

TENTATIVE Course Syllabus for
PHYA11H
Introduction to Physics IB
(Physics for Life Science)

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COURSE DESCRIPTION: This first course in Physics at the university level is intended for students enrolled in the Life Sciences. It covers fundamental concepts of classical physics and its applications to macroscopic systems in one and three dimensions. It deals with two main

COURSE MATERIAL:

Physics for Scientists and Engineers (2nd edition) by Knight. Copies are available at the UTSC bookstore. There are a variety of formats (including an e-book). As we will not be using Mastering Physics in PHYA11, you do not need to get a package which includes it. If you get the third edition that should suffice, though page numbers and back of the chapter questions may differ. I will be posting numbers based on the second edition.

You do NOT need to purchase a lab manual for this course!

You will want to purchase an iClicker. There are 2 versions, either will work since we will not be using any of the features of the newer, more advanced version. You may be able to get a deal if you buy the textbook and Clicker together. Used Clickers also work, just be sure to get the serial number. When you register your iClicker, be sure to use your UTORid not your student number. The website will ask you for your student number { ignore that and use your UTORid.

OFFICE HOURS:

TBD. If you cannot make them it may be possible to schedule occasional office hours at different times. Please setup an appointment via [27\(oin\)27\(tmenBD.\)-255\(lf\)-255\(y\)28\(l-2t\)-255\(l-2t\)-y\(lf\)-255\(1-413\)@utoronto.ca](mailto:27(oin)27(tmenBD.)-255(lf)-255(y)28(l-2t)-255(l-2t)-y(lf)-255(1-413)@utoronto.ca)

TESTS AND EXAM:

Both the term tests and final exam will draw from the lectures, practicals and textbook. This could include material presented in the lectures or tutorial material that is not covered in the textbook. It could also include assigned reading material that was covered in the textbook but not explicitly discussed in lectures.

All tests and exams are cumulative.

You will be allowed to bring a single 8.5 by 11 page, double sided, and hand-written (no photocopies) for the tests and exams. This aid sheet can have whatever you wish. The same size restrictions apply for the exam - ONE SHEET ONLY - so you will have to redo your aid sheet for each test.

READING QUIZZES:

These will be done online, on the Blackboard site, once per week. You are responsible for reading the assigned sections of the textbook and answering a series of multiple choice questions. The purpose of this is to help you come to lectures with a basic understanding of the material so that we can focus on the more subtle points in class. If you have time, you should really be doing this for every course as it will really help your understanding (and hence your GPA).

PRACTICAL QUIZZES:

There is no graded homework for this course. Instead, every other week a list of suggested problems from the textbook will be given. During every other practical session there will be a quiz. This quiz will be based on the suggested problems. These quizzes should be easy if you do all the suggested problems.

Please note that these questions will be basic problems that you should master before the tests and exam. Questions on the tests and exam will likely be more difficult than these quiz questions. Think of them as the first few rungs on a ladder, with the exam being the top of the ladder.

PRACTICALS:

There will be ten (10) weeks of Practicals. Two of those weeks will be lab based. Both labs will require that you submit a formal lab report. The first one will be graded, but that grade does not count! You should use the feedback you get from the first lab to make sure you do a good job on the final lab report.

You must submit wholly original work. If you are caught plagiarizing, you will be sent to the Dean's office. If you are unsure as to what constitutes legitimate referencing and what constitutes plagiarism, ask for help!

All Practical work, including the labs, will be done in groups. Lab reports will be submitted one per group. STYLE is important! If you submit a Frankenpaper (three sections written in

TENTATIVE LECTURE SCHEDULE

Knight is a good textbook, and like many first year physics textbooks it presents things in a certain, logical order. I do not particularly like that order. Specifically, I think Energy should be done before Forces. We will thus be doing things out of order. In addition, while we will not spend much time in class looking at the first 3 chapters of the text, you should read those chapters on your own since they build the foundation of much of the rest of the book. If you have taken high school physics most of that material will already be familiar to you.

Week 1 { Energy (Chapter 10)

Week 2 { Work, Energy Conservation (Chapter 11)

Week 3 { Forces, Newton's Laws (Chapters 5, 6)

Week 4 { Newton's Laws, Momentum (Chapters 7, 9)

Week 5 { Kinematics and Motion (Chapters 4, 8)

Week 6 { Rigid Objects and Torque (Chapter 12)

Week 7 { Oscillations (Chapter 14)

Week 8 { Stationary Fluids (Chapter 15)

Week 9 { Dynamic Fluids (Chapter 15)

Week 10 { Macroscopic Description of Matter (Chapter 16)

Week 11 { Thermodynamics (Chapter 17)