

## Physics 1302B

### *Introductory Physics II*

### Course Information: 2011

**Note:** This Course Information sheet is a living document. Check for updates to this information on the course website.

#### 1. Course Description

A calculus-based laboratory course for students intending to pursue further studies in Science.

Oscillations, waves, heat, kinetics of gases, electric fields and potential, DC circuits, magnetic fields, modern physics.

**Antirequisite(s):** [Physics 1021](#), [1029A/B](#), [1402A/B](#), [1502A/B](#), the former Physics 1020, 1024, 1026.

**Prerequisite(s):** One of [Physics 1301A/B](#) or [1401A/B](#) or [1501A/B](#), or a minimum mark of 70% in [Physics 1028A/B](#).

**Extra Information:** 3 lecture hours, 3 laboratory/tutorial hours, 0.5 course.

Note: The department recommends that students also take a concurrent course that includes Calculus. Please be aware that some of the programs for which [Physics 1302A/B](#) is a prerequisite also require [Calculus 1000A/B](#) or [1100A/B](#) plus [Calculus 1301A/B](#) or [1501A/B](#), or [Applied Mathematics 1413](#). This course, together with [Physics 1301A/B](#), is a suitable prerequisite for modules in the Faculty of Science and modules offered by the basic medical science departments, and for professional schools having a Physics requirement.

#### 2. Timetable

Physics **1302B** is divided into 2 sections with lectures as shown below.

| Physics 1302B                | Section 001  | Section 002  |
|------------------------------|--|--|
| <b>Lecture Times:</b>        | Mon, Wed, Fri<br>12:30 – 1:20 pm<br>WSC 55                                   | Mon, Wed, Fri<br>1:30 – 2:20 pm<br>WSC 55                          |
| <b>Principle Instructor:</b> | Prof. Mahi R. Singh<br>(course coordinator)                                  | Prof. E. Peeters   |
| <b>e-mail:</b>               | <a href="mailto:physics1302b@gmail.com">physics1302b@gmail.com</a>           | <a href="mailto:physics1302b@gmail.com">physics1302b@gmail.com</a> |
| <b>Office:</b>               | PAB 242  | PAB 207  |
| <b>Web Sites:</b>            | WebCT: <a href="http://owl.uwo.ca">http://owl.uwo.ca</a> (password required) |  |

**Note:** This course will be team taught: both instructors will participate in the teaching of both sections, with the lectures divided according to topic.

### 3. Course Materials

The following course materials can be purchased at the UWO Bookstore:

**Textbook:** *Fundamentals of Physics*, 9<sup>th</sup> extended edition, by Halliday, Resnick, and Walker (John Wiley & Sons, 2011)

**Lab Manual:** *Physics Laboratory Manual 2010-2011 for Physics 1302B*.  
Be sure to buy the correct package, as it is not refundable.

**Assignment Access:** *Wiley Plus access code*.  
Assignments for this course are completed on-line. Access codes are provided with the purchase of a new textbook. Access codes used in previous years will *not* work.

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

**NOTE:** In addition, on-line materials, including lecture notes, are available from the course WebCT sites.

### 4. Course Content

The course content is outlined in the following tables. Note that this is a provisional list; the course outline and website will be updated as necessary (e.g., if sections are omitted).

| Physics 1302B |                  |                          |
|---------------|------------------|--------------------------|
| Chap.         | Sections         | Topic                    |
| 15            | 1-7              | Oscillations             |
| 16            | 1-5, 9, 10,12,13 | Waves (also 17-2,5)      |
| 18            | All              | Heat                     |
| 19            | 1-5, 8           | Kinetics of Gases        |
| 21            | all              | Electric Charge          |
| 22            | 1-5, 8-9         | Electric Fields          |
| 24            | 1-8, 10, 11      | Electric Potential       |
| 26            | all              | Current and Resistance   |
| 27            | all except 9     | Circuits                 |
| 28            | all except 10    | Magnetic Fields          |
| 38            | 1-3, 5, 6        | Photons and Matter Waves |
| 39            | all              | More about matter waves  |

### 5. Evaluation

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

|                   |     |
|-------------------|-----|
| Midterm           | 35% |
| Final Examination | 35% |
| Laboratory        | 15% |
| Tutorial Quizzes  | 15% |

In order to pass the course, you must attain a grade of at least 50% in at least one of the examinations, and pass the laboratory component of this course. Unless you achieve *both* of the above criteria, your maximum grade in this course will be 40%.

Quiz grades will be posted regularly on the class WebCT site. Any errors, or appeals to your scores, must be reported to your instructor within **two weeks** of their initial posting.

## 6. Laboratories

**Dr. K. Kaluarachchi (M 2203) is in charge of the laboratory. Direct *all* laboratory questions to her (email [kanthi@uwo.ca](mailto:kanthi@uwo.ca) or telephone to 661-2111 x86446), *not to your instructor.***

Information on the laboratory is posted on the lab web site:

<http://www.physics.uwo.ca/ugrad/labyr1/index.htm>

### Laboratory Orientation Lecture

A laboratory orientation lecture will be posted on the lab web site by the first week of September. You must visit the web site and familiarize yourself with the contents of this lecture *before attending your first lab.*

### Laboratory Schedules

Each Physics 1032B lab section is divided into three laboratory subsections A, B and C, which meet on alternate weeks throughout the year. The laboratory timetables for these lab sections are posted at the above lab web site.

