



Physics 1302B/1402B - Introductory Physics II
Course Information: Winter 2016, Jan 4th – April 6th

1. Course Description

A calculus-based laboratory course in physics covering the principles of electric fields and potential, capacitance, DC circuits, magnetic fields, electromagnetic induction, oscillations and waves.

0.5 course: 3 lecture hours per week, alternate weeks of 3 laboratory hours and 2 tutorial hours

Antirequisite(s): Physics 1021, 1029A/B, 1502A/B, the former Physics 1020, 1024, 1026.

Prerequisite(s): Physics 1301A/B or 1401A/B or permission of the Department.

Note: Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will 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.

2. Timetable & Contact Information

	1402B Section 001 1302B Section 007	1402B Section 002 1302B Section 008	1302B Section 001
Lectures	MWF 9.30 – 10.20 AM Room <u>AHB-1R40</u> de Bruyn	MWF 12.30 – 1.20 PM Room <u>MC-110</u> Wong	MWF 1.30 – 2.20 PM Room <u>WSC-55</u> Wong
Course email	introphys930@uwo.ca	introphys2@uwo.ca	
Discussion Forum	http://owl.uwo.ca		
Course website	Selected online materials (lecture notes, tutorial material, access to interim grades, announcements, etc.) will be available from OWL http://owl.uwo.ca . Teaching assistant contact information, including office hour schedules, will be posted on OWL. Note that there are two different web-sites for this course. One will have all information for lectures and tutorials, the second will cover the lab component.		
Lab director	Dr. Kanthi Kaluarachchi, Material Science Addition M 2203, e-mail kanthi@uwo.ca , phone 519-661-2111 extension 86446		

Course coordinator: Prof. Eugene Wong

Phone: Western extension 80419; office: PAB 233

Office hours: Monday 2:30-3:30 pm; Friday 2:30-3:30 pm, or by appointment

1402B (001) 1302 (007): Prof. John de Bruyn

Phone: Western extension 86430; office: PAB 230

Office hours: T, Th 3:30-5 pm or by appointment

3. Course Material

The following course materials can be purchased at the UWO Bookstore - get the package specifically listed for Physics 1302B/1402B:

Textbook: Essential University Physics with MasteringPhysics.com, 3rd Ed, by Richard Wolfson, (Addison-Wesley/Pearson, 2012), Part I and II.

MasteringPhysics.com, an online resource containing ebook and problems (The textbook package contains an access code for MasteringPhysics.com)

Lab Manual: 2015-2016 Physics 1302B/1402B/1502B Laboratory Manual

Scientific calculator: *Sharp EL-510RB calculator.* This is the only calculator allowed in exams.

4. Evaluation

Your final grade in this course will be derived according to:

MasteringPhysics.com (3)	8%
In-tutorial assignments (3 out of 5)	6%
Midterm Exam I	13%
Midterm Exam II	18%
Laboratory	15%
Final Exam	40%

Grades will be posted regularly on OWL. Any errors, or appeals to your scores, must be reported to the administrative TA (see contact information on OWL) within **two weeks** of their initial posting.

Important: In order to pass Physics 1302B/1402B, a student must obtain 1) a passing mark in the laboratory component and 2) a mark of 50% or greater in the final examination. Students failing the lab component of the course and/or the final exam will be assigned a final course mark of no more than 40%. The Department of Physics and Astronomy may adjust the final course marks in order to conform to Departmental policy.

5. Midterms

Midterm I will be given on Saturday Jan 30st. (10am-12pm)

Midterm II will be given on Saturday, March 5th. (10am-12pm)

6. Course Content

Week	Sections*	Topics	Lab/Tutorial
January 4	13.1-13.5	Oscillations (mass-spring, pendulum, circular motion, and energy)	Lab
January 11	14.1-14.3	Waves (properties, math and string)	Tutorial (In-tutorial assignment 1)
January 18	20.1-20.3	Electric charge, Electric force and field	Lab
January 25	20.4-20.5	Electric field	Tutorial (In-tutorial assignment 2)
January 30		Midterm 1	
February 1	22.1-22.4	Electric potential	Lab
February 8	23.1-23.4	Capacitance	Tutorial (In-tutorial assignment 3)
<i>February 15</i>		<i>No classes (Reading Week)</i>	
February 22	24.1-24.4	Current, Ohm's Law	Lab
February 29	24.5, 25.1-25.2	Safety & circuit intro	Tutorial (open Q&A)
March 5		Midterm II	
March 7	25.3, 25.5	Circuits	Lab
March 14	26.1-26.4	Magnetic force and fields	Tutorial (In-tutorial assignment 4)
March 21	26.5-26.8	Magnetic fields and currents	Lab
March 28	27.1-27.4	Magnetic induction	Tutorial (In-tutorial assignment 5)
April 4			Resource centre

* Chapters and section numbers refer to the course textbook. Dates are given as guidelines only.

7. Tutorials, homework problems and MasteringPhysics.com

The tutorials in this course are designed to provide additional practice at solving problems based on the lecture material. Tutorials alternate with the labs – one week you will have a lab, and the next you will have a tutorial – and meet for 2 hours. Your tutorial subsection will be posted as a “grade” in OWL – click on Gradebook in the left sidebar.

During 5 of 6 tutorials, you will do an “in-tutorial” homework assignment. Three out of five will count toward the in-tutorial assignment grade.

For the tutorial you will be divided into the same subsection as your lab subsections. You must write the “in-tutorial” homework in the subsection you are assigned. Failure to write in your proper section will result in a grade of 0% that homework. You may receive help from the TA or your fellow students for the “in-tutorial” assignment, but you must write your own assignments (see Plagiarism).

Homework problems will be assigned on MasteringPhysics.com, an online homework management system from Pearson, the textbook publisher. The system includes access to an e-copy of the textbook which can be annotated and bookmarked.

To use MasteringPhysics.com, you must register online at <http://masteringphysics.com> using a) the code included with your textbook, b) the course ID code MPDEBRUYN50190, and c) your student ID.

8. Laboratories

Please note that Physics 1302/1402 labs in the Winter Term start in the week of January 4, 2016.

The laboratories will be held in the Material Sciences Addition (MSA), rms. [M2220](#), [M2230](#), [M2240](#) and [M2250](#). The Material Sciences Addition is adjacent to the Chemistry Building, and can be accessed through there. A map of MSA is available on the lab webpage. **Dr. Kanthi Kaluarachchi (MSA room M2203)** is the Director/Supervisor in charge of the laboratory. Direct all laboratory questions to her (email kanthi@uwo.ca or telephone 519-661-2111 Ext. 86446), not to your instructor. Your instructor is NOT involved in the day-to-day running of the labs. Information on the labs is posted on the lab OWL site for the specific 1302/1402B laboratory section in which you are enrolled, 003, 004 or 005, at <https://owl.uwo.ca>

Note that Physics 1302/1402 laboratory sections (003, 004 or 005) are different from Physics 1302/1402 course sections (001 or 002). Each student is enrolled in one course section and one laboratory section with different OWL sites.

Laboratory Schedules

Dr. Kanthi Kaluarachchi (M 2203 in the Material Science Addition) is in charge of the laboratory. Direct all laboratory questions to her (e-mail kanthi@uwo.ca or telephone to 519-661-2111 extension 86446), not to your TA or instructor.

Information on the laboratory component of the course is posted separately on the lab website on OWL <https://owl.uwo.ca/> (Select Lab link).

Each Physics 1302/1402B lab section may be divided into three laboratory subsections A, B and C, depending on the size of each lab section. The laboratory timetables for these lab sub-sections are posted at the above lab website. Laboratory subsection assignments will be posted on the lab website by last name. You must find your correct lab section, lab subsection and the correct laboratory timetable before attending the first lab. Please attend the correct lab class on the correct date as we do not give permission to attend lab classes outside your laboratory schedule.

If you have difficulty following the timetable scheduled for your lab sub-section, please contact the laboratory coordinator, Dr. Kanthi Kaluarachchi.

Laboratory Exemptions

If you have taken the course previously and you are unsure if you have to repeat the labs, please contact Dr. Kaluarachchi as soon as possible. We advise you not to miss any of your lab classes this year until you receive an email confirming laboratory exemption.

In order to pass the course, a student must obtain a passing grade in the laboratory component, regardless of her/his performance in the other parts of the course.

9. Final Examination

Exam times will be posted on the course web site when available. Students who are making travel arrangements are advised to book a travel date after the end of the examination period. No make-up exams will be given to accommodate travel!

No extra sheets, books, PDAs, advanced calculators, computers, cell phones, etc., may be used during the final exam.

