



PHY2061-3691(14314) - Enriched Phy W/ Cal 2

 Edit**Honors course****Instructor:** Prof. Siyao Xu**Contact Information:**

- Email Address: xusiyao@ufl.edu
- Office: NPB 2174

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, period 4, 10:30 am - 11:30 am. Extra zoom office hour (usually on Wednesdays from 7pm to 8pm).**Textbook:** The required text is David Halliday, Robert Resnick, and Kenneth S. Krane, Physics, Volume 2 (5th edition, Wiley) ISBN: 0471401943**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, Laplace's equation, conductors and insulators, circuits, magnetism, Maxwell's equations and EM fields in matter.**Course objectives:** To obtain a thorough understanding of electrostatic interactions, magnetic interactions and electromagnetic waves. Applications to modern technology and environmental impacts will be emphasized along with a historical perspective. In-class discussions and programming projects are expected to enhance critical thinking and interest in numerical techniques.**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 fields 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:

- Formulate, solve problems and draw conclusions from data. (**Extra credit programming projects**)

Communication:

- Effectively and clearly communicate ideas in speech and in writing in an accepted style. (**In-class discussions**)

Grading policy:

A minimum grade of B is required to earn Academic points towards your Honors Completion Requirements. (Exception: Honors Quest I and II sections require a C). 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 Completion module to earn Honors Milestone / Completion credit.

Homework and in-class quizzes: There will be **12 graded homework assignments** during the semester. A reasonable attempt at a homework problem will be given full credit and partial/full solutions to the problems will be made available along with the homework. The homework will also be discussed in class and will be worth a total of **3% of the course grade**.

About one to two weeks after a homework is assigned, there will be a short (~30 minutes) in-class quiz based on two homework assignments. There will be a **total of 6 such quizzes (Q1 to Q6)** and 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 usually be multiple choice but partial credit will be given if the calculations shown are partially correct. **Also, if your work for the quiz does not show how you arrived at the correct answer, then no points will be given even if you have selected the correct answer in the multiple choice. 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 one hour duration each, scheduled for **February 11 and March 25. Each of these exams will be worth 20% of the total grade.** Hence the mid-term exams will constitute 40% of the total grade. The mid-term exams will be based on the homework assigned in the previous weeks and the quizzes. **Two letter-sized sheets of your own notes (front and back) will be allowed during these exams.**

Final exam: There will be a **120 minutes, cumulative final exam on May 2 from 12:30 pm to 2:30 pm. Six letter-sized sheets of your own notes (front and back) will be allowed.** Details about the exam format will be posted here. **The final exam will be worth 25% of the total grade.**

Extra credit: You can earn up to **5% extra credits** during the semester. The extra credit will be based on in-class discussions/group work and some (very basic) programming techniques.

Make-ups: Make-up tests and quizzes will be given if a situation satisfies the make-up policy (see below).

Grade calculation:

Homework	3% (12 homework)
2 mid-term tests	40% (20% each)
Best 4 of 6 quizzes	32% (8% each)
3 extra credits (class projects including programming)	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)

Attendance and make up assignments/tests: Regular attendance is expected but not enforced. In class quizzes are announced in advance. Make up quizzes/exams will be given for valid excused absences. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies. Excused absences must be consistent with university policies and require appropriate documentation. [Click here to read the university attendance policies. \(https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/\)](https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/)

Holidays (no classes): Spring Break (March 18 and 20)

Course evaluations: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.ua.ufl.edu/students/> [\(https://gatorevals.ua.ufl.edu/students/\)](https://gatorevals.ua.ufl.edu/students/). Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/> [\(https://ufl.bluera.com/ufl/\)](https://ufl.bluera.com/ufl/). Summaries of course evaluation results are available to students at <https://gatorevals.ua.ufl.edu/public-results/> [\(https://gatorevals.ua.ufl.edu/public-results/\)](https://gatorevals.ua.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. [Click here to get started with the Disability Resource Center \(https://disability.ufl.edu/students/get-started/\)](https://disability.ufl.edu/students/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: 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 Honor Code specifies a number of behaviors that are in violation of this code and the possible sanctions. [Click here to read the Honor Code \(https://sccr.dso.ufl.edu/wp-content/uploads/sites/4/2020/12/Orange-Book-Web-Version-2020.pdf\)](https://sccr.dso.ufl.edu/wp-content/uploads/sites/4/2020/12/Orange-Book-Web-Version-2020.pdf). Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. 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 educational 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 any 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 presentations 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 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.

