COURSE SYLLABUS

COURSE TITLE: PHYS-101-Introduction to Physics
CLASS SECTION: PHYS – 101 – B01

TERM: 2025W

COURSE CREDITS: 3

DELIVERY METHOD(S): Blended

Camosun College respectfully acknowledges that our campuses are situated on the territories of the Lək̓ʷəŋən (Songhees and Kosapsum) and WSÁNEĆ peoples. We honour their knowledge and welcome to all students who seek education here.

INSTRUCTOR DETAILS

NAME: Muyang (Mike) Zhong

EMAIL: ZhongM@Camosun.bc.ca

OFFICE: T220 (Interurban)

OFFICE HOURS: 1:30-2:20pm Tuesdays; 2:30-3:20pm Wednesdays;

11:30-12:20pm Thursdays; 10:30-11:20am Fridays.

available on Zoom (email for appointment): https://camosun-ca.zoom.us/j/3793180673?pwd=ZzhSd0FIUHRPSE5SSmkwamU4VTlRQT09

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

This course provides a first introduction to physics. Students will examine topics involving one-dimensional kinematics, Newton's Laws, work, energy and power. Further topics include simple DC circuits, properties of waves and the Laws of Reflection and Refraction. Problem solving, analyzing graphs and lab work will be emphasized.

PREREQUISITE(S):

One of:

• C in Pre-calculus 11; C in MATH 073; C in MATH 077; C in MATH 137; C in MATH 139

It is recommended that students who have been away from math courses for more than 5 years should consult with the Mathematics department to ensure that their math skills are at a level appropriate for this course.

CO-REQUISITE(S):

EQUIVALENCIES:

COURSE LEARNING OUTCOMES / OBJECTIVES

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

Demonstrate skill in the use of S.I. base and derived units.

Draw graphs (by hand), determine slopes of linear graphs, linearize non-linear data, and write an equation to represent a linear graph.

Solve technical problems involving one-dimensional kinematics for a single particle with constant acceleration.

Solve technical problems involving the dynamics of a single particle in one dimension using Newton's Laws of Motion.

Perform vector analysis using scaled diagrams with applications to displacement and force.

Define the terms work, kinetic energy, gravitational potential energy and power.

Solve technical problems using the work-kinetic energy theorem and conservation of mechanical energy.

Solve technical problems involving simple DC electric circuits, Ohm's Law, and electric power.

Define and describe the following properties of waves: period, frequency, wave speed and amplitude.

Define the properties of light, including the electromagnetic spectrum.

State and apply the Law of Reflection and the Law of Refraction.

Assemble simple experimental apparatus using written instructions.

Observe, record, organize and display experimental data in tables, graphs or charts.

Analyze linear graphs (determine area, slope, intercept, etc.).

Interpret experimental results in the context of the experimental objectives.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

(a) Texts

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

(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, and quizzes.

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
1	Chapter 1 Measurement and Units	
2	Chapter 2 Graphing	
3	Chapter 3 Kinematics 1D	
4	Chapter 3 Kinematics 1D	Test 1 (Ch1&Ch2)
5	Chapter 3 Kinematics 1D	
6	Chapter 4 Dynamics 1D	
7	Reading break	
8	Chapter 4 Dynamics 1D / Chapter 5 Work and Energy	Test 2 (Ch3)
9	Chapter 5 Work and Energy	
10	Chapter 5 Work and Energy/ Chapter 6 Waves	
11	Chapter 7 Optics	Test 3 (Ch4&5)
12	Chapter 8 Electricity	
13	Chapter 6 & 7 Review	Test 4 (Ch6&7)
14	Review	

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
15	Final Exam	

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced noticed is required. Deadlines can be reviewed on the CAL exams page.
https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
4 Term tests (one drop test)	30%
Quizzes	10%
Homework	5%
Lab	25%
Other	5%
Final Exam	25%
TOTAL	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the Grade Review and Appeals policy for more information.

https://camosun.ca/sites/default/files/2021-05/e-1.14.pdf

COURSE GUIDELINES & EXPECTATIONS

This course will be delivered in a blended fashion with all the lectures pre-recorded (meaning that you can access and engage with course content at a time of your choosing) and the weekly labs are in person at Lansdowne campus. There will be a checklist provided to you each week to help you stay on track.

