



**PHYSICS**  
**Science**  
**Electricity & Magnetism**  
203-NYB-05 (all sections)  
Summer 2017

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<b>Teachers</b>	<b>Alex Pronine</b> 7A.24, local 4029, pro9physics@gmail.com (Cont'Ed) <b>Emmanuel Thibau</b> 7A.8, local 4236, ethibau@dawsoncollege.qc.ca (Cont'Ed)
<b>Pre-requisites</b>	Mechanics (203-NYA-05), Calculus I (201-NYA-05)
<b>Co-requisites</b>	Calculus II (201-NYB-05)
<b>Ponderation</b>	6.8-3.4-6.8 (6 hours 50 min of lecture, 3 hours 25 min of labs, and 6 hours 50 min of work outside class per week)
<b>Course objectives</b>	<p>The aim of this course is to analyze different physical situations and phenomena in terms of the fundamental laws of electricity and magnetism. This includes an analysis of: physical situations involving static electric charge, direct current circuits, magnetic fields and magnetic induction, alternating current circuits as well as experimental verification of some of the laws of electricity and magnetism.</p> <p>Detailed information regarding the objectives and standards for this course and the specific performance criteria is available at <a href="https://www.dawsoncollege.qc.ca/physics/program-documents/science/">https://www.dawsoncollege.qc.ca/physics/program-documents/science/</a>.</p>
<b>Course competencies</b>	This course will allow the student to fully achieve the competency:

Assignments, quizzes and class tests <sup>y</sup>	55%	35%
Laboratory activities	15%	15%
Final examination	30%	50%

<sup>y</sup>

**Intensive course conflicts**

If a student is attending an intensive course, the student must inform the teacher, within the first two weeks of class, of the specific dates of any anticipated absences.

**Policy on religious observance**

Students who intend to observe religious holidays must inform their teachers in writing as prescribed in the ISEP Policy on Religious Observance (ISEP Section IV-D), within the first two weeks of the semester. Forms for this purpose are available from your teacher. Your teacher will inform you of any modifications to planned course activities resulting from the teacher's own religious commitments.

**Course content**

The material to be covered is contained in the following chapters and sections of **Physics for Scientists and Engineers by Serway & Jewett, 9th edition**.

Weeks	Topics	Chapter & Section
1{3	Electric fields	Ch.23: 1{7
3{4	Gauss's law	Ch.24: 1{4
4{6	Electric potential	Ch.25: 1{6 (7 & 8 optional)
7{8	Capacitance and dielectrics	Ch.26: 1{4 (5, 6 & 7 optional)
8{9	Current and resistance	Ch.27: 1, 2, 4{6 (3 optional)
9{10	Direct-current circuits	Ch.28: 1{5
11{12	Magnetic fields	Ch.29: 1{4 (5 & 6 optional)
12{13	Sources of the magnetic field	Ch.30: 1{5 (6 optional)
13{14	Faraday's law	Ch.31: 1{5 (6 optional)
15	Inductance	Ch.32: 1, 2 (3{5 optional)
	Alternating-current circuits (tiditsw	