

Course Syllabus

PHY131H1F – Summer “Introduction to Physics I”

Summer 2010, University of Toronto St. George Campus

[Printed version distributed in class May 11, 2010 – [Revisions in blue text May 20, 2010](#)]

Welcome! The topics of this first university physics course include motion, force, rotation, momentum, energy, gravity, friction and drag, oscillations, fluids and elasticity. Along the way we will be using motion diagrams, vectors, free-body-diagrams, error analysis and problem solving techniques to deepen our understanding of physics, science and the universe, and gaining hands-on experience with physical phenomena in the Practicals.

The course web-site is available at <http://bit.ly/baHKII> , or Google search “Jason Harlow teaching” and click on PHY131H1F Summer 2010. Marks and practicals groups will be posted on <http://portal.utoronto.ca> .

Instructor: **Jason Harlow**

Phone: (416) 946-4071

Email: jharlow@physics.utoronto.ca Responding to Emails: I will endeavour to respond to email inquiries from students within 2 days. If you do not receive a reply within this period, please resubmit your question(s) and/or phone (leave a message if necessary).

Web Page: <http://www.physics.utoronto.ca/~jharlow/>

Office: MP129A (in the “Physics Teaching Group” office of the 1st floor of the North Wing of McLennan Labs, 60 St. George St.)

Summer F-semester Office Hours: Tuesdays, Thursdays 1-2 p.m. In addition to these hours, you have are invited to call or email for an appointment, or just drop by my office.

Course Administrator: **April Seeley**

Office: MP129, Phone 416-946-0531, Email: seeley@physics.utoronto.ca

Practicals Technologists: Larry Avramidis, Lilian Leung, Phil Scolieri, Rob Smidrovskis, Office: MP127.

Practicals Coordinator: **Kausik Das**

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What you need to obtain for this course:

- Required Text: “**Physics for Scientists and Engineers**” 2nd Edition (©2008) by **Randall Knight**.
- An **account on www.masteringphysics.com**, which comes with the purchase of the new text at the U of T Bookstore. You can purchase an account separately at the U of T Bookstore. Online homeworks will be assigned using this web-site.
- An **i-clicker** personal response system (looks like a white remote control), which is available at the U of T bookstore. You must register your clicker to your at www.iclicker.com using your student number. In-class quizzes and surveys will be given during classes using this device.
- A **calculator**. This need not be a graphing calculator but it should have SIN, COS, TAN on it as well as EE or EXP. A calculator will be an allowed aid during the test, exam and quizzes during Practicals.

Marking scheme:

Final Exam	40%
Term Test in EX100 on May 27	25%
Teamwork performed during Practicals	15%
Individual Assessment during Practicals	5%
Online www.masteringphysics.com homework	5%
MasteringPhysics pop-quizzes during Practicals	5%
Class Participation, In-Class Questions	5%

Test and Exam

An 80 minute Term Test will be held in EX100 on May 27 from 6:30pm to 7:50pm. A 3-hour final examination, administered by the Faculty of Arts & Science, will be held during the week of June 21-25 at a time and place specified by the Faculty. Both the test and exam will involve a combination of multiple choice and written questions, which test your understanding of course material and ability to think and apply what you have learned to simple problems. A pocket calculator with no communication ability and a 8.5"×11" double-sided piece of paper with

your own hand-written notes will be permitted during the test. Two pieces of paper are allowed on the exam.

Practicals

In addition to classes, you will meet regularly in groups of 36 for 2 hours in Practical. Attendance is mandatory. Each Practical group is lead by two graduate student Teaching Assistants. The material is exactly the same as what is being taught in classes, but your time will be spent in discussion, problem-solving, hands-on activities and team-work. The goals are to deepen your understanding of the physics, develop your laboratory skills and analysis techniques, and get you used to working in teams. Please see the course web-site for the Practical schedule and marking scheme.

MasteringPhysics Online Homework

I recommend that you do MasteringPhysics homework completely on your own. Your understanding of randomly selected questions from the assigned MasteringPhysics problems will be tested during pop-quizzes held occasionally during the Practical. Please bring a calculator to Practical for these quizzes. The problems offered on MasteringPhysics include extensive hints which I recommend that you open (there is no penalty for doing so), and 4 attempts are allowed if you get it wrong the first time. I recommend you use scrap paper and a pen to work through the problems "offline", similar to how you would work on them for a test or exam.

- Go to <http://www.masteringphysics.com/>
- Click on **Register New Students**.
- You will be asked for an Access Code, which came with your new text-book purchase, or can be purchased separately from the U of T bookstore.
- You will be asked for your name. Use the exact same name that you gave on ROSI.
- You will be asked for a *Student ID*. This should be **your 9-digit student number**. You can not change this later, so be sure to type it carefully.
- You will choose a login and password. They will provide you with access to year.
- You will be asked for the course ID: it is **PHY131SUMMER10**
- Click on **Assignment List** in the upper-left corner of the screen to see the available assignments. The due dates for problem sets 1-9 are May 17, 19, 24, 31, and June 2, 7, 9, 14, 16 all at 11:59pm.

Class Participation / In-Class Questions

Every class, beginning with Class 2, I will be surveying the class or asking some kind of informal questions based on the assigned reading, using the i-clickers. Your participation in these In-Class Questions using your clicker remote will count for one point per class you attend. Discussions with others is **allowed** and even *encouraged* during these informal questions, but you must have your own remote and select your own vote in order to obtain class participation marks. If a student is caught with more than one remote, both will be confiscated and both students associated with these remotes will receive zeros for class participation for the entire course. **For the majority of the questions, worth half of one point per class, the mark will be assigned based on effort, not accuracy. Each lecture there will be a small accuracy-portion which is worth the other half of one point.** You *must* do your reading before coming to class in order to get the most out of these questions! There are 11 classes throughout the course in which we will use the clickers, but students will all be held to a maximum of 9 points, which is worth the full 5%. So any student may miss, fail to participate, or forget his or her clicker in up to 2 classes and have no penalty. If your Final Exam percentage mark is higher than your total Class Participation mark, your final exam mark will replace your Class Participation mark. This would effectively make the final exam worth 45% of your course mark, and Class Participation worth 0% accordingly.

Class Reading Schedule:

1. Tue, May 11: Ch. 1
2. Thu, May 13: Error Analysis Online Tutorial pages 1-8, Ch. 2
3. Tue, May 18: Error Analysis Online Tutorial pages 9-14, Ch. 3, Ch. 4, sections 4.1 to 4.4
4. Thu, May 20: Ch. 4, sections 4.5 to 4.7, Ch. 5
5. Tue, May 25: Ch. 6
6. Thu, May 27: TERM TEST in EX100, Test is 6:30-7:50
7. Tue, June 1: Ch. 7, Ch. 8
8. Thu, June 3: Ch. 9, Ch. 10, sections 10.1 to 10.5
9. Tue, June 8: Sections 10.6, 10.7, Ch. 11
10. Thu, June 10: Ch. 12, sections 12.1 to 12.4 and 12.9, Ch. 14, sections 14.1 to 14.3
11. Tue, June 15: Ch. 14, sections 14.4 to 14.8, Ch. 15, sections 15.1 to 15.3

12. Thu, June 17: Ch. 15, sections 15.4 to 15.6