

PHYS 111 – Introductory Physics II
May – Aug 2015

Instructor: Jonathan Rudge
Sections: A01, A02
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Lectures: 1:30 – 2:30 TWF, ELL 168 (A01, A02)
Office Hours... Whenever you need them.

Labs: You must complete all labs **and** pass the lab section to pass the course

Prerequisite: PHYS 110, and credit or concurrent registration in a calculus class.
The calculus class (MATH 100 or 102) must be at UVic if it is taken concurrently. We will structure the course assuming that you are taking MATH 101 in the same term you are taking PHYS 111.

Required Texts: “University Physics” - UVic Custom Edition (Volume II)
(Volume I was sold in the Bookstore packaged with access to an online course management system. **MasteringPhysics is required in order to access, complete, and receive credit for the assignments.**)

Marking and Grades:

- Have a score above 50 based on the following method of calculation:

	%	
Assignments	10	approximately weekly
Labs	20	all labs must be completed
Midterms	20	(2 @ 10% each)
Final Exam	50	

All grades are now recorded as percentages however the University of Victoria has a standardized conversion between percentage grades and letter grades. This marking scheme is:

A+	90-100	B+	77-79	C+	65-69	F	0-49
A	85-89	B	73-76	C	60-64		
A-	80-84	B-	70-72	D	50-59	N	Not Complete

This may be useful for transfer credit or GPA calculations.

You may ONLY use a non-programmable, non-graphing calculator for exams. For example Sharp EL-510R or EL-510RNB about \$10 in the Bookstore .

Cheating and Academic Integrity:

Don't cheat on exams, assignments, or in your labs. Cheating, plagiarism, and other forms of academic fraud are taken very seriously both by the instructors and the University. The *Policy on Academic Integrity* is available online at:

<http://web.uvic.ca/calendar2014-09/FACS/UnIn/UARe/PoAcI.html>

You should note that the typical penalty for cheating on an exam is being assigned the grade F in the course. If an instructor has reasonable cause to suspect an academic integrity violation has occurred then they may, at their discretion, take this into account when assigning grades; this is separate from any disciplinary process.

Help

There are several places where you can get help, both with Physics and with other issues:

- The Physics Aid Center (drop-in Physics Q&A held in Elliot 038)
- The Learning Commons (help with Math, Writing, and Learning Skills.)
- Me - I am always willing to help.
- Resource Centre for Students with a Disability (472-4946)
- Counseling Services (721-8341)

Keys to success:

- Attend lectures
- Study
- Practice problems
- Do the assignments
- Repeat as needed.
- Repeat again

- Don't be shy !! Speak up, Ask for help
I have never had anyone fail because they asked too many questions.

Guide to the topics that are covered this term along with corresponding textbook chapter numbers. Note that we are covering roughly one chapter per week. The material isn't terribly difficult (hopefully) but it is very easy to get swamped by the relentless tide of new information.

To avoid getting swamped, do a little bit every day. Better still, do a little bit twice a day. Three questions everyday is better than 30 questions once a week*. That's right 30 questions all at once isn't as good as 21 question over a week.

*Individual results may vary

Approx. hours	Chapter	Topic
3	1	State Variables (pressure, temperature,) Thermal Expansion, Ideal Gas Law
3	2	Heat and temperature, Calorimetry, Heat Transfer, and Heat Capacity
3	3	Work and Volume changes, 1st Law of Thermodynamics, Analysis of Thermodynamic Processes
		Midterm 1 will cover to ~ here
3	4	Heat Engines – efficiency, examples including refrigeration. 2nd Law of Thermodynamics. Qualitative introduction to Entropy
3	5	Harmonic Motion – Systems, Energy, Applications. Harmonic Resonance
4	6	Mechanical Waves – Types, Properties, Math of Traveling Waves, Energy Transport, Superposition Principle. Other types of Waves
3	7	Standing Waves and Resonance, Applications of Standing Waves, Beat Frequencies, Interference, Diffraction, Doppler Effect
		Midterm 2 will cover ~here (inclusive)
3	8	
4	9	Nature and Spectrum of Light, Reflection, Refraction, Total Internal Reflection and the Critical Angle. Image formation and magnification by Single Mirror or Lens Systems, Multiple element Systems, Interferometry
3	10	Time Dilation, Length Contraction, Lorentz Transformations, Relativity, Relativistic Momentum and Energy
3	11	Photoelectric Effect, Compton Scattering, The Uncertainty Principle, Bohr Atom, Radioactivity.