

PHYS 3812 Electricity & Magnetism II Spring 2020 Syllabus

Instructor: Jasper S Halekas
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Office Hours: Wed 1:30-3:30pm, Thurs 2:00-3:00pm, *Or by Appointment*

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Description: This is the second semester of a two-semester sequence covering electricity and magnetism. This semester will cover electrodynamics, electromagnetic waves, radiation, and relativity, as in Ch. 7-12 of Griffiths. We will focus on building a strong conceptual understanding of electrodynamics and developing skills and experience in problem solving. This course utilizes vector calculus extensively. Reading and homework assignments will be given on the course web page. The three weekly lectures are given by Prof. Halekas.

Lectures: MWF 9:30-10:20, 70 Van Allen Hall

Required Text: *Introduction to Electrodynamics (Fourth Edition)*, David J. Griffiths

Web Pages: Main Course Web Page:
http://www.physics.uiowa.edu/~jhalekas/teaching/eandm2_2020/index.html
ICON: <https://uiowa.instructure.com/courses/135289>

Course Work: This is a 3 semester-hour course. CLAS suggests that students should expect to spend ~2 hours per semester-hour on study outside of class, which implies ~6 hours/week on homework, reading, and other study.

Grading:	Homework	25%
	Two Midterms	20% Each
	Final Exam	35%

Course grades will follow the standard CLAS grade-point system. The grade of A+ will only be assigned for performance that is a full grade above A, and +/- grades will in general be used sparingly. The following CLAS-recommended grade distribution for advanced courses will be utilized as a first approximation in assigning final grades: A 22%, B 38%, C 36%, D 3%, F 1%.

Homework: Weekly homework assignments will be due in class on Fridays (or they can be turned in early in my office or mailbox). Late homework will not be accepted, but the lowest scoring assignment will be dropped. Homework assignments will be long form, hand-written and hand-graded. Showing your work completely, carefully, and logically is crucial, since partial credit may be assigned for partially correct solutions. You are allowed to work with other students on the homework, but each student must write out their own complete solutions.

Reading: Reading should be completed before lecture. Reading in advance will make class discussion more productive, and tests may include material not explicitly covered in class.

Exams: Midterm exams will be held during regular class hours. The final exam will be two hours, during finals week at a time to be announced. Midterm exams will cover specified topics, and the final exam will be comprehensive.

Exams will be closed book, long-form pencil and paper, with both conceptual and mathematical questions. Partial credit may be assigned for solutions that follow correct logic but make an error at an intermediate step. Therefore, showing your work completely, carefully, and logically is crucial. Students will be provided with an equation sheet in advance, which they can annotate. Answers will typically be requested in symbolic rather than numerical form, so calculators should not be needed.

Absence Policy: Attendance is encouraged but not required for all regular class meetings.

Attendance during scheduled exams is required and make-up exams will only be approved if the student notifies the instructor *in advance* and provides appropriate justification *before* the exam.

Communication: Students may communicate with the professor by phone, e-mail, or in person. E-mail messages and phone calls may not always be answered immediately (other than in emergencies). Students with issues or questions should if possible raise them in class, at office hours, or by scheduling an appointment with the professor.

College of Liberal Arts and Science Policies

Absences and Attendance: Students are responsible for attending class and for contributing to the learning environment of a course. Students are also responsible for knowing their course absence policies, which will vary by instructor. All absence policies, however, must uphold the UI policy related to student illness, mandatory religious obligations, including Holy Day obligations, unavoidable circumstances, or University authorized activities (<https://clas.uiowa.edu/students/handbook/attendance-absences>). Students may use this absence form to aid communication; the instructor will decide if the absence is excused or unexcused (https://clas.uiowa.edu/sites/default/files/ABSENCE_EXPLANATION_FORM2019.pdf).

Academic Integrity: All undergraduates enrolled in courses offered by CLAS have, in essence, agreed to the College's [Code of Academic Honesty](#). Misconduct is reported to the College, resulting in suspension or other sanctions, with sanctions communicated with the student through the UI email address (<https://clas.uiowa.edu/students/handbook/academic-fraud-honor-code>).

Accommodations for Disabilities: UI is committed to an educational experience that is accessible to all students. A student may request academic accommodations for a disability (such as mental health, attention, learning, vision, and physical or health-related condition) by registering with Student Disability Services (SDS). The student is then responsible for discussing specific accommodations with the instructor. More information is at <https://sds.studentlife.uiowa.edu/>.

Administrative Home of the Course: The College of Liberal Arts and Sciences (CLAS) is the administrative home of this course and governs its add/drop deadlines, the second-grade-only option, and related policies. Other colleges may have different policies. CLAS policies may be found here: <https://clas.uiowa.edu/students/handbook>.

Communication and the Required Use of UI Email: Students are responsible for official correspondences sent to the UI email address (uiowa.edu) and must use this address for all communication within UI ([Operations Manual, III.15.2](#)).

Complaints: Students with a complaint about an academic issue should first visit with the instructor or course supervisor and then with the Chair of the department or program offering the course; students may next bring the issue to the College of Liberal Arts and Sciences. For more information, see <https://clas.uiowa.edu/students/handbook/student-rights-responsibilities>.

Final Examination Policies: The final exam schedule is announced around the fifth week of classes; students are responsible for knowing the date, time, and place of a final exam. Students should not make travel plans until knowing this information. No exams of any kind are allowed the week before finals. Visit <https://registrar.uiowa.edu/final-examination-scheduling-policies>.

Nondiscrimination in the Classroom: UI is committed to making the classroom a respectful and inclusive space for all people irrespective of their gender, sexual, racial, religious or other identities. Toward this goal, students are invited to optionally share their preferred names and pronouns with their instructors and classmates. The University of Iowa prohibits discrimination and harassment against individuals on the basis of race, class, gender, sexual orientation, national origin, and other identity categories set forth in the University's Human Rights policy. For more information, contact the Office of Equal Opportunity and Diversity (diversity.uiowa.edu).

Sexual Harassment: Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community must uphold the UI mission and contribute to a safe environment that enhances learning. Incidents of sexual harassment must be reported immediately. For assistance, please see <https://osmrc.uiowa.edu/>.