PHY 2054 - Physics 2 – Spring 2023

Course Description and Details

PHY2054 - Physics 2. Second semester of introductory physics de-emphasizing calculus. Electric charge, fields and circuits; electromagnetism, applied electricity; geometrical optics , wave optics, applied optics; electrons and photons; atoms and nuclei. 4 credits

State Core General Education category – Biological and Physical Sciences (P)

Prerequisite Knowledge and Skills: PHY 2053 or the equivalent

Class Number: **19158**

Instructor: Shawn Weatherford, Ph.D.

Office: NPB 2142

Phone: (352) 392-8747

Office Hours: T, 9:00-10:00 am; R 4-5pm; Zoom Link on Course Home Page

Contact: Please send email using Canvas. I will respond within 24 hours during weekdays, and 48 hours on weekends. Please allow a week to return graded work requiring feedback, unless otherwise notified through course announcement.

Course Objectives

By the end of this course, students will have improved their existing foundation in the concepts, principles, terminology, and methodologies used to describe motion (translational, rotational and combined) of simple objects, the basic properties of matter, harmonic oscillations, and wave motion. Specifically, students will be able to:

1. **Analyze** particular physical situations, and thus identify the fundamental principles pertinent to those situations to make successful predictions of system behavior,
2. **Apply** fundamental principles to formulate mathematical equations describing the relation between physical quantities in these particular situations,
3. **Solve** mathematical equations to find the values of physical quantities, and
4. **Communicate** unambiguously both the principles that apply to a situation and the results of specific calculations resulting from the steps above.

Student Expectations

To achieve the learning outcomes, students are expected to:

- Visit the weekly module page at the beginning of the week to understand the module learning objectives and to plan your engagement with course content for the week ahead.
- Read the assigned chapters in the textbook and to view the corresponding lecture videos.
- Work through the examples presented in the text and in the practice problem videos in order to learn the physics concepts, principles, and problem-solving techniques of introductory physics.
- Complete reading quizzes and homework assignments to self–assess your understanding of the module's concepts and problem solving strategies on a weekly basis.
- To seek help from your instructors and other students when specific content does not make sense, and to seek out additional practice when needed to gain mastery before moving on to future modules. These additional materials should include problems at the end of the chapter that are not assigned as part of your homework.
- Physics is practiced and advanced by a scientific community of individuals with diverse backgrounds and identities and is open and welcoming to everyone. The instructional team 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. We 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. Our aim is to foster an atmosphere of learning that is based on inclusion, transparency and respect for all participants. We 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.

This course requires an extensive amount of time to do all of the above, and students should plan accordingly to spend 12 hours per week on course preparation and practice.

Required Materials

The required text is ***College Physics, a strategic approach, by Knight, Jones and Field, 4th ed***, published by Pearson. The course is set up for an All-Access opt-in to purchase the text online for students who have registered in the course. The opt-in procedure begins with this
link: https://www.bsd.ufl.edu/G1CO/IPay1f/start.aspx?TASK=INCLUDED (Links to an

external site.), which is also listed on the course Canvas website with further instructions.
The required online homework system is *MasteringPhysics*, access to which is included in the purchase of the online textbook described above. Access *Mastering Physics* using the link provided in the Canvas website. Technical support for students can be found at the student support site. (Links to an external site.)

In addition, use of HonorLock (free) is required for examinations. You need access to a computer with a video camera, a microphone, and a good internet connection. In order to take exams under the supervision of HonorLock, these technology resources must be available in a quiet room where you can take the exams in privacy.

Minimum Technical Skills

To complete your tasks in this course, you will need a basic understanding of operating a computer and using word processing software. You will need to know how to operate a scientific calculator (handheld or the Honorlock scientific calculator).

Canvas Information

Canvas is the where course content, grades, and communication will reside for this course.

Technical Difficulties

For help with technical issues or difficulties with Canvas, please contact the UF Help Desk at:

- **http://helpdesk.ufl.edu (Links to an external site.)**
- **(352) 392-HELP (4357)**
- **Walk-in: HUB 132**

Any requests for make-ups due to technical issues should be accompanied by the ticket number received from the Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You should email your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Course Policies

ATTENDANCE POLICY: You are expected to watch the lecture and problem-solving videos and to attempt the online reading quizzes, homework, and exams by their assigned deadlines. You are also expected to interact with the instructor and with your fellow students through discussions of the material through the Canvas discussion forum.

