

University of Victoria
Department of Physics and Astronomy

Physics 216 - Introductory Electricity and Magnetism

Summer 2019 Syllabus

General Information

Instructor: Travis Martin

Email: travismartin@uvic.ca

Office: Elliot 402B

Office Hours: Mondays 10am-12pm

Course Webpage: <http://coursespaces.uvic.ca>

Lecture Schedule:

Monday, Tuesday and Thursday from 2:30pm - 3:50pm in **Ell 161**.

Prerequisites:

Either Phys 110/111 or Phys 120/130. Co-requisite Math 200.

Required Materials:

Text: University Physics with modern Physics (13th edition or later), by Young and Freedman.

Calculator: University approved calculator for quizzes and exams.

Computer: Access to a computer with software or program compiling capabilities in order to plot figures.

Accommodations:

Accommodations can be made for missed exams/assignments due to illness or other severe affliction, as well as conflicts with classes and religious observances. Accommodations will also be made for issues documented through CAL.

If you miss an exam or assignment, I expect you to contact me as soon as possible. If you anticipate missing a course requirement, you must contact me a reasonable time in advance. If an emergency occurs during a test, please talk to me. I can't help if I don't know about the problem.

Course Overview

The material of this course will be covered in this order. As this course does not follow a standard format (compressed), the pace of the course is not fixed.

Topic 1: Introduction and Math Overview

- Vectors, coordinate systems, integrations, approximations

Topic 2: Electric charge, forces and fields

- Chapter 21 in 14th edition of text

Topic 3: Flux and Gauss's Law

- Chapter 22 in 14th edition of text

Topic 4: Potential energy and electric potential

- Chapter 23 in 14th edition of text

Topic 5: Current and Ohm's Law

- Chapter 25 & 26 in 14th edition of text

Topic 6: Lorentz Force and Magnetic Fields

- Chapter 27 & 28 in 14th edition of text

Topic 7: Capacitance and Inductance

- Chapter 24, 30 & 31 in 14th edition of text

Topic 8: Faraday's Law and Motional EMF

- Chapter 29 in 14th edition of text

Grading

If the application of this scheme would result in grades that are judged by the instructor to be inconsistent with the University's grading descriptions (<https://web.uvic.ca/calendar2014/FACS/UnIn/UARe/Grad.html>), then the instructor will assign percentages consistent with them.

Assignments: 20%

There will be 7 assignments in this course, due every Monday from May 13-June 24. Questions will be a mix of calculation and algebraic, as well as the occasional plotting question. You are free to use any software/language you like to plot your result, however you must include your code in your assignment submission. Since this is a compressed course (8 weeks instead of 13), each assignment will be approximately twice the length of a typical assignment during a winter/spring semester.

Assignment Policy: You are allowed to collaborate on assignments, so long as your work and your solutions are your own. I take a very strict stance on copying and academic infringement, but I do understand the value in collaborative work. Discussing with a friend is no different from discussing with a professor, except it will likely help your friend learn the material better (teaching someone is the best way to learn material, trust me). But if you scribe their answers, I will know, and I will throw the metaphorical book at you!

Neatness Policy: You are expected to treat your assignments with respect. Ripped and crumpled/creased paper will not be accepted.

Quizzes: 30%

There will be 6 quizzes, each Thursday starting on May 16, which will be topically related to the material from the assignment due on the previous Monday. The quizzes will be 20 minutes long and will take place at the start of the lecture - as a result, prompt attendance is strongly encouraged. Students who are late for that lecture will not be given extra time.

Final Exam: 50%

The final exam will be comprehensive in that it will require knowledge of all of the material of the course. The final exam will occur on Friday, June 28, at a time/location still to be scheduled. The lecture on Thursday, June 27 will be a review lecture of material required for the final exam.

University Regulations on Academic Integrity

These regulations are reproduced from <http://web.uvic.ca/calendar2011/FACS/UnIn/UARe/PoAcI.html>. For full information, including procedures for dealing with academic integrity infringement, see the webpage linked above.

Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility. Any action that contravenes this standard, including misrepresentation, falsification or deception, undermines the intention and worth of scholarly work and violates the fundamental academic rights of members of our community.

Several types of academic integrity violations are covered in brief below.

Plagiarism

A student commits plagiarism when he or she:

- submits the work of another person as original work
- gives inadequate attribution to an author or creator whose work is incorporated into the student's work, including failing to indicate clearly the inclusion of another individual's work
- paraphrases material from a source without sufficient acknowledgement as described above

Students who are in doubt as to what constitutes plagiarism in a particular instance should consult their course instructor.

Falsifying Material Subject to Academic Evaluation

Falsifying materials subject to academic evaluation includes, but is not limited to:

- fraudulently manipulating laboratory processes, electronic data or research data in order to achieve desired results
- using work prepared by someone else (e.g., commercially prepared essays) and submitting it as one's own
- citing a source from which material was not obtained
- using a quoted reference from a non-original source while implying reference to the original source
- submitting false records, information or data, in writing or orally

Cheating on Assignments, Tests/Quizzes and Examinations

Cheating includes, but is not limited to:

- copying the answers or other work of another person
- sharing information or answers when doing take-home assignments, tests and examinations except where the instructor has authorized collaborative work
- having in an examination or test any materials or equipment other than those authorized by the examiners impersonating a candidate on an examination or test, or being assigned the results of such impersonation
- *assisting others to engage in conduct that is considered cheating*