Faculty of Engineering
COURSE OUTLINE

**ECE 216 – Electricity and Magnetism**
**Term – Fall 2018 (201809)**

**Instructor**
Dr. Poman So
Phone: 250-472-4224
E-mail: Poman.So@UVic.CA

**Office Hours**
Days: Tuesday and Wednesday
Time: 14:30 – 15:30
Location: EOW 417

**Course Objectives**
Study the fundamentals of electromagnetics with emphasis on engineering applications.

**Learning Outcomes**
Upon completion of this course, students should be able to:
1. Evaluate the gradient of a scalar function and the divergence and curl of a vector function in any of the three primary coordinate systems.
3. Evaluate the magnetic force and torque on a current-carrying structure due to a magnetic field.
4. Calculate the resistance, capacitance, and inductance of electromagnetic structures.
5. Use Maxwell's Equations to assess the propagation characteristics of plane waves.

**Syllabus**

**Lectures**
A-Section: A01 / CRN 10886
Days: TWF
Time: 13:30 – 14:20
Location: ECS 125

**Labs**
B-Sections: B01 — B10
See the class schedule listing at the end of this course outline for details

**Tutorials**
T-Sections: T01, Friday, 12:30 – 13:20, DTB A104

**Required Text**
Author: Fawwaz T. Ulaby and Umberto Ravaioli
Publisher: Pearson / Prentice Hall
Year: 2015
Assessment
Assignments: 20% (10 × 2%)  Due Dates: TBA, see CourseSpaces for details
Labs: 20% (5 × 4%)
Exams, 2 hrs: 60% (4 × 15%)  Dates: 25/09, 16/10, 6/11 and 4/12
Time: 6:00 – 8:00 pm  
Place: BWC B150
Students must bring their UVic OneCard to the exams.

Note:
1. The required textbook is your main source of reference for this course. Material in the book will not be reproduced in the course notes. Students are expected to attend all classes in this course and to take their own notes. See http://web.uvic.ca/calendar2018-09/undergrad/info/regulations/attendance.html for attendance requirements.
2. Failure to complete all laboratory requirements will result in a grade of N being awarded for the course.
3. The aggregate grade of the exams must be a passing grade (≥ 30%) to pass the course.
4. Plagiarism detection software may be used to aid the instructor and/or TAs in the review and grading of some or all of the work you submit (http://www.uvic.ca/library/research/citation/plagiarism/index.php).

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.
https://web.uvic.ca/calendar2018-09/undergrad/info/regulations/grading.html

There will be no supplemental examination for this course.

Note to students: Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Assistant to set up an appointment.

Accommodation of Religious Observance:

Policy on Inclusivity and Diversity:
https://web.uvic.ca/calendar2018-09/general/policies.html

Standards of Professional Behaviour: You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities.
https://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Undergraduate Calendar for the UVic policy on academic integrity.
https://web.uvic.ca/calendar2018-09/undergrad/info/regulations/academic-integrity.html
**Equality:** This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Resource Centre for Students with a Disability located in the Campus Services Building.

The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

**Course Lecture Notes:** Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.
Sections Found

Electricity and Magnetism - 10886 - ECE 216 - A01
Associated Term: First Term: Sep - Dec 2018
Registration Dates: Jun 18, 2018 to Sep 21, 2018
Levels: Law, Undergraduate
Main Campus
Lecture Schedule Type
Face to Face Instructional Method
1.500 Credits
View Catalog Entry

Scheduled Meeting Times

<table>
<thead>
<tr>
<th>Type</th>
<th>Time</th>
<th>Days</th>
<th>Where</th>
<th>Date Range</th>
<th>Schedule Type</th>
<th>Instructors</th>
</tr>
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<tbody>
<tr>
<td>Every Week</td>
<td>1:30 pm - 2:20 pm</td>
<td>TWF</td>
<td>Engineering Comp</td>
<td>Sep 05, 2018 - Dec 05, 2018</td>
<td>Lecture</td>
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Electricity and Magnetism - 10887 - ECE 216 - B01
Associated Term: First Term: Sep - Dec 2018
Registration Dates: Jun 18, 2018 to Sep 21, 2018
Levels: Law, Undergraduate
Main Campus
Lab Schedule Type
Face to Face Instructional Method
0.000 Credits
View Catalog Entry