ASSIGNMENT POLICY: Homework, reading quiz, and exam windows are announced in the course calendar and appear at the bottom of this page

HOMEWORK POLICY:Homework sets are completed online through Mastering Physics at any time between the opening of the assignment and the deadline announced in the course calendar. These assignments provide formative feedback on your progress meeting the learning objectives of each module, and are therefore due weekly. Google Chrome is the recommended browser. These assignments are not timed or proctored, but they are subject to the UF Policy on Academic Misconduct (see below).

It is permissible to seek assistance or collaborate on homework with your instructor or your assigned study group partners only. This assistance may include help with interpreting the problem, identifying relevant information in the textbook or course videos, or identifying one's errors. No credit is available for late assignments. (See "Getting Help" below for what to do in the event of technical problems with the Canvas e-Learning system.)

EXAM POLICY: Three mid-term exams and a cumulative final exam will be taken online, each under the supervision of HonorLock during a time window announced in the course calendar. Exams are not collaborative and are completed alone without any study or reference aids other than what is provided by the exam. Performance on midterm exams set the bar for establishing a measurement of your mastery of the learning outcomes for the modules covered by each exam. The final exam will include a subset of questions covering the big ideas from the previous midterm exams. Google Chrome is the recommended browser.

CLASS DISCUSSION: Each week will introduce a new module (chapter) on physics. Please post your observations or questions on the material, or help answer your fellow classmates' questions, using the Canvas discussion forum. Your discussion postings are graded based on the quality of the questions posed about course content, the quality of the feedback offered to other students, and the amount of interaction you offer to the course. Waiting to post during the week prior to the exam will reflect poorly on your score for these assignments. The grade encourages consistent and habitual reflection of your understanding and posting your thoughts in a public forum. Discussion postings are evaluated four times throughout the semester, coinciding with each exam.

MAKE-UP POLICY:Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found here (Links to an external site.). For a foreseeable absence, it is your responsibility to identify yourself as requiring an accommodation prior to the absence.

EXTRA CREDIT POLICY: Students will be asked to complete surveys at various points during the semester as part of their coursework. Students completing surveys may elect to receive extra credit by following instructions for submitting

evidence of survey completion. In addition, students may provide/withhold consent for instructors use of the survey results in aggregate form for research purposes.

Online Proctoring

In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams will be proctored.

- You are not permitted to utilize any resources in addition to what is provided during the exam.
- You are not permitted to discuss the contents of the exam following its administration.
- You are not permitted to receive any information prior to taking the exam about the exam contents.

Violation of any of these conditions is academic misconduct and will be dealt with according to the protocols for reporting Honor Code violations. This is your only warning and if you have questions about whether an action constitutes a violation, you should consult your instructor *prior* to following the course of action in question.

Honorlock

You will take your exam electronically using the course website and these exams will be proctored with Honorlock. With Honorlock, there is no scheduling required with a testing proctor, and you can complete the exam anytime during the 48 hour testing window. Please make sure you complete and submit the exam before the end of the testing window. You will need a webcam, speakers, microphone and reliable Internet connection to be able to take your exams. Wireless internet is not recommended. You may also need a mirror or other reflective surface. **Google Chrome** is the only supported browser for taking exams in Canvas.

Important: Prior to each exam, visit the **Honorlock system check** (Links to an external site.) to evaluate your equipment and software. Also, take the practice quiz, worth 0 points, to get familiar with the Honorlock procedure for beginning and taking proctored exams.

Download and read through the **HONORLOCK-StudentPreparationLinks.pdf** handout for an overview of test taking tips and requirements. There will be questions answerable from information presented on this handout on your syllabus quiz.

Getting Help

If you experience any difficulties with the proctoring system, contact Honorlock's free 24/7 LiveChat and phone support. The LiveChat is available by

clicking on the chat window at the bottom right of the exam. Of course, the support team can't answer questions to help you on answering questions about the contents of the exam, but they will be willing to diagnose and offer solutions for technical difficulties with the proctoring system.

Institutional Policies and Procedures

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES: 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. 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.You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.
UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: 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. Click here to read the Conduct Code (Links to an external site.). If you have any questions or concerns, please consult with the instructor or TAs in this class.

