Physics 1B03 – Mechanics and Waves

Course Outline, Spring, 2010

Instructor: Ken Sills
Office: ABB 101
Office Hours: Tuesday 3:30-4:30pm, Thursday 1:30-2:30pm
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Course Objectives

- To come to appreciate that equations don't solve physics problems – ideas solve physics problems
- To move beyond being able to recite the laws of mechanics to being able to use them
- To understand that a wide range of problems can be tackled with a few basic concepts

Required Items (All of the following required items are available at the bookstore):

- *Physics for Scientists and Engineers, A Strategic Approach* (*with Modern Physics),* 2nd ed, by Randall D. Knight
- Physics 1B03 Laboratory Manual course pack, May 2010, and a black, bound, hardcover lab notebook
- I-clicker

Course Format, Assignments, and Labs

The course consists of 2 lectures per week. The material studied in class is supported by practical exercises (labs). There are practical exercise sessions every week, each lasting 2 hours. All the sessions are in BSB B114. Problem sets will be assigned regularly and must be completed by computer using the CAPA (Computer-Assisted Personalized Approach) system. No extensions on CAPA problem sets will be given, so make sure you complete your assignments on time. CAPA should be accessed through ELM (see below). Although you are free to discuss the assignments with each other in general terms, your assignments must reflect your own individual understanding of the course material. Technical questions about CAPA should be directed to the CAPA webmasters at capa@physics.mcmaster.ca .

Missed Work
Marks for any missed course work (tests, CAPA, iClicker) are placed on the final exam automatically. You do not need to contact the Office of the Associate Dean. You do not need documentation. Lab work missed due to illness or personal circumstances (e.g. a death in the family) can often be made up. As soon as possible, you should contact the lab supervisor, Alex Vorobyov (voroby@mcmaster.ca), to reschedule. If you miss more than one lab, you must also provide documentation (e.g. the note from your doctor) to the Associate Dean of Science (Studies) office. The mark for the first missed lab is placed on the final exam. The mark for any further missed labs will be placed on the final exam only if proper documentation has been submitted to the Associate Dean.

Midterm Test and Final Exam

Midterm Test: Tuesday, May 25, 10am - noon.
Final Exam: Thursday, June 17, 9:30am - 12:30pm

Only the McMaster Standard Calculator will be permitted in tests and examinations.

Note: The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

Grading Scheme

Your grade will be calculated approximately according to the weightings given below. However, I reserve the right to change the actual weightings used. I will inform you of any such changes.

Assignments (CAPA)	10%
Labs	15%
Midterm Test	25%
Final Exam	40%
In-class clicker quizzes	10%

Clicker Quizzes

Clicker quizzes will be given frequently, usually more than once per lecture. Clicker quizzes are short comprehension tests, based on the assigned readings and the material being discussed in class. They are meant to help you retain what you learn and to assess how well you are understanding. They are not meant to be very difficult. You are encouraged to discuss the clicker quizzes with one another during class. If you find you are not doing well on the clicker quizzes, you should be asking more questions! All students are responsible for purchasing an iClicker and bringing it to every class. No clickers or spare batteries will be available on loan. Students must purchase and register their iClicker before the **second class** of term. Failure to purchase, register, and use an iClicker will result in the loss of marks. The iClickers can be registered by filling out the form on this web page **iclicker.com/registration** .

In the "Student ID" field on that web page, you MUST fill in your **Mac ID**, which is the username you use to log onto WebCT. iClickers can be purchased second-hand, but they must be re-registered with your own information. It is not possible to share an iClicker with another student, even if you are in different classes. It ***is*** possible to use a single iClicker for all of your courses, as long as you register it with your Mac ID, as described above. **You are forbidden to enter answers on another student's iClicker.** Any student found entering answers on an iClicker other than his or her own will be considered to have violated McMaster's academic integrity policy.

ELM

This course makes use of the online learning tool, ELM. CAPA is accessed via ELM, so it is important that you are able to access ELM immediately. If you do not already have an ELM account, you should sign up for one immediately and ensure that you are able to access the PHYS 1BB3 page. You can find out more about ELM and sign up for an account at **elm.mcmaster.ca** .

Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor. Additional information about online services available to McMaster students is available at **getonline.mcmaster.ca**.

Scientific Honesty and Academic Integrity

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, located at **www.mcmaster.ca/academicintegrity** .

The following list illustrates only a few possible forms of academic dishonesty:

1. Plagiarism, e.g. submission of work that is not one's own or for which other credit has been obtained. Copying another student's CAPA answers falls into this category and is prohibited.
2. Improper collaboration in group work. Although you do your labs in groups, the laboratory reports are to be the result of individual efforts and not the result of teamwork.
3. Copying or using unauthorized aids in tests and examinations.
4. Falsification or misrepresentation of data in laboratory reports.