



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

PHYS-101-D01
Introduction to Physics
Summer 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	Muyang (Mike) Zhong
(b) Office hours	(Using Zoom) Wednesday 8:30-9:20am or Friday 3:30-5:00pm or by appointment
(c) Location	Zoom (online) https://camosun-ca.zoom.us/j/3793180673?pwd=ZzhSd0FIUHRPSE5SSmkwamU4VTIRQT09
(d) Phone	Please email Alternative:
(e) E-mail	ZhongM@camosun.bc.ca
(f) Website	D2L

2. Intended Learning Outcomes

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

1. Demonstrate skill in the use of S.I. base and derived units.
2. Draw graphs (by hand), determine slopes of linear graphs, linearize non-linear data, and write an equation to represent a linear graph.
3. Solve technical problems involving one-dimensional kinematics for a single particle with constant acceleration.
4. Solve technical problems involving the dynamics of a single particle in one dimension using Newton's Laws of Motion.
5. Perform vector analysis using scaled diagrams with applications to displacement and force.
6. Define the terms work, kinetic energy, gravitational potential energy and power.
7. Solve technical problems using the work-kinetic energy theorem and conservation of mechanical energy.
8. Solve technical problems involving simple DC electric circuits, Ohm's Law, and electric power.
9. Define and describe the following properties of waves: period, frequency, wave speed and amplitude.
10. Define the properties of light, including the electromagnetic spectrum.
11. State and apply the Law of Reflection and the Law of Refraction.
12. Assemble simple experimental apparatus using written instructions.
13. Observe, record, organize and display experimental data in tables, graphs or charts.
14. Analyze linear graphs (determine area, slope, intercept, etc.).
15. Interpret experimental results in the context of the experimental objectives.

3. Required Materials

(a) Texts

Physics 101 Course Pack (A physical copy can be purchased in the Camosun bookstore)

(b) Other

Graph paper (any type will work), rulers, protractors, calculators.

Access to a cellphone, camera or scanner capable of generating pdf documents for submission of homework, labs, quizzes and tests.

Most importantly, your interest in the discovery of nature and hard work.

4. Course Content and Schedule

This course will be delivered online, mainly asynchronously (meaning that students can access and engage with course content at a time of their choosing). All the lectures will be pre-recorded. There will be a checklist provided to you each week to help you stay on track. You do not have to be available at a specific time of any day. **The only exception is the first day of the class on Monday July 5th from 8:30am to 10:20am.** You are required to show up to the first day of the class to get familiar with the course outline, your instructor and your fellow classmates.

You are encouraged to work through the videos and take notes as if you were participating in a lecture and pausing videos to work on problems themselves. The time commitment to work through the asynchronous lectures/videos is estimated to take approximately 8 hours a week, just as it would in a regular face-to-face term.

There are three tests throughout the term. You **must be available** to write tests at those times at the dates noted below.

Test 1 on **July 19 (Mon)**, 8am to 10:20am

Test 2 on **August 4 (Wed)**, 8am to 9:20am

Test 3 on **August 16 (Mon)** 8am to 10:20am

More details of the tests will be announced later in the course.

Final exam will be scheduled after August 21. More information will be available later in the course.

5. Basis of Student Assessment (Weighting)

Students must pass the lab components ($\geq 50\%$) in order to pass the course. The percentages used for the final grading are:

3 Term tests	30%
Quizzes	10%
Homework	5%
Lab	30%
Video project	5%
Final Exam	20%

PHYSICS DEPARTMENT GUIDELINES REGARDING TESTING AND GRADING:

- The final exam will cover the entire course and must be submitted before the deadline prescribed by the College. 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 and submit 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/quizzes 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.
- Unless otherwise stated by your instructor late penalties are as follows: For overdue labs (or quizzes), a late penalty of 10% marks off per day will be applied 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.

Academic Integrity

- Students in this course are subject to the Camosun College Academic Integrity Policy available at the link below and mirrored on the D2L website

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf>

- You should read the above document thoroughly by the end of the first week of classes and be familiar with what constitutes academic misconduct. Failure to read this document or this course outline is not considered a valid excuse if you are found to have committed academic misconduct!
- You may also wish to consult the supporting documents on the Process for Documenting and Addressing Academic Misconduct as well as the Guide to Academic Misconduct and How to Address It.

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.1.pdf>

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.5.pdf>

- The Academic Integrity Policy and Supporting Documents provide examples of academic dishonesty. Some common examples include:

- Communicating with classmates or other individuals during tests and quizzes
- Posting homework, quiz, lab or test material to homework helper sites such as Chegg, Slader, CourseHero, etc...
- Direct copying from any resources without approval of the instructor (including, but not limited to your classmates' work, online non-D2L resources, lab manual instructions, and an instructor's own posted solutions)
- Having an individual (classmate, friend, professional tutor) complete work on your behalf
- Sharing detailed information about tests, quizzes or assignments with students who have not yet taken the test or completed the assignment (In this case, all participating students will be penalized)
- Copying data taken by another student in an individual lab exercise, or sharing your own data with other students.
- Submission of any work that is not your own.

All students found to have committed any form of academic misconduct will be assigned an appropriate consequence as outlined in the Academic Integrity Policy.

- Please note that student academic misconduct is documented and kept on record in the Office of the Registrar. Repeated breaches of academic integrity within this course or across courses can lead to more significant consequences per the policy and its supporting documents.
- Students are encouraged to engage with the instructor to discuss any concerns around academic integrity or violations thereof. Should a student and the instructor disagree as to the outcome of a misconduct allegation, then the student may reach out to the department Chair for support.
- I encourage you to reach out to me if you have any questions about academic integrity. You are welcome to consult with other students in working through homework problems and labs, but ultimately your final submitted work must be your own.

6. Grading System

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

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

STUDY TIME

It is recommended that between 15 and 20 hours per week (or more for students with a weak background) be spent studying for this course in addition to watching course videos.

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.

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.
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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.