

Physics 1202 – Introduction to Physics II Course Outline

1. Course Information

Course Information

An introductory laboratory-based course in physics covering the principles of oscillations and waves, sound, fluids, electric force, fields and potential, capacitance, DC circuits, magnetic fields, and electromagnetic induction. Fundamental physics concepts are introduced with examples in physical, biological, and medical processes to develop students' problem-solving skills.

Together with Physics 1201A, this course is a suitable prerequisite for modules having an introductory physics requirement (including modules in the Faculty of Science, modules offered by the basic Medical Science departments, and professional schools requiring a calculus-based laboratory course in physics).

Pre- or Co-requisites

One of Physics 1201A or 1401A or 1501A, or a minimum mark of 80% in Physics 1101A. Calculus 1000A/B or 1500A/B or Numerical and Mathematical Methods 1412 A/B.

Anti-requisites

Physics 1402B, 1502B, 1102B, the former Physics 1029B, 1302B.

Unless you have either the prerequisites for this course or written special permission from your Dean's Designate (Department/Program Counsellors and Science Academic Advisors) to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Lectures: 3 in person lecture hours per week

Labs: 3 in person hours every two weeks.

2. Instructional Team

	Instructors	Contact	Office Hours
Course & Lectures	Eugene Wong, PhD	phys1202@uwo.ca only	See OWL site
Labs	Dr. Shailesh Nene	JIRA ticket First Year Lab	MSA-2203
Course Logistics	Dr. Isabelle Cyr	JIRA ticket 1000-level courses	
Physics Help Centre	Teaching Assistants		

Course communications

1. Post **technical, administrative** or **physics** questions on the relevant **forums** on the course OWL site.
2. For **confidential issues** that can't be posted to the OWL forums, use **JIRA ticket**: <https://help.sci.uwo.ca/servicedesk/customer/portal/8>.

3. For other issues, please send email to phys1202@uwo.ca. Sending emails to instructors' Western personal email addresses may not be attended to in a timely manner.

Note: We will *not* respond to emails sent to our Western personal email addresses or emails from addresses other than your UWO email account (@uwo.ca).

Additional help beyond Instructor office hours and TA-run Physics Help Centre:

- Med Sci Physics Mentors (Sarah Malik, Jason Lu, Vincent Chen): TBA
- Undergraduate Physics & Astronomy Student Association (PASA) Help Centre: TBA.
- OWL Forum
- Peer-Assisted Learning Centre

3. Course Syllabus, Schedule, Delivery Mode

The Online Western Learning (OWL) system at <http://owl.uwo.ca> will be the home base and launching platform for all learning components. Students are responsible for checking the course OWL site on a regular basis. This is the primary method by which information will be disseminated to all students in the class outside of in-person lectures. Log in using your UWO username and password, then find the PHYSICS 1201A 001 FW21 OWL site. Key buttons or tabs to explore:

- **Getting Started:** This starting point will provide an introduction to the course and some of the platforms being used.
- **Announcements:** important notices and reminders will be posted here. You can set your Preferences (menu beside your name in top banner) to send an email daily or for each posting.
- **Forums:** for getting help on Administrative and Technical issues and to post your physics-related questions.
- **Perusall:** Perusall is your e-book platform where you read and collectively discuss (asking and answering questions) regarding the course material with your peers via annotation assignments.
- **Mastering Physics:** Mastering Physics in the online platform for doing end of chapter assignments as well as quizzes.
- **Lab Schedule:** You have signed up for an in-person lab section. However, for each lab section, there are 4 subsections labelled A-D. In this Lab Schedule tab, you will find a) the subsection you belong to, and b) determine the week for your in-person lab. Lab Manuals, worksheets and other lab instructions will be hosted on Perusall (see above).
- **Gradebook:** Grades for all course evaluation components will be posted here. Grades from external sites (Mastering Physics, Gradescope, Perusall) will be imported about 2-3 times during the term.

Laboratories: 3 hour labs approximately every two weeks integrated with tutorials.

