

**PHYS 326 – Electricity and Magnetism**  
**Course Outline: Sept 2013 – Dec 2013**

Instructors: Dr. Richard Keeler  
Office: Elliott 218  
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Email: [rkeeler@uvic.ca](mailto:rkeeler@uvic.ca)

Lectures: 8:30 – 9:30 TWF, Elliott 162

Labs: All lab sections are held in the Elliott building.  
Labs start during the week of September 9.  
You must complete and pass the labs to obtain credit for the course.

Office Hours: Keeler:  
T 1:30 – 3:30 and W 1:00-3:00  
Other times can be arranged. Email me to determine a mutually agreed time.

Course Website: Moodle

Text: “Introduction to Electrodynamics, Fourth edition”, David J. Griffiths

Topics Covered:

1. Vector Calculus
2. Electrostatics
3. Poisson’s and Laplace’s equations, images multipole expansions.
4. Electric Fields in Matter
5. Magnetostatics
6. Electrodynamics
7. Conservation Laws

Course objective:

Study the properties of electromagnetic fields using vector calculus, displacement current, Maxwell's equations, and plane electromagnetic waves with applications.

### **Organizational Details**

We will distribute all course material via Moodle. This includes all assignments, assignment solutions, any lecture notes, a course outline, associated readings, and notes pointing to other useful resources.

**We will collect all assignments in class on their due date.**

**To ensure prompt marking and feedback, late assignments will be penalized 10% per day.**

We are willing to arrange reasonable accommodations for:

- Missed exams due to illness or other severe affliction;

- Missed assignments or course deadlines due to illness or other affliction;
- Conflicts between classes or examinations and your religious observances;
- Similar issues.

If you miss an exam for any reason, we expect you to contact your instructor as soon as possible after the exam. If you anticipate missing a course requirement, we expect you to contact us a reasonable amount of time in advance.

**On all examinations the only acceptable calculator is the Sharp EL-510R. This calculator can be bought in the Bookstore for about \$10. DO NOT bring any other calculator to examinations.**

Cheating, plagiarism, and other forms of academic fraud are taken very seriously by both the instructors and by the University. The *Policy on Academic Integrity* can be found in the Undergraduate Calendar on pages 32-34. The typical penalty for cheating on an exam is being assigned the grade F in the course.

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 (academic help with most sciences, in the Library)
- Your instructors. We have office hours for a reason.
- Resource Centre for Students with a Disability (472-4946)
- Counseling Services (721-8341)

Keys to success:

- Attend lectures – you won't be exposed to the material if you don't.
- Read the text – the text explains things in a slightly different way from us; having access to different perspectives will help you synthesize the material.
- Do the assignments – We choose the problems to help teach the principles that are covered in class.
- Study – We expect that this class will take you around 10 hours per week between classes, labs, assignments, and studying.
- Ask for help if you find yourself falling behind.

### **Marking and Grades:**

To obtain credit in the course you must:

- Have satisfactory standing on the final (end-of-term) exam.
- Complete all labs *and* have satisfactory standing in the labs.
- Have a mark above 50% based on the following distribution:

	Fraction of grade	
Assignments	20 %	approximately weekly
Labs	20 %	all labs must be completed
Midterm I	10 %	TBA
Final Exam I	50 %	December Exam Period
Total	100 %	

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

In all cases, we will use your mark (as determined above) to guide the assignment of a percentage grade, however the meaning of the percentage grades is encoded in the narrative descriptions (which can be found on page 38 of the current Undergraduate Calendar <http://web.uvic.ca/calendar2012/FACS/UnIn/UARe/Grad.html>). We will ensure that assigned grades correspond to these narrative descriptions.

We will review all lab marks prior to assigning a final grade. An F will be assigned if you do not satisfactorily complete the labs.

The grade E is a failing grade and permits the possibility of a supplemental final exam. An E will be assigned if you do not have satisfactory standing on the final exams but would otherwise pass the course. The grade N is a failing grade that indicates that you did not complete the required course work; An N will be assigned if you do not write the final exam.