Statement on inclusion and diversity:

Physics is practiced and advanced by a scientific community of individuals with diverse backgrounds and identities and is open and welcoming to everyone. The instructor recognizes the value in diversity, equity and inclusion in all aspects of this course. This includes, but is not limited to differences in race, ethnicity, gender identity, gender expression, sexual orientation, age, socioeconomic status, religion, and disability. Students may have opportunities to work together in this course. I expect respectful student collaborations such as attentive listening and responding to the contributions of all teammates.

Physics, like all human endeavors, is something that is learned. My aim is to foster an atmosphere of learning that is based on inclusion, transparency and respect for all participants. I acknowledge the different needs and perspectives we bring to our common learning space and strive to provide everyone with equal access. All students meeting the course prerequisites belong here and are well positioned for success.

Campus resources:

Health and Wellness

- *U Matter, We Care*: If you or someone you know is in distress, please contact umatter@ufl.edu, [_\(mailto:umatter@ufl.edu\)](mailto:umatter@ufl.edu) 352-392-1575, or visit [U Matter, We Care website \(https://umatter.ufl.edu/\)](https://umatter.ufl.edu/) to refer or report a concern and a team member will reach out to the student in distress.
- *Counseling and Wellness Center*: [Visit the Counseling and Wellness Center website \(https://counseling.ufl.edu/\)](https://counseling.ufl.edu/) or call 352-392-1575 for information on crisis services as well as non-crisis services.
- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website \(https://shcc.ufl.edu/\)](https://shcc.ufl.edu/).
- *University Police Department*: [Visit UF Police Department website \(https://police.ufl.edu/\)](https://police.ufl.edu/) or call 352-392-1111 (or 9-1-1 for emergencies).
- *UF Health Shands Emergency Room / Trauma Center*: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website \(https://ufhealth.org/emergency-room-trauma-center/\)](https://ufhealth.org/emergency-room-trauma-center/).

Academic Resources

- *E-learning technical support*: Contact the [UF Computing Help Desk \(http://helpdesk.ufl.edu/\)](http://helpdesk.ufl.edu/) at 352-392-4357 or via e-mail at helpdesk@ufl.edu [_\(mailto:helpdesk@ufl.edu\)](mailto:helpdesk@ufl.edu)
- *Career Connections Center (https://career.ufl.edu/)*: Reitz Union Suite 1300, 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.
- *Teaching Center (https://teachingcenter.ufl.edu/)*: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.
- *Writing Studio (https://writing.ufl.edu/writing-studio/)*: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- *Student Complaints On-Campus*: [Visit the Student Honor Code and Student Conduct Code webpage for more information \(https://sccr.dso.ufl.edu/policies/student-honor-%20code-student-conduct-code/\)](https://sccr.dso.ufl.edu/policies/student-honor-%20code-student-conduct-code/).
- Honors Program, 201 Walker Hall, 352-392-1519

Quick questions for an Honors advisor? Email advisor@honors.ufl.edu [_\(mailto:advisor@honors.ufl.edu\)](mailto:advisor@honors.ufl.edu)

Need an Honors advising appointment? Schedule via Microsoft Bookings: <https://bit.ly/ufhonorsadvising> [↗](https://bit.ly/ufhonorsadvising)

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[url=https%3A%2F%2Fbit.ly%2Fufhonorsadvising&data=05%7C02%7Cxusiyao%40ufl.edu%7Ca900dd9432e548286c6e08dd152ece4f%7C0d4da0f84a314d76a](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fbit.ly%2Fufhonorsadvising&data=05%7C02%7Cxusiyao%40ufl.edu%7Ca900dd9432e548286c6e08dd152ece4f%7C0d4da0f84a314d76a)