COURSE SYLLABUS

THE UNIVERSITY OF BRITISH COLUMBIA

Department of Computer Science, Mathematics, Physics and Statistics
Okanagan Campus

PHYS 111-001 – INTRODUCTORY PHYSICS FOR THE PHYSICAL SCIENCES I

2022W TERM -1 (SEPT. 6TH, 2022 – DEC. 8TH ,2022)

INSTRUCTOR:

Name: Firas Moosvi
Contact: *firas.moosvi@ubc.ca* (Preferred)
Office Location: SCI 393
Office Hours: Wednesdays and Fridays after class (5:00 – 5:30 PM)
Class Location: COM 201

SCHEDULE:

Lecture: Monday, Wednesday and Friday.
Hours: 4:00pm – 5:00pm

LABORATORY COORDINATOR/INSTRUCTOR/TA:

L01:	Bailey Borden	Monday	1:00pm – 4:00pm
L02:	Bailey Borden	Monday	6:30pm – 9:30pm
L03:	Grace Cornell	Tuesday	9:30am - 12:30pm
L04:	Saeed Sharifi	Tuesday	2:30pm – 5:30pm
L05:	Isaiah Halliday	Tuesday	6:30pm – 9:30pm
L06:	Ryley Adam	Wednesday	9:00am – 12:00pm
L07:	Mohammed Nasser	Wednesday	1:00pm – 4:00pm
L08:	Santam Bhattacharya	Wednesday	6:30pm – 9:30pm
L09:	Tenzin Kunkyab	Thursday	9:30am – 12:30pm
L10:	Tenzin Kunkyab	Thursday	2:30pm – 5:30pm

L11:	Santam Bhattacharya	Thursday	6:30pm – 9:30pm
L12:	Ryley Adam	Friday	9:30am – 12:30pm
L14:	Seth Lowry	Tuesday	2:30pm – 5:30pm
L15:	Saeed Sharifi	Tuesday	6:30pm – 9:30pm
L16:	Nicole Lofroth	Wednesday	9:00pm – 12:00pm
L17:	Seth Lowry	Wednesday	1:00pm – 4:00pm

All Lab TAs can be contacted via Canvas Inbox.

TUTORIAL COORDINATOR/INSTRUCTOR/TA:

T01:	Siddharth Banerjee	Wednesday	9:00am – 10:00am
T02:	Siddharth Banerjee	Wednesday	1:00pm – 2:00pm
T03:	Siddharth Banerjee	Monday	9:00am – 10:00am
T04:	Hetti Perera	Friday	10:00am – 11:00am
T05:	Hetti Perera	Friday	3:00pm – 4:00pm
T06:	Siddharth Banerjee	Monday	10:00am – 12:00pm
T07:	Hetti Perera	Monday	5:00pm – 6:00pm
T08:	Hetti Perera	Monday	3:00pm – 4:00pm

All Tutorial TAxwwws can be contacted via Ed Discussion.

TEXTBOOK AND OTHER REFERENCE MATERIAL:

A free and open source textbook will be used for this course: OpenStax University Physics Volume 1. No other material is required for this course.

COURSE DESCRIPTION:

Course Website:

Course materials are available on Canvas, and on the course website.

Academic Calendar Entry:
Introduction to mechanics primarily for students majoring in the physical sciences (e.g. physics, chemistry, mathematics, computer science, geology, physical geography) or engineering. Particle kinematics and dynamics, work and energy, momentum, gravitation, rigid body motion, fluid statics and dynamics with applications to the physical sciences. Credit will be granted for only one of PHYS 111 and PHYS 112. Students with Physics 12 may apply for a tutorial exemption.

Prerequisite:
PHYS 11 and one of MATH 12, PREC 12, MATH 125, MATH 126. Physics 12 is strongly recommended.

Corequisite: MATH 100.

Course Overview:
You should take Physics 111 if you want to have some fun while also learning cool ways how our universe works. For those of you, physics is new and alien - I welcome you to this course! I hope to make this course as inclusive and accessible as I possibly can, and as long as you have some reasonable skills with algebra, you should be able to pick up most, if not all of the things you need to succeed in this course. For some of you, the topics you learn may be quite familiar to you already, it will still be valuable for you to take this course and crystallize in your minds some key concepts that you thought you knew. I believe that one of the best ways to ensure learning happens, is repeated exposure to the same content from different lenses. So I hope that exposure to content you may already be familiar with, through a new lens will help you appreciate the content more. We will also be watching lots of cool-physics related videos so there's also that!