You are required to show up **on the first Tuesday (January 7th) of the class at 6pm** to get familiar with the course outline, your instructor and your fellow classmates. Attendance will be taken during the class. If you are to miss the class and do not provide a reasonable explanation to the instructor prior, your seat in the course will be offered to the next person on the waitlist.

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 yourselves. The time commitment to work through the

asynchronous lectures/videos, plus doing required homework/quizzes etc., is estimated to take approximately 12-15 hours a week, **just as it would in a regular face-to-face term**.

There are four (4) tests throughout the term. They are all scheduled during the tutorial hours (Tuesday evenings). There is no make-up test if you miss one. Contact the instructor **before** the test ASAP when an emergency comes up. More details of the tests will be announced later in the course.

Homework questions, including numerical answers, are assigned from the course pack. They are due every Sunday at 11:59 p.m. There are LOTS OF homework questions. You don't need to do them all at once. You may want to save some questions for test preparation. Homework **will *not* be marked**. If you only do 1 question and submit it, you still get all the marks for that homework submission. Submissions are randomly checked. If you are late (even just 1 min late), you receive **zero** marks. No extension will be given.

Quizzes are assigned almost weekly, based on the content/ homework for that week. They are scheduled at the first 20-30 min (depending on the week) of the tutorial each Tuesday. They are marked. Solutions are provided after marking. If you are late and miss the quiz, you receive **zero** marks.

Lab reports are due Sunday at 11:59 p.m. If you are late (even just 1 min late), you receive **zero** marks. The extension may be granted by the instructor, if you send an email with adequate explanations to the instructor **before** the deadline. If you do not provide an adequate explanation for the late submission, you will receive a grade of zero. If the extension is granted, lab reports will receive a penalty of 10% off per day.

"Other" category is about attendance to the guest lecture, completion of course evaluation survey and detailed explanation of formula sheet. Details will be given on D2L about specific tasks.

Final exam will be scheduled during the final exam week. More information will be available later.

SCHOOL OR DEPARTMENTAL INFORMATION

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, 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. **Should any exceptional circumstances and/or emergency happen, contact your instructor *prior* to the tests.**

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.
- 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.

Missed Labs Guidelines:

- Laboratory activities are in-person activities; attendance and participation are required. Reports will not be accepted from students who did not attend the lab period.
- If you arrive **more than 30 minutes late** to the lab, you may be recorded as **absent**.
- Students who will miss a laboratory session have an obligation to seek out concessions directly from their instructor in a timely manner, BEFORE the lab period occurs. In the event of unforeseen circumstances, lab instructors must be notified within 24 hours of the missed lab period, or concessions will not be available.
- If you miss up to three (3) laboratory sessions, you are still eligible to meet the Learning Outcomes for the course, though missed labs may receive a zero grade.
- If you miss a **total of four (4) or more labs for any reason** including, but not limited to: life circumstances, illness, family or pet obligations, planned vacations, milestone family events, work commitments, competitive athletic events., you will be unable to meet the learning outcomes for the class and will receive a **failing grade (F) in the entire course**, regardless of marks received on graded lab and lecture components. Exceptions will only be considered through an academic concession granted by the instructor or Dean/Associate Dean.

Please note that if you are suffering from a serious medical illness that prevents you from participating in this course, Camosun College has a Compassionate Medical Withdrawal Policy (https://camosun.ca/services/forms#medical)

GENERAL IN-PERSON ASSESSMENT RULES FOR STUDENTS – PHYSICS AND ASTRONOMY DEPARTMENT:

The rules are used for on-campus quizzes, tests, and exams in the Physics and Astronomy department. A Faculty member will actively supervise throughout the examination. The instructor may move around the room or sit at the front or back of the room.

