Physics 2217 – Remote from 4/6/2020

Electricity & Magnetism : Spring 2020

Note: You may change the grading basis of this course to S/U until May 12, 2020. S/U courses from this semester will be accepted for all major requirements.

Instructors

| Professor : | Michael Niemack 389 Physical Scien | email : <u>niemack@cornel</u> ces Building (plea | | Zoom: 497-024-6991 2217 in subject) |
|-------------|---|---|------|--|
| TAs : | Ameen Ismail Manki Kim Alex Grant | email : <u>ai279@cornell.ec</u> email : <u>mk2427@cornell</u> email : <u>amg425@cornell</u> | .edu | Zoom: 910-340-5953 Zoom: 212 194 2875 Zoom: 260-852-0766 |

Texts & Required Materials

- *Electricity and Magnetism*, by Purcell and Morin, 3rd edition, reading assignments indicated on syllabus should be done before class
- Physics 2217 Laboratory manual, Spring 2020 purchased from bookstore
- A REEF-polling account from i-Clicker, free when signed up for with link distributed on Canvas
- Internet access and a device with the Zoom app installed; also preferably telephone access, since Zoom audio is often better by phone than by internet

Class Times

| Lecture : | MWF | 10:10 – 11:00 EDT Zoom: 497-024-6991 | Niemack |
|------------------|-----|--------------------------------------|---------|
| Discussion 201 : | Μ | 14:30 – 15:20 EDT Zoom: 910-340-5953 | Ismail |
| Discussion 202 : | Tu | 14:30 – 15:20 EDT Zoom: 910-340-5953 | Ismail |
| Discussion 203 : | W | 14:30 – 15:20 EDT Zoom: 212 194 2875 | Kim |
| Discussion 204 : | W | 15:35 – 16:25 EDT Zoom: 212 194 2875 | Kim |
| Laboratory 401 : | Th | 12:20 – 14:15 EDT Zoom: 910-340-5953 | Ismail |
| Laboratory 402 : | F | 12:20 – 14:15 EDT Zoom: 260-852-0766 | Grant |
| Laboratory 403 : | Th | 14:30 – 16:25 EDT Zoom: 212 194 2875 | Kim |
| Laboratory 404 : | F | 14:30 – 16:25 EDT Zoom: 260-852-0766 | Grant |

Lecture and Discussion Zoom sessions will be recorded and posted or linked on Canvas, so that students in different time zones can view them at alternative times. Questions from students in these sessions are often best asked by posting them in the public chat window or on Piazza for the discussion sections.

Laboratory Zoom sessions are designed to be check in sessions for each laboratory group; more details are below.

Study Halls and Office Hours

Study Halls and Office Hours with TA:

Wed: 17:00-19:00pm EDT Zoom: 260-852-0766 – Alex Grant Thurs: 17:00-19:00pm EDT Zoom: 260-852-0766 – Alex Grant Prof. Niemack Office Hours: Tuesdays from 15:30-16:30 EDT Zoom: 497-024-6991 unless otherwise noted in announcements or listed on the course calendar on Canvas. Study hall and office hour attendance is voluntary, but you should have worked on the problems on your own beforehand.

Online Course Information

Canvas course information: All information, assignments, solutions, lectures, and handouts will be available online on the Physics 2217 Canvas site, <u>https://login.canvas.cornell.edu/</u>. Please make sure that you are able to access the Physics 2217 Canvas page - class emails will go out via Canvas, so you must be enrolled on Canvas.

Piazza online discussion forum: Questions about lecture, problem sets, or other topics can be posted any time on Piazza and the course staff will aim to answer them quickly. <u>https://piazza.com/class/k7nhn115p101fs?cid=1</u>

Problem Sets

There will be one problem set assigned each week, typically distributed on Monday and due on Friday. They will be turned in by uploading scanned or photographed copies on Canvas. *Please combine all pages of the assignment into one .pdf document and try to compress the images, so that the file size is less than 3 MB.* They should generally be turned in on the date due **before 5 PM EDT**. Solutions will be posted on Canvas within a day or two of the problem sets being collected. **Problem sets will be graded primarily on the basis of effort (0-3 scale)**, as opposed to simply having the correct answer. Most homework problems will be graded coarsely.

Discussion and collaboration on the problem sets is encouraged, but you must first attempt to solve as much as you can by yourself. We have set up study halls for students to gather to work on problems on which they have gotten stuck or could not solve themselves; however, you must have worked on the problems on your own before coming to the study hall. The ability to solve the problem sets <u>on your own</u> is the "gold standard" against which to assess your true understanding of the material. Keep in mind that each student in this course is expected to abide by the Cornell University Code of Academic Integrity. Any work submitted by a student in this course for academic credit will be the student's own work. Simply copying your classmates' problem sets will be self-defeating, as you will not have learned the material well enough to perform well on the quizzes and exams.

