



# Introductory Physics I with Laboratory

## Course Information

**Course Number:** 1P91

**Term/Year/Duration:** Winter 2025 (D3)

**Course Title:** Introductory Physics I with Laboratory

## Instructor Information

**Instructor Name:** Prof. Gavin Hester

**Email:** [ghester@brocku.ca](mailto:ghester@brocku.ca)

**Office Locations:** MC E221

**Teaching Assistants:** TBD

## Times and Locations

**Lectures:** Monday, Wednesday, Thursday - 5 pm to 6 pm in the Sean O'Sullivan Theater, Thistle Complex

**Weekly Quizzes:** Thursday – 12 pm to 1 pm in Sean O'Sullivan Theater, Thistle Complex.

**Laboratory:** See your Brock Calendar. Labs are held in H200.

**Office Hours:** Tuesday's, 12:30 pm to 1:30 pm; Email to setup remote/in person appointment otherwise.

## Course Calendar Description

*Kinematics, Newton's laws and their applications to equilibrium and dynamics; conservation laws; oscillations, waves and sound.*

## Additional Description

*This course is an introduction to physics at the undergraduate level. The course focuses on understanding the fundamentals of motion. Students taking this course will develop crucial mathematical tools and problem-solving strategies. In particular, these skills can be effectively carried to upper-level physics courses and provide the necessary background for other scientific disciplines.*

## Course Assistance

TA Drop-In Hours: A number of drop-in hours, where a TA will be available to provide assistance with course content, will be posted on Brightspace.

Office Hours: Office hours for the instructors are above and are there to help with the course content. If the listed times do not work, please reach out to request to meet at a different time.

Brock Student Success Center: Brock's Student Success Center offers paid tutoring services. Details on this tutoring are available here: <https://brocku.ca/student-life-success/learning-services/tutoring/>

## Required Readings or Texts

*OpenStax College Physics 2<sup>nd</sup> Edition – Available for **Free** at*  
<https://openstax.org/details/books/college-physics-2e>

This course includes a \$45 lab and material fee. This fee covers lab consumables (\$10) and the use of Mobius homework software (\$35).

## Course Communications

*Communications will be primarily sent using Brightspace's announcement feature.*

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## Assessment Components and Due Dates

### 1P91 Assessment Components

| Assessment Component | Grade Weight |
|----------------------|--------------|
| Homework             | 20%          |
| Quizzes              | 30%          |
| Lab                  | 20%          |
| Final Exam           | 30%          |

### Task Descriptions

Homework: Homework assignments will be assigned every week, with a total of 12 assignments over the course of the semester. Each homework assignment will focus on a single chapter of the textbook. The single lowest homework grade will be dropped at the end of the semester. Assignments will be administered via Möbius, which can be accessed via Brightspace. Solutions are not provided, so you must discuss with a TA or instructor to understand mistakes in the homework.

Quizzes: In-person quizzes will be administered every Thursday from 12 pm to 1 pm in the Sean O' Sullivan Theater, Thistle Complex. The quiz problems will be centered around a single chapter and occur on Thursday following the respective chapter's homework assignment. The final quiz grade will be based on your best 11 quiz grades.

Lab: Laboratory sessions are based on some concepts that are taught in the theoretical lectures including, but not limited to: kinematics, Newton's laws, and oscillations. You must complete all labs and obtain an overall average of 60% or more to receive a grade in PHYS 1P91. Students receiving an overall lab grade that is lower than 60% will fail the lab component for PHYS 1P91 and will only be able to receive a grade in PHYS 1P21.

Lab reports are due at NOON, five days after your scheduled lab session (or: NOON, two day before your next lab).

Final Exam: The final exam will be cumulative and will be written in a three-hour session.

### Late Submission Policy

Homework: The due date for each homework will be Tuesday at 11:59 pm (aside from the first assignment). No late submissions will be accepted without an official academic exception (such as a self-medical declaration form or other exception from Student Accessibility Services).

Quizzes: If you must miss a quiz, you must inform your instructor **in advance** of the quiz date to schedule a make-up quiz. You may only make up one quiz in the semester without an official academic accommodation.

Labs: The late work policy for lab reports is:

Lateness:           Maximum possible grade:

<24 hours       70%

<48 hours       40%

<72 hours       10%

The late penalty will be waived for special cases only (i.e. medical or compassionate considerations). Documentation will be required.