Learning Outcomes:

1. Introduce the conceptual framework of classical mechanics and confront any misconceptions you might hold (encouraging "Newtonian" thinking).
2. Explore the power and simplicity of effective model building.
3. Develop the following skills: proportional reasoning, dimensional analysis, physical reasoning, pictorial representations (free-body diagrams), reading for understanding (asking why is this true?), that are critical for every upper year science course.
4. Develop advanced problem-solving, written, and verbal communication skills.
5. Nurture the development of graphical approaches to understanding areas and slopes.
6. Understand and appreciate the crucial role that experiment plays in the scientific method.
7. See that physics is everywhere and be excited about its relevance to different areas of study and life.

Course Format: In-Person

LATE POLICY:

- Late pre-labs will not be accepted. Late report sheets will be penalized with a 25% deduction for each working day, up to a maximum of 4 working days late.
- Homework assignments and learning logs have a 48-hour no-penalty grace period.
- Learning Logs later than 48 hours cannot be accepted.
- Homework can still be submitted up until the last day of the term with a gradually increasing penalty until the last day of class when students can get a maximum of 50%.

PASSING CRITERIA:

All students must satisfy ALL conditions to pass the course:

1. Obtain an average grade of at least 50% on the Labs, with no more than 3 missed labs,
2. Obtain an average grade of at least 50% on the Test and Exam components together,
3. Obtain a grade of at least 40% on the Final Exam,
4. Obtain a grade of at least 50% on the whole course.

If students do not satisfy the appropriate requirements, the student will be assigned the lower of their earned course grade or, a maximum overall grade of 45% in the course.

TENTATIVE COURSE SCHEDULE AND REQUIRED READINGS:

See the updated schedule on the course website.

EVALUATION CRITERIA AND GRADING:

Learning Logs	10%
Homework	18%
Labs	32%
Tests	20%
Final Exam	20%

Final grades will be based on the evaluations listed above and the final grade will be assigned according to the standardized grading system outlined in the UBC Okanagan Calendar.

LABORATORY SCHEDULE:

The laboratory time will be spent performing the following labs.

Weeks	Date Starting	Topics covered and Description
1	September 5	Introduction (online assignment)
2	September 12	Kinematics
3	September 19	Projectile Motion

4	September 26	**No labs this week**
5	October 3	Measuring gravity
6	October 10	**No labs this week**
7	October 17	Friction
8	October 24	Drag
9	October 31	Collisions and Explosions
10	November 7	**No labs this week**
11	November 14	Springs
12	November 21	Acceleration due to gravity
13	November 28	N/A
14	December 5	N/A

GRADING PRACTICES

Faculties, departments, and schools reserve the right to scale grades in order to maintain equity among sections and conformity to University, faculty, department, or school norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the faculty, department, or school. Grades are not official until they appear on a student's academic record.
http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,41,90,1014

FINAL EXAMINATIONS

The examination period for W2022 is **Sunday December 11th, 2022, to Thursday December 22nd, 2022**. Except in the case of examination clashes and hardships (three or more formal examinations scheduled within a 24-hour period) or unforeseen events, students will be permitted to apply for out-of-time final examinations only if they are representing the University, the province, or the country in a competition or performance; serving in the Canadian military; observing a religious rite; working to support themselves or their family; or caring for a family member. Unforeseen events include (but may not be limited to) the following: ill health or other personal challenges that arise during a term and changes in the requirements of an ongoing job. Further information on **Academic Concession** can be found under **Policies and Regulation in the *Okanagan Academic Calendar*** http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,48,0,0

ACADEMIC INTEGRITY

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at:
http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3,54,111,0.

COOPERATION VS. CHEATING

Working with others on assignments is a good way to learn the material and we encourage it. However, there are limits to the degree of cooperation that we will permit. Any level of cooperation beyond what is permitted is considered cheating.

When working on programming assignments, you must work only with others whose understanding of the material is approximately equal to yours. In this situation, working together to find a good approach for solving a programming problem is cooperation; listening while someone dictates a solution is cheating. You must limit collaboration to a high-level discussion of solution strategies, and stop short of actually writing down a group answer. Anything that you hand in, whether it is a written problem or a computer program, must be written by you, from scratch, in your own words. If you base your solution on any other written solution, you are cheating. If you provide your solution for others to use, you are also cheating.

COPYRIGHT DISCLAIMER

Diagrams and figures included in lecture presentations adhere to Copyright Guidelines for UBC Faculty, Staff and Students http://copyright.ubc.ca/requirements/copyright-guidelines/ and UBC Fair Dealing Requirements for Faculty and Staff http://copyright.ubc.ca/requirements/fair-dealing/. Some of these figures and images are subject to copyright and will not be posted to ***Canvas.*** All material uploaded to ***Canvas*** that contain diagrams and figures are used with permission of the publisher; are in the public domain; are licensed by Creative Commons; meet the permitted terms of use of UBC's library license agreements for electronic items; and/or adhere to the UBC Fair Dealing Requirements for Faculty and Staff. Access to the ***Canvas*** course site is limited to students currently registered in this course. Under no circumstance are students permitted to provide any other person with means to access this material. Anyone violating these restrictions may be subject to legal action. Permission to electronically record any course materials must be granted by the instructor. Distribution of this material to a third party is forbidden.

GRIEVANCES AND COMPLAINTS PROCEDURES

A student who has a complaint related to this course should follow the procedures summarized below:

- The student should attempt to resolve the matter with the instructor first. Students may talk first to someone other than the instructor if they do not feel, for whatever reason, that they can directly approach the instructor.
- If the complaint is not resolved to the student's satisfaction, the student should e-mail the Associate Head, Dr. Jake Bobowski at jake.bobowski@ubc.ca or the Department Head, Dr. John Braun at cmps.depthead@ubc.ca

STUDENT SERVICE RESOURCES

Disability Resource Centre

The Disability Resource Centre ensures educational equity for students with disabilities and chronic medical conditions. If you are disabled, have an injury or illness and require academic accommodations to meet the course objectives, please contact Earllene Roberts, the Diversity Advisor for the Disability Resource Centre located in the University Centre building (UNC 215).

UNC 215 250.807.9263
email: earllene.roberts@ubc.ca
Web: www.students.ok.ubc.ca/drc

Equity and Inclusion Office

Through leadership, vision, and collaborative action, the Equity & Inclusion Office (EIO) develops action strategies in support of efforts to embed equity and inclusion in the daily operations across the campus. The EIO provides education and training from cultivating respectful, inclusive spaces and communities to understanding unconscious/implicit bias and its operation within in campus environments. UBC Policy 3 prohibits discrimination and harassment on the basis of BC's Human Rights Code. If you require assistance related to an issue of equity, educational programs, discrimination or harassment please contact the EIO.

UNC 325H 250.807.9291
email: equity.ubco@ubc.ca
Web: www.equity.ok.ubc.ca

Office of the Ombudsperson for Students

The Office of the Ombudsperson for Students is an independent, confidential and impartial resource to ensure students are treated fairly. The Ombuds Office helps students navigate campus-related fairness concerns. They work with UBC community members individually and at the systemic level to ensure students are treated fairly and can learn, work and live in a fair, equitable and respectful environment. Ombuds helps students gain clarity on UBC policies and procedures, explore options, identify next steps, recommend resources, plan strategies and receive objective feedback to promote constructive problem solving. If you require assistance, please feel free to reach out for more information or to arrange an appointment.

UNC 328 250.807.9818
email: ombuds.office.ok@ubc.ca
Web: www.ombudsoffice.ubc.ca

Sexual Violence Prevention and Response Office (SVPRO)

A safe and confidential place for UBC students, staff and faculty who have experienced sexual violence regardless of when or where it took place. Just want to talk? We are here to listen and help you explore

your options. We can help you find a safe place to stay, explain your reporting options (UBC or police), accompany you to the hospital, or support you with academic accommodations. You have the right to choose what happens next. We support your decision, whatever you decide.
Visit svpro.ok.ubc.ca or call us at 250-807-9640.

Independent Investigations Office (IIO)

If you or someone you know has experienced sexual assault or some other form of sexual misconduct by a UBC community member and you want the Independent Investigations Office (IIO) at UBC to investigate, please contact the **IIO**. Investigations are conducted in a trauma informed, confidential and respectful manner in accordance with the principles of procedural fairness.

You can report your experience directly to the **IIO by** calling 604-827-2060.
Web: https://investigationsoffice.ubc.ca/
E-mail: director.of.investigations@ubc.ca

Student Learning Hub

The Student Learning Hub (LIB 237) is your go-to resource for free math, science, writing, and language learning support. The Hub welcomes undergraduate students from all disciplines and year levels to access a range of support that includes **tutoring in math, sciences, languages, and writing, as well as help with study skills and learning strategies**.
For more information, please visit the Hub's website (https://students.ok.ubc.ca/student-learning-hub/) or call 250-807-9185.

Student Wellness

At UBC Okanagan health services to students are provided by Student Wellness. Nurses, physicians and counsellors provide health care and counselling related to physical health, emotional/mental health and sexual/reproductive health concerns. As well, health promotion, education and research activities are provided to the campus community. If you require assistance with your health, please contact Student Wellness for more information or to book an appointment.

UNC 337 250.807.9270
email: healthwellness.okanagan@ubc.ca
Web: www.students.ok.ubc.ca/health-wellness

SAFEWALK

Don't want to walk alone at night? Not too sure how to get somewhere on campus? Call Safewalk at ***250-807-8076.***
For more information, see: www.security.ok.ubc.ca