2020A - Electricity and Magnetism (Fall 2018)

Course instructor: Dr. Sean Tulin

Outline: We will cover introductory topics in electromagnetism, including: electrostatics, Coulomb's law, Gauss's law, electric fields and potentials, conductors, electric currents, moving charges, magnetostatics, electromagnetic induction, and Maxwell's equations. We will introduce concepts from vector calculus and special relativity that are essential for a deep understanding of this topic.

Course text: *Electricity and Magnetism* by Edward Purcell and David Morin. This is a classic book written by a Nobel Laureate (Purcell). We will be following the text closely.

Grading and tests: There will be weekly homework assignments, weekly quizzes, two midterms, and a final exam. Your final grade will be based as follows:

- Homework: Your homework grade (averaged over all assignments) counts 20%.
- Quizzes: Almost every Wednesday during tutorial there will be a quiz. Quizzes will focus on mathematical concepts and their application in this course. Your average quiz grade counts 10%. There will be eight quizzes in total and your lowest three quizzes will be dropped.
- Midterms: Each midterm (two in total) counts 20%. Scheduled for **Wed Oct 3rd** and **Wed Nov 7th** at **11:30 am - 1:20 pm**.
- Final exam: 30%. Date, time, and location to be determined.

Homework policy: Homework problems are the most essential part of this class. Here are the rules:

- Assignments will be posted on Mondays and will be due on the following **Monday before 4pm**. You may turn in your assignments during class or at my office. If I am not present in my office, slip it under my door. No emailed copies are accepted.
- Extensions: none will be given unless there is an emergency or other extreme circumstance. Late homework must be turned in during working hours and will be penalized 10% per 24 hours (this includes weekends too).
- Expectations: all homework you turn in will be entirely your own work. You may discuss homework problems with your peers, but you must write your own solutions independently.
- Homework solutions will be made available during class. No electronic copies of solutions will be provided.

Missed midterm policy: If you miss a midterm, you must have a valid excuse and you must contact the course instructor within 24 hours of the exam time to schedule a makeup. If you do not, you will receive zero credit. A missed quiz counts as one of your dropped quizzes and cannot be made up for any reason.

Email policy: I try to respond to email questions as soon as I can. However, please obey the following guidelines:

- Please post all physics-related questions on the piazza course page. (You can post anonomously if you wish.) If you are confused, chances are that others are too.

- Do **not** email me to request your grade on any assignment or in the course as a whole.
- Feel free to email me if I forget to upload any course materials in a timely manner.

Other information:

- Instructor email: stulin@yorku.ca
- Instructor office: Petrie 217
- Office hours: Monday 11:30am-12:30pm, location **TBD**.
- Course website: http://www.yorku.ca/stulin/2020