By entering the exam room, students agree to abide by the following rules:

- Turn off all electronic communication devices (including, but not limited to: cellphones, smartwatches, laptops, tablets) before entering and place them on a designated table at the front of the exam room.
- All bags, must be on the sides, back, or front of the room – the instructor will identify the appropriate place.
- Students are not permitted to wear brimmed hats or hoodies during in-person assessments.
- Students may bring pens, pencils, calculator, highlighters, erasers, ruler, protractor, and a drink in a closed container. If permitted in the room, students may have a snack in its original packaging or a clear container.

- Calculators must be scientific, non-textual calculators, with no notes of any kind in the case.
- Items brought into the room may be inspected by the Faculty member.
- If you arrive late for the examination, no additional time will be provided. Students arriving more than 30 minutes late may not be allowed to enter the room.
- For biological breaks, permission to leave the exam room must be obtained. Only one student at a time may leave the room, and biological breaks must be as brief as possible.
- Access to any online materials during exams is prohibited.
- Any work submitted on an examination must be entirely your own.
- Students found communicating with one another in any way or under any pretext; having unauthorized books, papers, electronic computing devices, data storage, or communication devices in view, even if their use is not proved; or found cheating in any way may receive a zero grade. All incidents will be recorded and managed according to the College's Academic Integrity Policy.

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.

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit camosun.ca/services.

Support Service	Website
Academic Advising	camosun.ca/services/academic-supports/academic-advising

Support Service	Website
Accessible Learning	camosun.ca/services/academic-supports/accessible-learning
Counselling	camosun.ca/services/health-and-wellness/counselling-centre
Career Services	camosun.ca/services/co-operative-education-and-career-services
Financial Aid and Awards	camosun.ca/registration-records/financial-aid-awards
Help Centres (Math/English/Science)	camosun.ca/services/academic-supports/help-centres
Indigenous Student Support	camosun.ca/programs-courses/iecc/indigenous-student-services
International Student Support	camosun.ca/international
Learning Skills	camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills
Library	camosun.ca/services/library
Office of Student Support	camosun.ca/services/office-student-support
Ombudsperson	camosun.ca/services/ombudsperson
Registration	camosun.ca/registration-records/registration
Technology Support	camosun.ca/services/its
Writing Centre	camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Integrity

Students are expected to comply with all College policy regarding academic integrity; which is about honest and ethical behaviour in your education journey. The following guide is designed to help you understand your responsibilities: https://camosun.libguides.com/academicintegrity/welcome
Please visit https://camosun.ca/sites/default/files/2021-05/e-1.13.pdf for Camosun's Academic Integrity policy and details for addressing and resolving matters of academic misconduct.

Academic Accommodations for Students with Disabilities

Camosun College is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging appropriate academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a documented disability and think you may need accommodations, you are strongly encouraged to contact the Centre for Accessible Learning (CAL) and register as early as possible. Please visit the CAL website for more information about the process of registering with CAL, including important deadlines: https://camosun.ca/cal

Academic Progress

Please visit https://camosun.ca/sites/default/files/2023-02/e-1.1.pdf for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit https://camosun.ca/sites/default/files/2021-05/e-2.2.pdf for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit https://camosun.ca/registration-records/tuition-fees#deadlines.

Grading Policy

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.5.pdf for further details about grading.

Grade Review and Appeals

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.14.pdf for policy relating to requests for review and appeal of grades.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal (see Medical/Compassionate Withdrawals policy). Please visit https://camosun.ca/services/forms#medical to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence Policy: https://camosun.ca/sites/default/files/2021-05/e-2.9.pdf and camosun.ca/services/sexual-violence-support-and-education.

To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-370-3841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at https://camosun.ca/sites/default/files/2021-05/e-2.5.pdf to understand the College's expectations of academic integrity and student behavioural conduct.

Looking for other policies?

The full suite of College policies and directives can be found here: https://camosun.ca/about/camosun-college-policies-and-directives

Changes to this Syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes