

COURSE DESCRIPTION

An introductory course in physics covering the foundation principles of kinematics, force and motion, work and energy, linear momentum, rotation, torque and angular momentum, gravitation, fluids, oscillations, waves, electric circuits, electric fields and potential, magnetic fields and electromagnetic induction. This course is taught at the pre-university level while focusing on the development of experimental skills, theoretical knowledge and the problem solving skills required for further studies in physics at the first year university level.

INSTRUCTOR INFORMATION

Instructor: Dimuthu Hemachandra
Office: UH 353
Phone 226 236 3866
email: dhemacha@uwo.ca
Office Hours : To be announced

COURSE SCHEDULE

	Time	Room
Lectures	Friday 11:30am - 2:30pm	BR-UH27, Brescia
Laboratory	Friday, 1.30pm - 4:30pm	MRW-156, Brescia

First lecture will be held on September 8, 2017.

COURSE MATERIALS

Text Book: *Physics 12*, Alan J. Hirsch, David Martindale, Charles Stewart, Maurice Barry, ISBN-13: 978-0-17-625988-4, Nelson Education; Available at the university bookstore.

Scientific Calculator (SHARP EL-510RB, non-programmable calculator is recommended for exams)

Online course materials: <https://owl.uwo.ca/> (Western password required)

Upon successful completion of this course, students will be able to:

1. Understand the basic concepts of Physics such as Newton laws, linear and circular motion, gravity, oscillations and waves and electrodynamics.
2. Demonstrate effective Problem-Solving skills through homework assignments, quizzes and exams.
3. Improve their team working skills, critical thinking skills and experimental skills through different laboratory experiments carried out as groups.
4. Write scientific reports explaining the experiments and results.

COURSE EVALUATION (per semester)

Assessment	Weight
Laboratory (3 labs, Count all)	15%
Quizzes	15%
Homework Assignments	10%
Midterm Exam	25%
Final Exam	35%

Physics 0010 is a laboratory course and you must obtain over 50% in all 3 labs to pass this course. All labs have the same weight and all 3 lab marks will be counted for the final lab grade.

ABSENCES

Students seeking academic accommodation for missed labs, quizzes or exams must provide valid documentation to the Academic Counselling office. A mark of zero will be assigned for the missed labs, quizzes or exams unless it has been excused by an academic counsellor. The policy regarding the absences from the laboratory is stated in the LABORATORY section of this course outline.

If you miss the due date of a homework assignment, contact the instructor immediately. The final decision to accept a late homework assignment will be decided by the course instructor..

The policies governing requests for academic accommodation for course components worth 10% or more of the course grade are outlined in the Brescia College Academic Policies and Regulations included at the end of this course outline.

CLASSROOM CONDUCT

You are encouraged to ask questions from the instructor during lectures and labs, however, respect the rights of your classmates by avoiding loud conversations which are not related to classroom activities.

PHYSICS 0010 LECTURE, LABORATORY, TUTORIAL AND EXAMINATION SCHEDULE

(Fall Semester)

Lecture topics:

Math review, Measurements and Units, Motion in one & two Dimensions, Force & Motion, Newton's Laws, Circular Motion, Work & Energy, Linear Momentum & Collisions, Waves & Oscillations.

Lectures/ Tutorials/ Quizzes/ Examinations/ Friday 11:30am - 2:30pm	Tutorials/Laboratory/ Quizzes Thursday 4:30 pm to 7.30 pm
Sep 8 - Lecture	Sep 7 –No Lab
Sep 15 - Lecture	Sep 14 – Laboratory 1 (group 1)
Sep 22 - Lecture	Sep 21 - Laboratory 1 (group 2)
Sep 29 – Lecture/ Tutorial	Sep 28 - Quiz 1
Oct 06 - Lecture	Oct 05 - Laboratory 2 (group 1)
Oct 13 - Reading Week Break	Oct 12 - Reading Week Break
Oct 20 - Mid Semester Exam	Oct 19 - Laboratory 2 (group 2)
Oct 27 - Lecture	Oct 26 - Tutorial
Nov 03 - Lecture	Nov 02 - Quiz 2
Nov 10 - Lecture/ Tutorial	Nov 09 - Laboratory 3 (group 1)
Nov 17 - Lecture	Nov 16 - Laboratory 3 (group 1)
Nov 24 - Lecture	Nov 23 - Quiz 3
Dec 01 - Lecture/ Tutorial	Nov 30 - No Lab
Dec 08 - Revision	Dec 07 – No Lab
Final Exam - To be scheduled during the Final Exam period: Dec 10 -21	

PHYSICS LABORATORY

Laboratory List:

1. Data Analysis
2. Static Equilibrium
3. Oscillations

Objectives: Physics 0010 laboratory is designed to teach the following laboratory skills: Provide direct experience of physics concepts and laws, teach the use of standard laboratory instruments, teach systematic methods of data collection and data analysis, build up experience in estimating and calculating uncertainties in measurements and in derived quantities, teach clear and accurate reporting of results and draw conclusions.

Lab reports: Must be done using original lab manuals and handed in at the end of the lab period.

Lab attendance: All 3 labs will be counted toward the final lab mark so the attendance in the lab is mandatory. A missed lab will be assigned a mark of zero unless a documentation is submitted and approved. You must complete at least 2 labs to pass the lab and therefore may not miss more than two labs even with valid documentation. If you miss more than two labs, please contact the instructor immediately. You must pass the lab to pass physics 0010 course.

Makeup lab policy: Make-up labs are not permitted for the first two labs missed. We either give you zero or exempt you from the missed lab as explained above.

Lateness policy: We will start admitting students to lab rooms 5 minutes before the scheduled lab time. Students who arrive 10 minutes after the scheduled lab time may not be admitted to the lab.

