



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

PHYS-157-DX01AB
Physics for Electronics
Winter 2021

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	Dr. Julie Alexander
(b) Office hours	M 12:30-2:30, T 9:30-11:30, Th 3:30-5:30 F 9:30-11:30 (via email, collaborate or zoom)
(c) Location	online
(d) Phone	N/A
(e) E-mail	jalex@camosun.bc.ca
(f) Websites	D2Lonline.camosun.ca https://www.pearsonmylabandmastering.com/northamerica/masteringphysics/ https://juliealexander.ca

2. Intended Learning Outcomes

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

1. Solve technical problems involving distance, displacement, speed, velocity and acceleration in one and two dimensions.
2. Solve problems involving the application of Newton's Laws to two or more bodies moving in one and two dimensions.
3. Solve technical problems involving torque and rotational motion.
4. Solve technical problems involving work, energy, and power.
5. Define and describe the following properties of waves: period, frequency, wave speed, and amplitude. State the principle of superposition and understand the properties of waves undergoing constructive and destructive interference.
6. Define and describe Simple Harmonic Motion.
7. Solve technical problems involving light reflection, refraction, critical angle and total internal reflection applications.
8. Use fundamental thermal physics, including thermometry conversions, to perform calculations involving calorimetry and specific heat.
9. Use the principles of static electricity to solve problems involving the Coulomb force, electric fields, and electric fields in capacitors.
10. Describe and solve problems involving insulators, conductors and semiconductors.
11. Describe the effects of magnetic fields, and perform calculations involving Faradays Law and Induction.
12. Assemble simple experimental apparatus using written instructions.
13. Observe record, organize and display data in tables, graphs or charts.
14. Analyze linear graphs (determine area, slope, intercept, etc.).
15. Interpret meaning of experimental results in the context of the experimental objectives.

3. Required Materials

- (a) Mastering Physics license for College Physics, A Strategic Approach, 4th ed. By Knight/Jones/Field
- (b) Text: College Physics, A Strategic Approach, 4th ed. By Knight/Jones/Field Pearson (publisher) (the 3rd edition of this text would also be fine)
- (c) Scientific calculator

Access to a computer with Microsoft Word and Excel**

Access to a cellphone, camera or scanner capable of generating PDF documents for submission of homework, labs, tests, etc

**Word and Excel are available as part of the Office 365 suite provided free to all Camosun students. See: <http://camosun.ca/services/its/other-services.html> for details.

4. Course Content and Schedule

Tuesday 9:30-11:30 Lab

Friday 9:30-11:30 Lab

5. Basis of Student Assessment (Weighting)

The mark distribution for this course is as follows:

• Final Exam	30%
• Weekly Mastering Physics Assignments and Dynamic Study Modules	30%
• Best 3 of 4 term tests (1 hour each)	30%
• 4 Labs (all labs MANDATORY)	<u>10%</u>
	100%

6. Important dates

Proposed dates for 1 hour tests

Feb 2, 2021

Feb 23, 2021

Mar 16, 2021

Apr 6, 2021

7. Important notes about online delivery

All course materials will be posted on D2L, these include the class schedule and outline, video links to youtube videos made by the instructor as well as the onenote files that accompany these videos, powerpoint slides for course notes and lab instructions.

Recommended videos from the authors of the textbook and from the publishers will be available in weekly assignments on Mastering Physics. These assignments are optional and not worth marks towards the final grade. However, it is highly recommended that students watch these videos before attempting the homework assignments.

Weekly assignments will be posted on Mastering Physics one week before their due date. There will be an assignment due every Wednesday night at midnight. Dynamic study modules on Mastering Physics will always be available and will be due on Thursday nights at midnight.

The final exam will take place during the final exam period in April.

PHYSICS 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.
- Assignments on Mastering Physics have strict due dates of every Wednesday night at midnight and some Thursday nights at midnight, a score of zero is given if the work is submitted past the due date.
- Announcements and important class information will be posted on D2L. Students should check D2L regularly.

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.

6. Grading System

- Standard Grading System (GPA)
- Competency Based Grading System

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, Student Ancillary Fees, Academic Integrity, Grade Review & Appeals, Student Misconduct and Academic Accommodations for Students with Disabilities 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	<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.