Completing all labs and submitting written lab reports are required to complete the lab component of the course.

If you have any questions about the late submission policy, or need to be considered for penalty waiver, please email [phys1p91@brocku.ca](mailto:phys1p91@brocku.ca).

**Requirements for attendance and participation, and relationship to grades:**

Lectures: There is no requirement to attend lectures. However, your likelihood of receiving a better grade in this course is *strongly* tied with the attendance of lectures. Lectures provide you the opportunity to hear the material explained in a different way from the book, observe demos that challenge your physical intuition, and connect with your classmates to form study groups. Lecture notes will be posted to Brightspace within 1 hour of the lecture.

Quizzes: If you must miss a quiz, you must inform your instructor **in advance** of the quiz date to schedule a make-up quiz. You may only make-up one quiz in the semester without an official academic accommodation.

Labs: You must complete all labs and obtain an overall average of 60% or more to receive a grade in PHYS 1P91. Students receiving an overall lab grade that is lower than 60% will fail the lab component for PHYS 1P91 and will only be able to receive a grade in PHYS 1P21.

All lab sessions will take place in H200. Your attendance is required as there are no lab exercises that can be completed remotely.

## Sequence and Dates of Topics and Readings

| <b>Week</b>       | <b>Lecture/Reading Chapter</b> | <b>Homework</b>            | <b>Quiz Content</b> |
|-------------------|--------------------------------|----------------------------|---------------------|
| Jan. 6 - Jan. 10  | Chapter 1                      | Mobius Student Orientation | Math Skills Quiz    |
| Jan. 13 - Jan. 17 | Chapter 2                      | Chapter 1                  | Chapter 1           |
| Jan. 20 - Jan. 24 | Chapter 3                      | Chapter 2                  | Chapter 2           |
| Jan. 27 - Jan. 31 | Chapter 4                      | Chapter 3                  | Chapter 3           |
| Feb. 3 - Feb. 7   | Chapter 5                      | Chapter 4                  | Chapter 4           |
| Feb. 10 - Feb. 14 | Chapter 6                      | Chapter 5                  | Chapter 5           |
| Feb. 17 - Feb. 21 | No class                       | No class                   | No class            |
| Feb. 24 - Feb. 28 | Chapter 7                      | Chapter 6                  | Chapter 6           |
| Mar. 3 - Mar. 7   | Chapter 8                      | Chapter 7                  | Chapter 7           |
| Mar. 10 - Mar. 14 | Chapter 9                      | Chapter 8                  | Chapter 8           |
| Mar. 17 - Mar. 21 | Chapter 10                     | Chapter 9                  | Chapter 9           |
| Mar. 24 - Mar. 28 | Chapter 16                     | Chapter 10                 | Chapter 10          |
| Mar. 31 - Apr. 4  | Chapter 17                     | Chapter 16                 | Chapter 16          |

## Important dates for Winter 2025 (D3)

*The most recent listing of Important Dates for all durations is at <https://brocku.ca/important-dates/all/>*

*First day of classes: January 6*

*Last day of lectures: April 4*

*Reading Week: February 17-21*

*Exams: April 9 - 24*

*Deadline for withdrawal without academic penalty: March 6*

## Academic Policies

### Academic Integrity

#### Statement for undergraduate courses

Academic misconduct is a serious offence. The principle of academic integrity, particularly of doing one's own work, documenting properly (including use of quotation marks, appropriate paraphrasing and referencing/citation), collaborating appropriately, and avoiding misrepresentation, is a core principle in university study. Students should consult Section VII, "Academic Misconduct", in the "Academic Regulations and University Policies" entry in the [Undergraduate Calendar](#) to view a fuller description of prohibited actions, and the procedures and penalties. Information on what constitutes academic integrity is available at [Brock University Academic Integrity Website](#).

### Plagiarism software:

Laboratory reports in this course will be processed using Turnitin.com, phrase-matching software. If you object to uploading your assignments to Turnitin.com for any reason, please notify the instructor to discuss alternative submissions.