Laboratory subsection assignments will be posted on the lab web site by student number. 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 supervisor, Dr. K. Kaluarachchi.

If you have taken the course previously and want to know if you have to repeat the labs, contact Dr. Kaluarachchi as soon as possible.

*In order to pass the course, a student **must** obtain a passing grade in the laboratory.*

## 7. Tutorials and Quizzes

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, the next you will have a tutorial) and meet for 2 hours, the first 1:15 h of which is normally spent working through problems relevant to the lecture material with the guidance of a tutorial leader. Your tutorial subsection will be posted as a "grade" in WebCT Owl—click on *My Grades*.

During the final 45 minutes of the tutorial you will normally write a quiz containing multiple-choice questions and one multi-part numerical problem. These quizzes are graded and used to assign your tutorial mark. There will be approximately 5 quizzes; an exact schedule will be provided during the first week of classes. Your tutorial grade will be based on your *best 4* quizzes, allowing you to omit 1 quiz per term without penalty.

**Note:** Communicating with other members of your tutorial group during the quiz will be dealt with as seriously as would cheating on an exam.

## 9. Examinations: Midterms and Final

Exam times will be posted on the course WebCT when available. Students needing to make travel arrangements are advised to book a travel date after the end of the examination period. *No makeup exams will be given to accommodate travel!*

No extra written material, PDAs, advanced calculators, computers, cell phones, etc., are permitted during exams.

Exams will consist of a combination of multiple-choice questions designed to test conceptual understanding of topics covered in class, and numerical problems (which may consist of multiple parts) that test problem-solving abilities. The multiple choice portions of the exams may include instant feedback.

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.

### Calculators

The **only** calculator that may be brought into an exam 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 **before** the examination.

### Accommodations for Religious Holidays

When scheduling unavoidably conflicts with religious holidays which a) require an absence from the University or b) 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, and alternative means will be sought for satisfying the academic requirements involved. If a suitable arrangement cannot be worked out between the student and instructor involved, they should consult the appropriate department chair and, if necessary, the student's Dean.

It is the responsibility of such students to inform themselves concerning the material covered in classes from which they are absent and to take appropriate action.

A student who, for either of the situations outlined in paragraph one above (a or b), 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 November 15 for mid-year examinations and March 1 for final examinations, i.e., approximately two weeks after the posting of the mid-year and final examination schedule respectively. In the case of mid-term tests, such notification is to be given in writing to the instructor within 48 hours of the announcement of the date of the mid-term test. If a Special Examination is offered as an alternative means to satisfy the academic requirements, the instructor(s) in the case of mid-term tests and the dean in the case of mid-year and Spring final examinations will arrange for

special examination(s) to be written at another time. In the case of mid-year and Spring final examinations, the 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 the Faculty accommodate these requests.

For purposes of these policies 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 Departmental, Deans' and Faculty advising offices.

## 10. Make-up Policy

- a) *Lab Marks.* Grading policies for the laboratory are given in the *Notes to Students* in your lab manual package. In general, no opportunity is given to make up missed labs.
- b) *Tutorial Quizzes.* We anticipate that 5 quizzes will be given in this course. Your lowest quiz mark will be dropped. Note that this schedule allows you to miss approximately 1 month of tutorials due to illness without penalty. *If you miss more than 1 quiz* and want to be excused, you must provide documentation to the Associate Dean, Faculty of Science, who will determine if relief is warranted. No make-up quizzes will be given.
- d) *Midterm Examinations.* The Department will provide one make-up test that may be written only with the permission of the Associate Dean, Faculty of Science.
- e) *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.

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 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 obtained from the Dean's Office immediately. For further information please see:

[http://www.uwo.ca/univsec/handbook/appeals/accommodation\\_medical.pdf](http://www.uwo.ca/univsec/handbook/appeals/accommodation_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 Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here:

<http://www.uwo.ca/univsec/handbook/appeals/medicalform.pdf>

## 11. Class Web Site

All course information such as the most recent version of this document, lecture schedules, exam information, lecture notes, marks, etc. is available on the secure WebCT Owl site. To access this site, you will need to go to:

<http://owl.uwo.ca>

and log on using your UWO *username* and *password*. If you need information about setting up and using your account (or forwarding your mail from uwo.ca to other mail services), information can be found at the ITS web site,

<http://www.uwo.ca/its/>.

Some aspects of these web sites require Adobe Acrobat Reader (5.0 or higher) which is available for free.

## 12. Cheating (Scholastic Offenses)

### 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. Possession or use of more than one clicker during a lecture will be considered cheating. Cheating includes having available any other electronic devices than a watch and the Sharp calculator discussed previously 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.uwo.ca/univsec/handbook/appeals/scholoff.pdf>

### 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).

## 13. Classroom Conduct

Disruptive behaviour will not be tolerated in class (or the WebCT chat room). Please respect the rights of your classmates to benefit from the lecture by limiting your conversations to those essential to the class. Students who persist in loud or rude behaviour will be asked to leave and may have their clicker codes disabled for an extended period.

## 14. Complaints and Suggestions

If you have a concern about something, please let us know. We rely on your feedback. 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 Department Chair or the Associate Chair of Undergraduate Affairs (for contact information see <http://www.physics.uwo.ca>).

## 15. Contacting Us

The simplest way to contact us outside of lectures is via your UWO e-mail account. Please allow 2–3 working days for a response.

*We will not **read or respond** to emails from addresses that do not end in "@uwo.ca".*