Physics and Astronomy  
University of Waterloo  
Term and Year of Offering: Winter 2014  
Course Number and Title: Phys 360 A/B 460A/B Modern/Advanced Physics Laboratory

Instructor’s Name, Office Location, Office Hours, Contact: Jeff Gardiner, PHY 260, 8:30-4:30 M-F

Course Description:
Selected experiments in mechanics, optics, electronics, atomic, molecular, nuclear and solid state physics.

Course Objectives:

(1) To provide direct experience with physical phenomena across a broad range of topics in modern physics.

(2) To teach systematic methods of data collection and analysis, and the clear and accurate reporting of results.

(3) To teach the use of standard physical instruments to obtain measurements.

(4) To provide experience with collaborative report writing and oral presentation.

Evaluation: The course grade will be based on collaborative lab reports, as well as individual oral presentations, which will be held during the last week of term. The breakdown is as follows:

Lab Assignments 70%
Oral Presentations 30%

Lab Assignments: The reports are each marked out of 20. The number of reports will vary with the number of experiments you choose to do.

Rules for Group Work in Lab Assignments: Each experiment in the lab is given an “hour” weighting to reflect the level of difficulty and amount of work to complete. Students select experiments totalling a minimum of 18 hours credit for each (A/B) course and perform the experiments on the days scheduled by the instructor. If a partner is selected, they will work as a team to perform the experiment during the laboratory session, and will continue to work as a team on preparing the experimental write-up and will submit a single, joint report. In conjunction with this, students are expected to maintain their own laboratory notebook with all the information regarding each experiment as it is performed.

Lab Deadline: All laboratory reports must be submitted via the drop box in LEARN (pdf format only) no later than 5:30 pm two weeks after the date the experiment is performed. If the report is not received during that timeframe, the mark recorded for that lab will be zero.
**Missed Labs:** Any student who misses a lab should make arrangements with course instructor as soon as possible afterwards to complete the lab.

**Pick up Marked Labs:** Marked experimental reports will be available once they have been graded.

**Academic Integrity, Grievance, Discipline, Appeals and Note for Students with Disabilities:** see www.uwaterloo.ca/accountability/documents/courseoutlinestmts.pdf

**Academic Integrity:** In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check www.uwaterloo.ca/academicintegrity/ for more information.]

**Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt please be certain to contact the department’s administrative assistant who will provide further assistance.

**Discipline:** A student is expected to know what constitutes academic integrity [check www.uwaterloo.ca/academicintegrity/] to avoid committing an academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate Associate Dean. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline, www.adm.uwaterloo.ca/infosec/Policies/policy71.htm. For typical penalties check Guidelines for the Assessment of Penalties, www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm.

**Appeals:** A decision made or penalty imposed under Policy 70 (Student Petitions and Grievances) (other than a petition) or Policy 71 (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm.

**Note for Students with Disabilities:** The Office for persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.