### Penalties for Academic Misconduct in the Faculty of Mathematics and Science

The following are standard penalties imposed in academic misconduct cases in FMS. Please be aware that the Associate Dean, Undergraduate Programs, may assign different penalties than those listed here, depending on the details of individual cases. ***Requests for special academic consideration, such as exceptions to academic regulations, will not be considered while academic integrity cases are ongoing.***

#### Penalties for misconduct in course work, including mid-term tests

**First offence:** Zero grade on assignment, additional penalty of 100% of the weight of the assignment to be subtracted from the final grade, mandatory completion of the AZLS Academic Integrity workshop

**Second offence:** Zero grade on assignment, additional penalty of 100% of the weight of the assignment to be subtracted from the final grade, 4-month suspension

**Third offence:** Zero grade in course, 1-year suspension, permanent removal from major program.

Fourth offence: Permanent suspension / debarment.

**Penalties for misconduct in final exams:**

**First offence:** Zero grade in course

**Second offence:** Zero grade in course, 4-month suspension

**Third offence:** Zero grade in course, 1-year suspension, permanent removal from major program,

**Fourth offence:** Permanent suspension / debarment.

**Intellectual Property Notice**

All slides, presentations, handouts, tests, exams, and other course materials created by the instructor of this course are the intellectual property of the instructor. **You may NOT share intellectual property that is not your own!** A student who publicly posts or sells an instructor's work, without the instructor's express consent, may be charged with misconduct under Brock's Academic Integrity Policy and/or Code of Conduct. You may also face adverse legal consequences for infringement of intellectual property rights.

**Accommodations for Medical Reasons or Bereavements**

- a. Brief absence (up to 72 hours)

In the case of a short-term medical circumstance, if a student wishes to seek an academic consideration, please use the [Medical Self-Declaration Form](#). The request is to be made in good faith by the student requesting the academic consideration due to a short-term condition that impacts their academic activities (e.g., participation in academic classes, delay in assignments, etc.).

The period of this short-term medical condition for academic consideration must fall within a 72-hour (3 day) period. The form must be submitted to the instructor either during your brief absence or if you are too unwell, within 24 hours of the end of your 3 day brief absence. This form cannot be used for final exam deferrals.

b. Extended absence (longer than 72 hours)

In cases where a student requests academic consideration due to a medical circumstance that exceeds 72 hours (three days) that will impact their academic activities (e.g., participation in academic classes, delay in assignments, etc.), or in the case of a final exam deferral, the [Medical Verification Form](#) must be signed by the student and the health professional as per process set out in the [Faculty Handbook III:9.4.1.](#)

c. Students may request deferred due dates or examinations on medical or compassionate grounds, such as the death of a close family member. Requests should be submitted whenever possible. Appropriate documentation is required. Retroactive requests for deferment after an examination cannot be completed. If you are not well enough to write an exam, notify your instructor before the exam begins.

### Other Accommodations

The University is committed to fostering an inclusive and supportive environment for all students and will adhere to the Human Rights principles that ensure respect for dignity, individualized accommodation, inclusion and full participation. The University provides a wide range of resources to assist students, as follows:

- a) If you require academic accommodation because of a disability or an ongoing health or mental health condition, please contact Student Accessibility Services at [askSAS@brocku.ca](mailto:askSAS@brocku.ca) or 905 688 5550 ext. 3240.
- b) If you are experiencing mental health concerns, contact the Student Wellness and Accessibility Centre. *Good2Talk* is a service specifically for post-secondary students, available 24/7, 365 days a year, and provides anonymous assistance: [Good 2 Talk](#) or call **1-866-925-5454**. For information on wellness, coping and resiliency, visit: [Brock University \(Mental Health\)](#)
- c) If you require academic accommodation on religious grounds, you should make a formal, written request to your instructor(s) for alternative dates and/or means of satisfying requirements. Such requests should be made during the first two weeks of any given academic term, or as soon as possible after a need for accommodation is known to exist.



- d) If you have been affected by sexual violence, the Human Rights & Equity Office offers support, information, reasonable accommodations, and resources through the Sexual Violence Support & Education Coordinator. For information on sexual violence, visit [Brock's Sexual Assault and Harassment Policy](#) or contact the Sexual Violence Support & Response Coordinator at [humanrights@brocku.ca](mailto:humanrights@brocku.ca) or 905 688 5550 ext. 4387.
- e) If you have experienced discrimination or harassment on any of the above grounds, including racial, gender or other forms of discrimination, contact the Human Rights and Equity Office at [humanrights@brocku.ca](mailto:humanrights@brocku.ca).