- There are a total of 4 labs during the Fall term. The first lab (measurements & uncertainties) will be an online lab and will be evaluated as a quiz on OWL.
- Direct all lab-related questions via <https://help.sci.uwo.ca/servicedesk/customer/portal/8>.
- Labs are located on the second floor of the Materials Science Addition (MSA) Building. Search MSA on <https://www.uwo.ca/about/visit/maps.html>. For more information about the labs, see also https://physics.uwo.ca/undergraduate/current_students/first_year_laboratory.html.
- Each lab section is further divided into subsections (A, B, C and D). On the OWL "Lab Schedule", you will find your lab schedule and section assignments. You must attend your assigned subsection room.

- The complete lab manual and the lab worksheets are available for reading and downloading respectively from the **Perusall** platform.
- **Lab worksheets:** download the lab worksheet for each lab from Perusall. These can be completed electronically, or alternatively printed, completed, and scanned (or photographed), for submission via the Gradescope link on OWL.
- **Pre-lab quizzes:** for each in-person experiment lab, read the manual and complete the corresponding pre-lab quiz *before* proceeding to the lab session. The link to the pre-lab quiz is from the Perusall site. You need a quiz score of $\geq 75\%$ but have unlimited attempts. Failure to meet this requirement will lead to zero on the particular lab, irrespective of your mark you receive for the lab worksheet.

Contingency plan

Although the intent is for this course to be delivered in person, should any university-declared emergency require some or all of the course to be delivered online, either synchronously or asynchronously, the course will adapt accordingly. The grading scheme will **not** change. Any assessments affected will be conducted online as determined by the course instructor.

Table of topics covered with approximate timeline:

		Topics	Assignments	Labs	Tests	
Week 1-2	1. Fluids	Statics	MP, Perusall	Lab 1		3 lectures
		Dynamics				4 lectures
Week 3-5	2. Electrostatics	Force, Field, & Potential	MP, Perusall	Lab 2		7 lectures
Week 5-6	3. Circuits	Voltage, Current, Resistivity, Capacitors				3 lectures
Week 7	Reading Week					Feb 15 - 23
Week 8		Kirchhoff's law	MP, Perusall	Lab 3		2 lectures
					Midterm	Mar 1 st
Week 9-10	4. Magnetism	Force, Field, & Induction	MP, Perusall	Lab 4		7 lectures
Week 11-13	5. Oscillations and Waves	Oscillations	MP, Perusall			4 lectures
		Waves, Sound				4 lectures

4. Course Materials

Required textbook: Young & Freedman, University Physics, 15th edition, Pearson, 2020.

If you had purchased the “Two Semester Access” Pearson textbook (\$120) in the Fall term for Phys 1101, 1201, or 1501, access to this textbook will be provided to you without further cost. The etext is available on Mastering Physics and Perusall sites.

If you have purchased “One Semester Access”, you will need to purchase the textbook for the Winter semester. The textbook costs \$80 for one-semester access and can be obtained from the **bookstore**.

Students need to purchase this edition to be able to access Mastering Physics to complete problem solving assignments as well as Perusall for reading assignments.

Clickers: iClicker will be used for classroom response system. *To receive grades, you must use your Western email address to sign up for an account.* There will be at least one in class Clicker session per week.

Students are responsible for checking the course OWL site (<http://owl.uwo.ca>) on a regular basis for **Announcements**. This is the primary method by which information will be disseminated to all students in the class.

All course material will be posted to OWL: <http://owl.uwo.ca>. If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Assignments	10%	Best 4 out of 5 reading & discussion post assignments on Perusall
	10%	Best 4 out of 5 end of chapter problem assignments on Mastering Physics
	4%	Two Peer Review Perusall assignments (participation marks)
Labs (in person)	10%	4 total; see below for more details
iClicker	3%	1% per month (Jan, Feb, March). A minimum of 2 clicker participation per month required (participation, not correctness)
Midterm Test (in person)	25%	(closed book)
Final Exam (in person)	38%	To be scheduled (closed book)

Below is a list of topics covered on each quiz, exam, and assignment along with their due dates.