Scheduled Meeting Times

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<tbody>
<tr>
<td>Every Week</td>
<td>3:30 pm - 6:20 pm</td>
<td>M</td>
<td>Elliott Building</td>
<td>Sep 10, 2018 - Dec 05, 2018</td>
<td>Lab</td>
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Electricity and Magnetism - 10888 - ECE 216 - B02
Associated Term: First Term: Sep - Dec 2018
Registration Dates: Jun 18, 2018 to Sep 21, 2018
Levels: Law, Undergraduate
Main Campus
Lab Schedule Type
Face to Face Instructional Method
0.000 Credits
View Catalog Entry

Scheduled Meeting Times


### Electricity and Magnetism - 10889 - ECE 216 - B03

Associated Term: First Term: Sep - Dec 2018  
Registration Dates: Jun 18, 2018 to Sep 21, 2018  
Levels: Law, Undergraduate  
Main Campus  
Lab Schedule Type  
Face to Face Instructional Method  
0.000 Credits  
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<td>T</td>
<td>Elliott Building 129</td>
<td>Sep 10, 2018 - Dec 05, 2018</td>
<td>Lab</td>
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### Scheduled Meeting Times

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<td>Sep 10, 2018 - Dec 05, 2018</td>
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### Electricity and Magnetism - 10890 - ECE 216 - B04

Associated Term: First Term: Sep - Dec 2018  
Registration Dates: Jun 18, 2018 to Sep 21, 2018  
Levels: Law, Undergraduate  
Main Campus  
Lab Schedule Type  
Face to Face Instructional Method  
0.000 Credits  
View Catalog Entry

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### Electricity and Magnetism - 10891 - ECE 216 - B05

Associated Term: First Term: Sep - Dec 2018  
Registration Dates: Jun 18, 2018 to Sep 21, 2018  
Levels: Law, Undergraduate  
Main Campus  
Lab Schedule Type  
Face to Face Instructional Method  
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### Electricity and Magnetism - 10893 - ECE 216 - B07

- **Associated Term:** First Term: Sep - Dec 2018
- **Registration Dates:** Jun 18, 2018 to Sep 21, 2018
- **Levels:** Law, Undergraduate
- **Main Campus**
- **Lab Schedule Type**
- **Face to Face Instructional Method**
- **0.000 Credits**

#### Scheduled Meeting Times

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### Electricity and Magnetism - 10894 - ECE 216 - B08

- **Associated Term:** First Term: Sep - Dec 2018
- **Registration Dates:** Jun 18, 2018 to Sep 21, 2018
- **Levels:** Law, Undergraduate
- **Main Campus**
- **Lab Schedule Type**
- **Face to Face Instructional Method**
- **0.000 Credits**

#### Scheduled Meeting Times

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<th>Schedule Type</th>
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<td>11:30 am - 2:20 pm</td>
<td>M</td>
<td>Elliott Building 129</td>
<td>Sep 10, 2018 - Dec 05, 2018</td>
<td>Lab</td>
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### Electricity and Magnetism - 10895 - ECE 216 - B09

- **Associated Term:** First Term: Sep - Dec 2018
- **Registration Dates:** Jun 18, 2018 to Sep 21, 2018
- **Levels:** Law, Undergraduate
- **Main Campus**
- **Lab Schedule Type**
- **Face to Face Instructional Method**
- **0.000 Credits**

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<td>Sep 10, 2018 - Dec 05, 2018</td>
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Electricity and Magnetism - 10896 - ECE 216 - B10
Associated Term: First Term: Sep - Dec 2018
Registration Dates: Jun 18, 2018 to Sep 21, 2018
Levels: Law, Undergraduate
Main Campus
Lab Schedule Type
Face to Face Instructional Method
0.000 Credits
View Catalog Entry

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<td>Elliott Building 129</td>
<td>Sep 10, 2018 - Dec 05, 2018</td>
<td>Lab</td>
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Electricity and Magnetism - 10897 - ECE 216 - T01
Associated Term: First Term: Sep - Dec 2018
Registration Dates: Jun 18, 2018 to Sep 21, 2018
Levels: Law, Undergraduate
Main Campus
Tutorial Schedule Type
Face to Face Instructional Method
0.000 Credits
View Catalog Entry

Scheduled Meeting Times

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<th>Type</th>
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<td>12:30 pm - 1:20 pm</td>
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<td>David Turpin Building A104</td>
<td>Sep 10, 2018 - Dec 05, 2018</td>
<td>Tutorial</td>
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Release: 8.7.2