

Course Syllabus

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Honors course

Instructor: Prof. Siyao Xu

Contact Information:

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- Office: NPB 2174
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Class hours: Tuesday, Thursday, periods 2 and 3, 8:30 am - 10:25 am

Location of classes: NPB 1002

Tech support: If you have a technical issue with Canvas, please consult UF IT Help immediately (352-392-HELP / 352-392-4357)

Office hours: Tuesday, Thursday, 10:30 am - 11:30 am.

Textbook: The required text is David Halliday, Robert Resnick, and Kenneth S. Krane, Physics, Volume 2 (5th edition, Wiley) ISBN: 0471401943

Materials and Supplies Fee: N/A

Prereq: PHY 2060

Coreq: MAC 2313 or the equivalent

General Education Objectives (Physical Science): <https://undergrad.aa.ufl.edu/general-education/gen-ed-program/subject-area-objectives/> (<https://undergrad.aa.ufl.edu/general-education/gen-ed-program/subject-area-objectives/>). A minimum grade of C is required for general education credit.

Synopsis: Second course of the enriched sequence. Electricity and magnetism, including electrostatics, Gauss's Law, potentials, vector analysis, conductors and insulators, circuits, magnetism, Maxwell's equations and EM fields in matter.

Course objectives:

- (1) To obtain a thorough understanding of electrostatic interactions, magnetic interactions, and electromagnetic waves.
- (2) To connect electromagnetic theory and calculations to real-world applications.
- (3) To enhance critical thinking through in-class discussions and assignments.
- (4) To develop structured, multi-step problem-solving skills in electromagnetics via integration of physical understanding and mathematical formalism.

Course schedule: The schedule of lectures, quizzes, exams, and due dates for homework are given [here](https://ufl.instructure.com/courses/555794/pages/course-schedule) (<https://ufl.instructure.com/courses/555794/pages/course-schedule>).

Student Learning Outcomes: The laws of physics are the starting point for most scientific research and engineering applications. Students taking this course obtain broad-based knowledge and experience applying these laws. Many students go on to graduate study in physics, and a considerable number pursue advanced degrees in other science disciplines, all branches of engineering and medical school. The learning outcomes students can expect to acquire through successful completion of the course are listed below along with the assignments through which the outcomes will be assessed.

Content:

- Identify, define, and describe a core field of physics i.e. electromagnetism (**Lectures, textbook**)
- Formulate empirically-testable hypotheses derived from the study of physical processes, and apply logical reasoning skills (**Homework, Quizzes, and Exams**)

Critical Thinking:

- Develop critical thinking by examining assumptions, exploring alternative approaches, and providing physical interpretations (**Lectures, In-class discussions**)

Communication:

- Effectively and clearly communicate ideas in speech and in writing (**In-class discussions**)

Grading policy:

A minimum grade of B is required to earn Academic points towards Honors Completion Requirements. Once you have earned your final grade in this course, please upload the course information and final grade from your Unofficial Transcript into your Honors Canvas Cohort: Honors Requirements module to earn Honors Milestone / Completion credit.

Homework and in-class quizzes: There will be **12 graded homework assignments** during the semester, which **in total will be worth 9% of the course grade**.

There will be **six short (~30 minutes) in-class quizzes (Q1 to Q6)** based on the recent homework assignments and recently covered material in class. The minimum two scores will be dropped. **Each quiz will be worth 8% of the course grade for a total of 32% of the course grade.** The problems will be free response questions and they will be solved independently in four quizzes and solved by group discussion in two quizzes. Partial credit will be given if the calculations shown are partially correct. **Also, if your/your group's work for the quiz does not show the governing equations and intermediate steps, then no points will be given even if you have the final correct answer provided. You can have your own work for the corresponding homework assignments and your notes during the quiz.**

Mid-term exams: There will be **two in-class mid-term exams** of 1.5-hour duration each, scheduled for **Feb. 10 and Mar. 12. Each of these exams will be worth 17% of the total grade.** Hence the mid-term exams will constitute 34% of the total grade. **Three letter-sized sheets of your own notes will be allowed during these exams.**

