, graphs or charts.
17. Analyze linear graphs (determine area, slope, intercept, etc.).
18. Observe and record sources of error and estimate the range of uncertainty in results.
19. Interpret meaning of experimental results in the context of the experimental objectives.
20. Write scientific reports in an acceptable, traditional format.

3. Required Materials

(a)	Texts	"Physics for Scientists & Engineers with Modern Physics" 6 th edition Serway, R.A. and Jewett, J. W. Jr.
(b)	Other	Physics 295 – 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.)

4 hrs of classes and 2 hrs of Lab per week.

5. Basis of Student Assessment (Weighting)

(Should be linked directly to learning outcomes.)

(a)	Assignments	
(b)	Quizzes	
(c)	Exams	Mid-term – 25% and Final – 65%
(d)	Other (eg, Attendance, Project, Group Work)	Lab reports – 10%

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
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	1

		cannot be used as a prerequisite.	
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. (For these courses a final grade will be assigned to either the 3 ^d course attempt or at the point of course completion.)
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