CAMOSUN COLLEGE
School of Arts & Science
Department of Physics & Astronomy

PHYS-104-002
General College Physics 1
Fall 2019

COURSE OUTLINE

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

Ω *Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

1. Instructor Information

(a) Instructor	Elizabeth ploughman		
(b) Office hours	Mon, tues, thurs 1:30-2:20 wed 9:30 Tues 4:30 fri- no office hr		
(c) Location	F314B		
(d) Phone	250 370-3517 leave a message with a call back number!	**Alternative:no alternate phone**	
(e) E-ploughe@camosun.bc.ca	ploughe@camosun.bc.ca note: during the term your emails will be read but the large number of emails make individual replies to technical questions about homework etc. impossible. Such questions will be responded to in class as I will include their answers in the next lecture. So DO email to send information (such as you have to miss class due to illness) to me or to ask questions about homework. If you must have a reply that can not wait until class or office hours (due to some sort of emergency) then use the phone, my priority is to answer phone messages first as students only phone me, now that is the 21st century,if they are truly in need of assistance. When there is a phone message a red light (not seen often lately) begins to flash in my office.		
(f) Website			

2. Intended Learning Outcomes

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

1. Solve technical problems involving one-dimensional kinematics for a single particle undergoing constant acceleration along horizontal and inclined surfaces, and in free fall.
2. Solve technical problems involving the dynamics of a single particle in one dimension, the vector nature of forces, the net force on an object, free-body diagrams for single and two interacting objects, gravitational forces, and inertia.
3. Solve technical problems involving kinetic energy, gravitational potential energy, elastic potential energy, conservation of mechanical energy, and mechanical power, in one dimension.
4. Solve technical problems involving conversions between common temperature scales, specific heat capacity, latent heats, calorimetry, and heat transfer by radiation, thermal conduction and convection.
5. Solve technical problems involving nuclear energy (mass-energy equivalence, binding energy), demonstrate knowledge of nuclear fission, fusion, and fuel disposal problems.

6. Solve elementary technical problems involving graphical and trigonometric vector algebra in two dimensions, two-dimensional kinematics (motion), dynamics (forces), work and power.
7. Solve technical problems involving projectile motion, circular motion with constant speed, gravitational forces and planetary motion.
8. Solve technical problems involving hydrostatics (Archimedes' principle, Pascal's principle) and simple fluids in motion (Equation of continuity, Bernoulli's equation).
9. Assemble experimental apparatus using written instructions.
10. Observe, record, organize and display data in tables, graphs or charts.
11. Analyze linear graphs (determine area, slope, intercept, etc.).
12. Observe and record sources of error and estimate the range of uncertainty in results.
13. Interpret meaning of experimental results in the context of the experimental objectives.
14. Write scientific reports in an acceptable, traditional format.

3. Required Materials

(a) **Texts** the official text is the 7th edition of 'physics' by Giancoli. Students in my section may use any edition of this text because your home work assignments are all in the **'homework pack'** and are not taken from the 7th edition

(b) **Other** homework pack, 2 duotangs or other light folders, graph paper, calculator with trig functions,ruler, pens (erasable pens are allowed)

(c) **Lab manual**

(d) **Physics 104 workbook** this is optional and will be available after the 1st couple of weeks because the number printed is based on the number of students who wish to purchase it

4. Course Content and Schedule

Lectures, labs, unit tests and one 3 hour final exam

5. Basis of Student Assessment (Weighting)

(a) Assignments students will work their way through all the homework (unless otherwise specified) in the homework pack. The solutions will be made available in class as each chapter nears its conclusion, students will then correct their own solutions from the keys handed out . The corrected homework will be shown to the instructor during the correction period or during any lab period to obtain homework credit. Up to **3 bonus** marks will be given for fully corrected homework

(b) four **unit tests** will be given, their exact dates will be announced one week before each test. The worst unit test will be dropped from your record so that the final mark will include 3 unit tests **35% tests must be written on the assigned time and date unless medical documentation (which can include the opinion of a college counsellor) is submitted. No rewrite is ever allowed!**

(c) Exams one 3 hour final exam worth 50% the date will be set by administration at some point as the semester proceeds

(d) Other attendance is compulsory except in the case of excused absences due to illness or (rarely) a work commitment. It is always the students responsibility to make up the missed material, extra notes etc. will never be given to students who miss a class. You will, however, be told which sections of the text or workbook you need to read and attempt if you have been ill. Generally students will have a lab partner and it is expected that partners will work cooperatively (except in the case of missed tests!)

e) Labs are due 1 week after the experiment is done. MUST be done at the scheduled time except in the case of illness, and are worth 15% of the grade in total.
Your worst lab will be dropped from your record

(e) HYSICS DEPARTMENT GUIDELINES REGARDING TESTING AND GRADING:

- The final exam will cover the entire course and will be 3 hours long. As stated in the current college calendar, "students are expected to write tests and final exams at the scheduled time and place." Exceptions will only be considered due to emergency circumstances as outlined in the calendar. Holidays or scheduled flights are not considered to be emergencies.

- Students must write quizzes, tests, midterm tests, etc., on the date and time assigned by the instructor. Missed exams normally receive a zero grade. Instructors are not required to provide make-up tests. At their discretion, instructors may waive a test in exceptional circumstances such as medical issues or a documented illness.

- Any outstanding homework or labs must be submitted prior to the last day of classes, and will be graded according to the late policy outlined by the instructor.

- Refer to your instructor's information page for any additional policies regarding testing and grade calculation.

PHYSICS DEPARTMENT GUIDELINES REGARDING LABS:

- Students must obtain an overall grade of 50% or higher in the laboratory component of the course order to obtain credit for the course.

- Attendance is mandatory & you may be required to "sign in" at the beginning of each lab period. A lab may be waived or made up at a later time only in the case of documented illness or other extenuating circumstances. If you will be absent from a lab period due to illness it is your responsibility to notify your instructor.

- Unless otherwise stated by your instructor late penalties are as follows: For overdue labs (or assignments), a late penalty of 1 mark per day (10%) will be assessed for the first five days following the due date. After this date a complete report is still required and earns a maximum mark of 50%.

- At the discretion of the instructor, a student who is repeating this Physics course with a laboratory grade of 70% or higher may apply for lab exemption.

- Students will complete a minimum of 9 laboratory experiments including 3 formal reports (with full uncertainty calculations) and at least at least one lab using technology to perform data analysis.

6. Grading System

[x] Standard Grading System (GPA)

[ ] Competency Based Grading System

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

8. College Supports, Services and Policies

Immediate, Urgent, or Emergency Support
If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ http://camosun.ca/about/mental-health/emergency.html or http://camosun.ca/services/sexual-violence/get-support.html#urgent

College Services
Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at http://camosun.ca/

College Policies
Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at http://camosun.ca/about/policies/. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS http://camosun.ca/about/policies/index.html

The following two grading systems are used at Camosun College:

1. 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		1
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description

COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. 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 http://camosun.ca/about/policies/index.html 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 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	*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.