Final exam: There will be a **120 minutes, cumulative final exam on Apr. 28 from 10:00 am to 12:00 pm at NPB1002.** **Six letter-sized sheets of your own notes will be allowed. The final exam will be worth 25% of the total grade.**

Extra credit: short (~5 minutes) fun quizzes will be given during class throughout the semester for extra credit only. These tests assess immediate understanding of recently covered material and its applications. They are optional. You can earn up to **5% extra credits** during the semester. The iClicker app will be used for in-class response to the questions for extra credit. The iClicker app is free for all UF students. See [iClicker Response System](https://it.ufl.edu/classrooms/classroom-technology/iclicker-response-system/) (<https://it.ufl.edu/classrooms/classroom-technology/iclicker-response-system/>) to get started.

Makeups: Makeup quizzes/exams will be given if a situation satisfies the [UF makeup policy](https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/) (<https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>). Requests for makeup require documentation.

Missed quizzes/exams: Students missing a quiz/exam must notify the instructor *BEFORE* the beginning of the quiz/exam and provide documented evidence for a request for makeup. For illness or medical emergencies, an excuse note from a healthcare provider indicating which dates you are unable to participate in class related activities is required. Makeup assessments will not be provided for unexcused absences. The quizzes for extra credit and group quizzes cannot be made up if missed.

Missed homework: Students have ample opportunity to complete available homework prior to the due date. There are no extensions or makeups for homework. Solutions to homework are posted (in Files) immediately after the assignment is due to provide students feedback prior to the quiz. Please plan your time accordingly.

Grade calculation:

Homework	9% (12 homework)
2 mid-term exams	34% (17% each)
Best 4 of 6 quizzes	32% (8% each)
Extra credits	5%
Final exam	25%

Letter Grade	Percent Score (x)
A	$x \geq 90\%$
A-	$90\% > x \geq 87\%$
B+	$87\% > x \geq 85\%$
B	$85\% > x \geq 80\%$
B-	$80\% > x \geq 75\%$
C+	$75\% > x \geq 70\%$
C	$70\% > x \geq 65\%$
C-	$65\% > x \geq 60\%$
D+	$60\% > x \geq 57\%$
D	$57\% > x \geq 53\%$
D-	$53\% > x \geq 50\%$
E	$< 50\%$

The course grades are not curved. [Link to UF grading policy](https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx) (<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>)

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This course complies with all UF academic policies. For information on those policies and for resources for students, please see [this link](https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/) (https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/).

Attendance and make-up assignments/tests: Requirements for class attendance and makeup exams, assignments, and other work in the course are consistent with university policies. [See UF Academic Regulations and Policies for more information regarding the University Attendance Policies.](https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/) (https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/)

Course evaluations: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals
2. Their Canvas course menu under GatorEvals
3. The central portal at <https://my-ufl.bluera.com> (https://my-ufl.bluera.com/)

Guidance on how to provide constructive feedback is available at <https://gatorevals.aa.ufl.edu/students/> (https://gatorevals.aa.ufl.edu/students/).

Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students

at <https://gatorevals.aa.ufl.edu/public-results/> (https://gatorevals.aa.ufl.edu/public-results/).

(https://gatorevals.aa.ufl.edu/public-results/)

Accommodations: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. [See the "Get Started With the DRC" webpage on the Disability Resource Center site](https://disability.ufl.edu/get-started/) (https://disability.ufl.edu/get-started/). It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Academic Honesty: The University's Honesty Policy regarding cheating, plagiarism, etc.:

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. [See the UF Conduct Code website for more information](https://sccr.dso.ufl.edu/process/student-conduct-code/) (https://sccr.dso.ufl.edu/process/student-conduct-code/). If you have any questions or concerns, please consult with the instructor or TAs in this class.

In-class recording: Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course.