Calculators: The **only** calculator that may be brought into an exam or a tutorial quiz is the Sharp EL-510RB calculator, which is available from the UWO Bookstore. The only exception is any Sharp model EL-5xx (where xx is typically 00 or 10R). If you are in doubt about your calculator, show it to us in class well before the examination.

10. Accommodations for Religious Holidays

When scheduling unavoidably conflicts with religious holidays which require an absence from the University or prohibit or require certain activities (i.e. activities that would make it impossible for the student to satisfy the academic requirements scheduled on the day(s) involved), no student will be penalized for absence because of religious reasons. Alternative means will be sought for satisfying the academic requirements involved. It is the responsibility of such students to inform themselves about the work done in classes from which they are absent and take appropriate action.

A student who, for either of the situations outlined in paragraph one above, is unable to write examinations and term tests on a Sabbath or Holy Day in a particular term shall give notice of this fact in writing to his or her Dean as early as possible, but not later than March 1 for the P1402B final exam. In the case of term tests, such notification is to be given in writing to the instructor within 48 hours of the announcement of the date of the test. The instructor(s) (in the case of mid-term) and the Dean (in the case of final examinations) will arrange for special examination(s) to be written at another time. In the case of final examinations, accommodation must occur no later than one month after the end of the examination period involved. It is mandatory that students seeking accommodations under this policy give notification before the deadlines, and that their Faculty accommodate these requests.

For purposes of this policy, the University has approved a list of dates which are recognized religious holidays which require members of those religions to be absent from the University; this list is updated annually and is available at <http://www.uwo.ca/equity/docs/mfcalendar.htm>.

11. Illness or other serious circumstances

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the academic counselling unit of the Engineering (Phys 1402) or Science (Phys 1302) Dean's office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be immediately obtained from the Office of the Dean of the student's home Faculty.

For further information please see: <http://www.uwo.ca/univsec/handbook/appeals/medical.pdf>

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Records Release Form (located in the Dean's Office) for visits to Student Health Services.

The form can be found here: https://studentservices.uwo.ca/secure/medical_document.pdf

- a) Lab Marks – Grading policies for the laboratory are given in the Notes to Students in your lab manual package. There will not be any opportunity to make up missed labs.
- b) In-tutorial homework assignment – three out of five will count toward the in-tutorial assignment grade. No make-up in-tutorial assignment will be given.
- c) Final Examination – In accordance with Senate Policy, a Special Examination will be held within thirty days of the regular final examination for students who are unable to write the regular examination for medical or other documented reasons. Requests for such a Special Examination must be made to the Associate Dean, Faculty of Science.

12. Help

Students who are in emotional or mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

13. Scholastic Offences

*“Success (and failure) will come and go,
but integrity is forever”
– Amy Rees Anderson*

Cheating

University policy states that cheating is a scholastic offence. The commission of a scholastic offence is attended by academic penalty, which may include expulsion from the program. If you are caught cheating, there will be no second warning. Cheating includes having available any electronic devices

other than a watch and the Sharp calculator discussed previously above during a test or exam. You may not have a cell phone accessible during exams, even to use as a calculator or watch. Complete information on the University policy on academic offenses can be found at: http://www.westerncalendar.uwo.ca/2014/print_pg113.html

Plagiarism

Students must write their assignments on their own and in their own words. Copying a solution or an answer from the internet or fellow students in your assignments constitute as plagiarism. This includes online MasteringPhysics.com assignments. Whenever students take an idea, or a passage from another author in an essay, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

14. Classroom Conduct

Disruptive behaviour during lectures, tutorials and the course OWL chat room or forums will not be tolerated. This also includes the inappropriate use of mobile phones or other electronic devices. Please respect the rights of your classmates to benefit from class by limiting your conversations to those essential to the class. Students who persist in loud or rude behaviour will be asked to leave.

15. Complaints and Suggestions

If you have a concern about something, please let us know. We rely on your feedback, and opportunities for anonymous feedback will be available. Please contact initially the person most directly concerned; this will usually be your instructor. If that is not satisfactory, or if there is something more general bothering you, talk it over with the Physics & Astronomy Chair of Undergraduate Affairs or Department Chair (for contact information see <http://www.physics.uwo.ca>).

16. Accessibility

Please contact the course instructor if you require material in an alternate format or for any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 Ext. 82147 for any specific question regarding an accommodation.