Syllabus – Spring 2018  
PHYS 342: Classical Physics II – Electricity and Magnetism

Course Information
Credits: 4 credits  
Meeting Times: MWRF 2:15pm – 3:15pm  
Meeting Locations: Reichardt 203 for MWF, Reichardt 207 for R

Instructor Information
Instructor: Prof. Hyunju Kim Connor  
Office: 706B Elvey, Reichardt 120  
Email: hkconnor@alaska.edu  
Phone: (907) 474-5421  
Office Hours: MW 3:15 – 4:45pm (Reichardt 120), or By appointment (Elvey 706B)

Prerequisites
Physics 341 or permission of instructor

Textbook

Course Description
Statics and dynamics of electric and magnetic fields in vacuum and in the presence of materials. Lorentz force law. Maxwell’s equations.

Course Goals
To acquire a basic understanding of foundations of electrodynamics.

Student Learning Outcomes
1. Students will be familiar with the classical description of electricity and magnetism in terms of Maxwell’s equations.  
2. Students will be able to solve a wide variety of vector-calculus based problems in electricity and magnetism using Maxwell’s equations.

Instructional Methods
4 hr lectures per week

Course Schedule
We will cover Chapters 1-8 of Griffiths in this course. Here is a tentative schedule.

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Class Topics</th>
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</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Jan 15 – Jan 22</td>
<td>Chap. 1 Vector Analysis</td>
</tr>
<tr>
<td>2-4</td>
<td>Jan 24 – Feb 07</td>
<td>Chap. 2 Electrostatics &amp; Gravitational potential</td>
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</tbody>
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4-5  Feb 09 – Feb 16  Chap. 3 Special Techniques
6-7  Feb 19 – Mar 01  Chap. 4 Electric fields in Matter
7  Mar 02, 2:15 – 3:15pm  Midterm #1
8-10 Mar 05 – Mar 23  Chap. 5 Magnetostatics
11-12 Mar 26 – Apr 05  Chap. 6 Magnetic fields in Matter
12  Apr 06, 2:15 – 3:15pm  Midterm #2
13-14 Apr 09 – Apr 20  Chap. 7 Electrodynamics
15  Apr 23 – Apr 30  Chap. 8. Conservation Laws
15  May 04, 1:00 – 3:00pm  Final Exam

Grading:

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<tbody>
<tr>
<td>Homework</td>
<td>30</td>
</tr>
<tr>
<td>Midterm #1</td>
<td>20</td>
</tr>
<tr>
<td>Midterm #2</td>
<td>20</td>
</tr>
<tr>
<td>Final exam</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
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Final grades will be returned as letter grades with plus/minus modifiers. These will be derived from your overall percentage grade. The approximate conversions for each letter grade will be as follows: A+ (>97.5), A(>87.5), A-(>85), B+(>82.5), B(>72.5), B-(>70), C+(>67.5), C(>57.5), C-(>55), D+(>52.5), D(>42.5), D-(>40), F (<40)

Course Policies:
(a) Attendance and participation in class is expected of all students.
(b) Homework is given every Friday and due at the beginning of class on the following Friday. Late homework will not be accepted without evidence of illness or genuine emergency.
(c) Students are encouraged to work together on the homework problems. However, the final materials must be their own answers.
(d) Plagiarism and cheating are not accepted with no exception.

Academic Honesty
UAF expects and requires academic honesty from all members of the University community, and takes any act of plagiarism and cheating seriously. It is expected that all assignments, including homework and reports, that are turned in for this course must the original work of the individual student. Failure to comply with this policy will result in penalty as stipulated under UAF regulations.

Disabilities Services
The UAF Office of Disability Services implements the Americas with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. Any student who may need assistance with disabilities, should feel free to contact the instructor or directly to the Office of Disabilities Services (208 WHIT) by calling 907-474-5655, or through email: uaf-disability-service@alaska.edu.