A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless, of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Campus resources:

Health and Wellness

- UF Whole Gator Resources: Visit <https://one.uf.edu/whole-gator/discover> (https://one.uf.edu/whole-gator/discover) for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Academic Resources

- E-learning technical support: Contact the [UF Computing Help Desk](http://helpdesk.ufl.edu/) (http://helpdesk.ufl.edu/) at **352-392-4357** (https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/352-392-4357). or via e-mail at helpdesk@ufl.edu (mailto:helpdesk@ufl.edu).
- Career Connections Center:** (https://career.ufl.edu) Reitz Union Suite 1300, **352-392-1601** (https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/352-392-1601). Career assistance and counseling services.
- Library Support:** (https://cms.uflib.ufl.edu/ask) Various ways to receive assistance with respect to using the libraries or finding resources. Call **866-281-6309** (https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/866-281-6309), or email ask@ufl.libanswers.com (mailto:ask@ufl.libanswers.com) for more information.
- Academic Resources:** (https://academicresources.clas.ufl.edu) 1317 Turlington Hall, Call **352-392-2010** (https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/352-392-2010), or to make a private appointment: **352-392-6420** (https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/352-20392-6420). Email contact: teaching-center@ufl.edu (mailto:teaching-center@ufl.edu). General study skills and tutoring.

- **Writing Studio:** [\(https://writing.ufl.edu/writing-studio/\)](https://writing.ufl.edu/writing-studio/) Daytime (9:30am-3:30pm): 2215 Turlington Hall, **352-846-1138** <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/352-846-1138> | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.
- Academic Complaints: Office of the Ombuds; [Visit the Complaint Portal webpage for more information.](https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/ts%20with%20disabilities%20who%20experience%20learning%20barriers%20and%20would%20like%20to%20) <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/ts%20with%20disabilities%20who%20experience%20learning%20barriers%20and%20would%20like%20to%20>
- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): [View the Student Complaint Procedure webpage for more information.](https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/ts%20with%20disabilities%20who%20experience%20learning%20barriers%20and%20would%20like%20to%20) <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/ts%20with%20disabilities%20who%20experience%20learning%20barriers%20and%20would%20like%20to%20>
- UF Student Success Initiative: Visit <https://studentsuccess.ufl.edu/> <https://studentsuccess.ufl.edu/> for resources that support your success as a UF student.
- Honors Program, Honors Village Complex #4, 352-392-1519
- Quick questions for an Honors advisor? Email advisor@honors.ufl.edu (<mailto:advisor@honors.ufl.edu>)
- Need an Honors advising appointment? Schedule via Microsoft Bookings: <https://bit.ly/UFHonorsAdvising> <https://bit.ly/UFHonorsAdvising>
<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fbit.ly%2FUFGHonsAdvising&data=05%7C02%7Cxusiyao%40ufl.edu%7Ce18167038e5c452b870a08de38154101%7C0d4da0f84a314d7&contextid=05%7C02%7Cxusiyao%40ufl.edu%7Ce18167038e5c452b870a08de38154101%7C0d4da0f84a314d7&exid=05%7C02%7Cxusiyao%40ufl.edu%7Ce18167038e5c452b870a08de38154101%7C0d4da0f84a314d7&mid=05%7C02%7Cxusiyao%40ufl.edu%7Ce18167038e5c452b870a08de38154101%7C0d4da0f84a314d7&pid=05%7C02%7Cxusiyao%40ufl.edu%7Ce18167038e5c452b870a08de38154101%7C0d4da0f84a314d7&tid=05%7C02%7Cxusiyao%40ufl.edu%7Ce18167038e5c452b870a08de38154101%7C0d4da0f84a314d7&uiid=05%7C02%7Cxusiyao%40ufl.edu%7Ce18167038e5c452b870a08de38154101%7C0d4da0f84a314d7>
- Honors Program Event Calendar: <https://www.honors.ufl.edu/news--events/calendar-of-events/> <https://www.honors.ufl.edu/news--events/calendar-of-events/>