	Date	Topics
Midterm	10 am – 1 pm, March 1st	Assignments 1, 2, 3
Final Exam	TBD	Cumulative
Assign 1	Jan 24 (Mastering Phys & Perusall)	Fluids
Assign 2	Feb 12 (Mastering Phys & Perusall)	Electrostatics
Assign 3	Feb 26 (Mastering Phys & Perusall)	Current and Circuits
Assign 4	Mar 19 (Mastering Phys & Perusall)	Magnetism
Assign 5	Apr 4 (Mastering Phys & Perusall)	Oscillations & Waves

Note: The Department of Physics and Astronomy may, in exceptional cases, adjust the final course marks in order to conform to Departmental policy. Students with grades ending in 9 (ie. 49, 59, 69, 79, 89, 99) will keep this mark and not receive a free mark as that will be unfair to the rest of the class.

General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs* posted on the Academic Calendar:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/. All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All Academic Consideration requests normally must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this course. However, the following assessments are excluded from this, and therefore always require formal supporting documentation:

- Midterm (Designated by the instructor as the one assessment that always requires documentation when requesting Academic Consideration).

When a student *mistakenly* submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

Evaluation Scheme for Missed Assessments

If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures below.

Midterm Exam: With the above academic counselling approval, you may take the makeup midterm on March 6, 5:30-9:30 pm if you missed the midterm on March 1st. If you missed both the midterm and the makeup and with academic counselling approvals for the midterm and the makeup, then your midterm grade weight will be shifted to the final exam.

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period.

Coursework with Assessment Flexibility

By policy, instructors may deny Academic Consideration requests for the following assessments with built-in flexibility:

Deadline with a No-Late-Penalty Period

Mastering Physics and Perusall Assignments: We take the best 4 assignment grades out of 5. Therefore, there is no penalty if you completely missed one assignment. You will receive part marks for partially completed assignments. Start the assignments well ahead of the deadlines – they are assigned at least two weeks before they are due. Should extenuating circumstances arise, students do not need to request Academic Consideration and they are permitted to submit their assignment up to 72 hours past the deadline without a late penalty. Should students submit their assessment beyond 72 hours past the deadline, student will receive no grade for the assignment, leaving the student with best 4 out of 5.

Academic Consideration requests may be granted only for extenuating circumstances that started before the deadline and lasted longer than the No-Late-Penalty Period (72 hours).

If you missed an entire assignment by the No-Late-Penalty Period, we still encourage you to complete the assignment without receiving grades because it will affect your preparation for the midterm and final exams. If you missed two or more assignments, which spans over half of the course, you should consider reviewing the bigger picture.

Peer Review Assignments: There are two such assignments. There is no makeup possible for the peer review assignment. However, there is a 48 hour grace period. If you have a valid reason for missing the first peer review assignment, the weight of your assignment grade will be shifted to your other peer review assignment.

Labs: Please refer to “lab information” document.

6. Accommodation and Accessibility

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university’s EDID website for the recognized religious holidays:

<https://www.edi.uwo.ca>.

Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

[https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Accommodation_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf).

7. Academic Policies

The website for Registrar Services is <http://www.registrar.uwo.ca>.

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual’s official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Calculators and Electronics: For midterm and final exams, a non-programmable scientific calculator such as Sharp EL-510Rtb from the bookstore is permitted. Cell phones, smart watches or any other electronic devices are not permitted during in-person exams.

Computer-marked multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Classroom response system (iClicker) will be used during the lectures. Your Western user ID and your responses are collected by the system. This information is only used for tracking the number of sessions you have participated for grading purposes. Student's privacy will always be protected. It is considered cheating if you use some other Western user ID for this purpose.

In the event of health lock-down, we will switch from in-person exams to online exams. Tests and examinations will then be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at:

<https://remoteproctoring.uwo.ca>.

8. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact course email phys1201@uwo.ca if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.

The labs in this course are supported by the Science Student Donation Fund. If you are a BSc or BMSc student registered in the Faculty of Science or Schulich School of Medicine and Dentistry, you pay the Science Student Donation Fee. This fee contributes to the Science Student Donation Fund, which is administered by the Science Students' Council (SSC). One or more grants from the Fund have allowed for the purchase of equipment integral to teaching this course. You may opt out of the Fee by the end of September of each academic year by completing the online form linked from the Faculty of Science's Academic Counselling site. For further information on the process of awarding grants from the Fund or how these grants have benefitted undergraduate education in this course, consult the Chair of the Department or email the Science Students' Council at ssc@uwo.ca.