Instructor Information

Instructor: Tan Dinh  
Office: PHY 259  
Office Phone: (519) 888-4567 x37186  
Email: tndinh@uwaterloo.ca  
Office Hours: The instructor keeps an open door policy, although mornings are generally more reliable. Booking an appointment by e-mail is recommended.

Course Description

This lab course is designed to provide a direct experience with the physical phenomena studied in the PHYS 224 course. You will use standard physical instruments, combined with systematic methods of data collection and analysis and the clear, accurate reporting of results to demonstrate and clarify the theory used in the experiments. Students will perform and write a report on 5 experiments during their scheduled lab periods. Each experiment is designed to test a certain theoretical expectation. The experiments are as follows:

- Experiment 1: The Electricfield  
- Experiment 2: Human EKG/EMG  
- Experiment 3: Capacitors and LRC Circuits  
- Experiment 4: Experiments in Electromagnetism and Electromagnetic Induction  
- Experiment 5: MRI Experiment

You must check your Quest schedule or the lab manual for the exact date of each experiment for the specific section in which you are registered.

Required Text

Physics 224L Laboratory Manual (Fall 2014), will be made available on LEARN. The lab manual contains detailed information about each experiments.
Course Timeline and Grading

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labs</td>
<td>70%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

There will be a final exam in this course (date to be announced), consisting of short answers and practical components questions worth a combined total of 30% of your final grade.

**Lab Reports**
Lab reports are to be written and handed in one week from the date of performed (Drop box outside room PHY 211A). Late penalty is one mark a day (5% of available marks). A complete report shall include a written discussion and a statement of conclusions in addition to the report template provided in the manual for each experiment. Each lab is normally performed in a group of two, with no more than one group of three in each section. There are no permanent or assigned lab partners.

Raw data and measurements shall be obtained and shared as a group, but all other aspects of the lab report must be your work and your work only. It is OK to discuss the lab and analysis with your partner but you must not copy or reproduce each other’s work (except for raw data). See below under “Academic Integrity”.

Graded reports are normally returned at the next laboratory section. Special arrangements for pickup will be announced by your TA later in the term for your final lab (#5) report.

**Attendance Policy**
You must attend your registered lab section times. The only exception to this is if you have received explicit permission to attend an alternate section. Such permission may only be granted for legitimate reasons (including, for example, verified illness, family emergencies, varsity travel). Midterm exams are not acceptable reasons to be granted permission, since this is a pre-scheduled class meet time. If you have a conflicting test or midterm exam, you should contact that course’s instructor to make alternative arrangements. If you miss a lab unexpectedly, you must make all reasonable attempts to contact your instructor as soon as possible. Failure to do so may result in a mark penalty or a missed lab.

Missed labs will result in a grade of zero for that particular lab.

**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. See the UWaterloo Academic Integrity Webpage (https://uwaterloo.ca/academic-integrity/) and the Arts Academic Integrity Office Webpage (http://arts.uwaterloo.ca/current-undergraduates/academic-responsibility) for more information.

**Discipline**
A student is expected to know what constitutes academic integrity to avoid committing academic offenses and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean.

For information on categories of offenses and types of penalties, students should refer to Policy 71, Student Discipline (http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm). For typical penalties check Guidelines.
for the Assessment of Penalties
(http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm).

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 (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70). When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

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 (http://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.