Exams

| <u>Prelim 2</u> : | April 21 | time and format TBD |
|-------------------|----------|---------------------|
| Final Exam : | TBD | |

<u>Quizzes</u>

Quizzes will restart during the week of April 13, 2020. Similar to previous quizzes, the quiz problem will be based on a problem from the previous week's problem set. Therefore, you

should study the posted solutions to the problem sets. Unlike the problem sets, the quizzes will be graded solely on the basis of correctness.

Given that students are spread across many time zones, quizzes will be assigned via Canvas at 11am on Monday, and students will have 24 hours to complete the quiz and turn it in by submitting a photograph or scanned copy of your handwritten work on Canvas. Students are expected to work completely independently and should not search for information on the internet while working on the quizzes. However, the textbook, material posted on Canvas, and course notes can all be used to help solve the quiz problems.

<u>Labs</u>

The remaining labs will be based on measuring magnetic fields using a smartphone with a magnetometer app and devices that many of you likely have available at your homes. You will work in small lab groups via Zoom, so that even if you do not have access to the required devices, you can work with peers to complete the labs. More information about the labs will be distributed via Canvas. The current plan is for all groups to check in with their TAs during the first hour of the scheduled lab period. Zoom sessions will be available for all lab groups during that time period. If desired, the group can coordinate activities with each other at other times instead, but at least some of the group members should check in with the TA at the start of the scheduled lab time.

Pre- and Post- course surveys

This semester we are giving one pre-course and two post-course surveys. The goal of these surveys is to help us improve the physics curriculum for you and future students. These surveys will be given in your laboratory sections and participation in the surveys will count for the majority of your laboratory grade on those days. The pre-course survey will be completed in the first lab session and the post-course surveys will be distributed online and should be completed by the last lab session.

Bonus Points

Bonus points will be awarded for participating in the majority of the clicker questions. The clickers will not be used to check attendance and incorrect answers will not count against you in any way. REEF-polling information must be registered in Canvas by using the registration feature in the tools menu.

Reading Assignments & Handouts

Reading assignments (from the textbook) for the next lecture can be found on the syllabus, which is posted on Canvas. You will greatly benefit by reading the assigned sections **before** lecture.

Grading

This revised grading scheme shifts some weight away from later exams. It may be changed as the semester plans evolve, in which case students in the course will be notified via canvas.

| Prelim 1 : | 20 % |
|---------------------------------|-----------|
| Prelim 2 : | 15 % |
| Final Exam : | 20 % |
| Problem Sets, Labs, & Quizzes : | 45 % |
| Bonus Points : | See above |

If you encounter conditions that make it difficult for you to work (physical, emotional, family crisis, etc...), please let me and your advising dean know as soon as possible so that we can discuss how to make any necessary accommodations.

There will be no make-ups allowed for missed quizzes, but **your lowest quiz score will be dropped**. Problem sets must be turned in on the day they are due before 5pm, but **your lowest problem set score will be dropped**. Any missed lab will be counted as a zero, but **your lowest** *two laboratory session grades* will be dropped. Exceptions to these rules are sometimes made for medical reasons (with a note from a doctor) or other personal emergencies (with a note from your advising dean). Given that we have never attempted remote laboratory activities previously, the intent is for laboratory grading to be lenient for everyone who tries to complete the last four laboratory assignments. We hope that you find these assignments interesting and engaging.

Students with special circumstances

Cornell University (as an institution) and I (as a human being and instructor of this course) are committed to full inclusion in education for all persons. Services and reasonable accommodations are available to students with temporary and permanent disabilities, to students with DACA or undocumented status, to students facing mental health issues, other personal situations, and to students with other kinds of learning needs. Please feel free to let me know if there are circumstances affecting your ability to participate in class. Some resources that might be of use include:

- Office of Student Disability Services, <u>https://sds.cornell.edu/</u>
- Cornell Health CAPS (Counseling & Psychological Services), <u>https://health.cornell.edu/services/counseling-psychiatry</u>
- Undocumented/DACA Student Support, Kevin Graham (<u>Kevin.Graham@Cornell.edu</u>), list of campus resources can be found here: <u>https://dos.cornell.edu/undocumented-daca-</u> <u>support/undergraduate-admissions-financial-aid</u>
- Learning Strategies Center, <u>http://lsc.cornell.edu/</u>

I would be glad to help you identify other resources if needed.

version 4/5/2020