Dress code in Physics labs: You do not need to wear a lab coat or use eye protection in the physics laboratory since we do not handle chemicals. Generally wear clothes to cover your body. You are allowed to wear short sleeves in physics labs but recommend covered shoes to protect feet.

Physics laboratory safety regulations: This section is given in your lab package. Please read before coming to the first physics lab.

SCHOLASTIC OFFENSES

A list of laboratory rules is posted on the OWL course page. Scholastic offences will be handled as explained in that document, and as stated in the Brescia College academic policies and regulations listed at the end of this course outline.

HOMEWORK ASSIGNMENTS

Physics is a subject that cannot be memorized. In order to be successful in your physics course, you must first learn the physics concepts and then practice how to apply those concepts through problem solving. To help you achieve this goal, homework problems will be assigned weekly in this course. You are required to submit the completed homework assignments one week after receiving the problem set. Solutions to homework problem sets will be discussed during the tutorial periods.

TUTORIAL QUIZZES

There will be 4 in-class quizzes as scheduled in the course outline and will be discussed during the tutorial sessions. Best 3 out of 4 quizzes will be counted for the final grade.

EXAMINATIONS

There is one mid-term exams and one final exam in this course. Non-programmable calculators are permitted during exams and quizzes. SHARP EL-510RB calculator is recommended as it is the calculator accepted for exams in the Faculty of Science, at Western. Cellular phones, iPods, ear buds, laptops and other similar electronic devices are not permitted during exams, quizzes or physics laboratories. These devices cannot be used as calculators or clocks during exams, quizzes or laboratories. You may bring your laptop to lectures.

If you have any difficulty with any of the rules and regulations in this course including the laboratory, please make an appointment with the course instructor to discuss your concerns.

CONTACT INFORMATION: The instructor's contact information is listed on the first page of this course outline. I will not check OWL messages regularly. Please email me directly at dhemacha@uwo.ca or contact me after the lecture. Please send email using your Western email account which ends as "@uwo.ca".

2016-17 BRESCIA UNIVERSITY COLLEGE

ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING MAKEUP EXAMS AND EXTENSIONS OF DEADLINES

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation **must** be made through an Academic Advisor and include supporting documentation. Academic accommodation for illness will be granted only if the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete her academic responsibilities. Minor ailments typically treated by over-the-counter medications will not normally be accommodated. Documentation shall be submitted as soon as possible to the student's Academic Advisor indicating the period of illness and when the student should be able to resume academic responsibilities. Students must submit their documentation along with a request for relief specifying the nature of the accommodation being requested no later than two business days after the date specified for resuming responsibilities. Appropriate academic accommodation will be determined by the Dean's Office in consultation with the student's instructor(s). Please note that personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are **not** grounds for academic accommodation.

A UWO Student Medical Certificate (SMC) is **required** if a student is seeking academic accommodation on medical grounds. This documentation should be obtained at the time of the initial consultation with the physician/nurse practitioner or walk-in clinic. A SMC can be downloaded from: <http://www.westerncalendar.uwo.ca/2016/pg117.html> The student must request documentation sufficient to demonstrate that her ability to meet academic responsibilities was seriously affected. Please note that under University Senate regulations documentation stating simply that the student "was seen for a medical reason" or "was ill" is **not** adequate to support a request for academic accommodation.

Whenever possible, requests for academic accommodation should be initiated in advance of due dates, examination dates, etc. Students must follow up with their professors and Academic Advisor in a timely manner.

The full policy on requesting accommodation due to illness can be viewed at: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal problem that is interfering with your work, contact your instructor and Academic Advisor as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. Retroactive requests for academic accommodation on medical or compassionate grounds may not be considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult an Academic Advisor. If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines (refer to the Registrar's website, www.registrar.uwo.ca, for official dates). You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. *Note that dropping a course may affect OSAP eligibility and/or Entrance Scholarship eligibility.*

The Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year or for too frequent absence from the class or laboratory (<http://www.westerncalendar.uwo.ca/2016/pg130.html>)

3. ABSENCES

Short Absences: If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test or assignment. Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

Extended Absences: If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work and arrange academic accommodations, if appropriate.

4. POLICY ON CHEATING & ACADEMIC MISCONDUCT

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.westerncalendar.uwo.ca/2016/pg113.html>

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. Students are urged to read the section on Scholastic Offences in the Academic Calendar. Note that such offences include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. Students are advised to consult the section on Academic Misconduct in the Western Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Student Services Centre, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Plagiarism:

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, 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).

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com.

Computer-marked Tests/exams:

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal signed by the student must be sent to the Department Chair. If the response of the department is considered unsatisfactory to the student, she may then submit a signed, written appeal to the Office of the Dean. Only after receiving a final decision from the Dean may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the Ombudsperson's Office, or you can consult an Academic Advisor. Students are advised to consult the section on Student Academic Appeals under Academic Rights and Responsibilities in the Western Academic Calendar (<http://www.westerncalendar.uwo.ca/2016/pg112.html>)

6. PREREQUISITES AND ANTIREQUISITES

Unless you have either the prerequisites for a course or written special permission from your Dean to enroll in it, you will be removed from the 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 prerequisite(s).

Similarly, you will also be deleted from a class list if you have previously taken an antirequisite course unless this has the approval of the Dean. These decisions may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course because you have taken an antirequisite course.

7. SUPPORT SERVICES

The Brescia University College Registrar's website, with a link to Academic Advisors, is at <http://brescia.uwo.ca/academics/registrar-services/>. The website for the Student Development Centre at Western is at <http://www.sdc.uwo.ca/>. Students who are in emotional/mental distress should refer to Mental Health @ Western http://uwo.ca/health/mental_wellbeing/ for information including a complete list of options about how to obtain help.

Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.