****NETIQUETTE: COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats.**

http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf (Links to an external site.)
COURSE EVALUATION: 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.aa.ufl.edu/students/ (Links to an external site.). 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/ (Links to an external site.). Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/ (Links to an external site.).

ATTENDANCE AND MAKE-UP POLICY: Excused absences and allowances for make-up work are consistent with university policies in the undergraduate catalog (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx (Links to an external site.))and require appropriate documentation.

Course Schedule and Calendar

On Sunday of each week, a new module will become available providing access to lecture videos, worked example videos, and a homework assignment (due eight days later on the following Monday at 11:59pm EST). Further, an adaptive homework assignment may be offered for additional practice based on your total homework assignment score.

An exam window opens for 48 hours during an exam week beginning on the Tuesday of the exam week (at 12:00am EST) and closing on the next Wednesday (at 11:59pm EST). Exam 4 is offered on Sunday April 25th– Monday April 26th. Please note that Florida observes Daylight Savings Time.

Module	Week Starting	Exams	Topics
0	1/9		**Orientation, introductions, and math review, scientific notation, units**
1	1/16		**Electric Forces** *Reading: 20.1-20.3*
2	1/23		**Electric Fields** *Reading: 20.4 –20.7*
3	1/30		**Electric Potential** *Reading*: 21.*1-21.5*

4	2/6		**Capacitors** *Reading*: *21.7-21.8*
5	2/13	Exam 1 (Mod 1-4) 2/14-2/15	**Current & Resistance** *Reading*: 22.1-22.6
6	2/20		**Circuits** *Reading: 23.1-23.7*
7	2/27		**Magnetic Fields** *Reading: 24.2-24.4*
8	3/6		**Magnetic Forces** *Reading: 24.1, 24.5-8*
9	3/20	Exam 2 (Mod 5-8) 3/21-3/22	**Induction and Waves** *Reading: 25.1-5, 25.7*
10	3/27		**Wave Optics** *Reading: 17.1-17.6*
11	4/3		**Ray Optics** *Reading 18.1-18.7*
12	4/10	Exam 3 (Mod 9-11) 4/11-4/12	**Optical Instruments** *Reading: 19.1-19.7*

13	4/17		**Nuclear Physics** *Reading: 30.1-30.5*
14	5/1-5/2	Exam 4 (Mod 12-13; cumulative)	

Disclaimer:This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity or to react to weather related closures. Such changes, communicated clearly, are not unusual and should be expected.

Grade Calculation

Grades in the course are awarded based on an overall course score made up as follows:

Assignment/Categories	Max Scaled Points	Calculated as
Exam 1 (Modules 1-4)	18	(your earned points / 15)*18 max points
Exam 2 (Modules 5-8)	18	(your earned points / 15)*18 max points
Exam 3 (Modules 9-11)	18	(your earned points / 15)*18 max points

Exam 4 (Modules 12-14; cumulative)	18	(your earned points / 15)*18 max points
Homework**	15	(your earned points/total points possible)*15 max points
Reading Quizzes**	5	(your earned points/total points possible)*5 max points
Discussion Postings	8	(your earned points/total points possible)*8 max points
Optional Assignments (Practice)	0	
Total Course Points	100	

**** Canvas will drop the lowest score in these categories.**

Grade Scheme

The following grading standards will be used in this class:

Grade	Range
A	100 % to 80.0%
A-	< 80.0 % to 75.0%
B+	< 75.0 % to 70.0%
B	< 70.0 % to 65.0%
B-	< 65.0 % to 60.0%
C+	< 60.0 % to 55.0%
C	< 55.0 % to 50.0%
C-	< 50.0 % to 45.0%
D+	< 45.0 % to 40.0%

Grade	Range
D	< 40.0 % to 35.0%
D-	< 35.0 % to 30.0%
F	< 30.0 % to 0.0%

Privacy and Accessibility Policies

For information about the privacy policies of the tools used in this course, see the links below:

- **Instructure (Canvas)**
  - **Instructure Privacy PolicyLinks to an external site.**
  - **Instructure AccessibilityLinks to an external site.**
- **Zoom**
  - **Zoom Privacy Policy (Links to an external site.)**
  - **Zoom Accessibility (Links to an external site.)**
- **Microsoft**
  - **Microsoft Privacy Policy (Links to an external site.)**
  - **Microsoft Accessibility (Links to an external site.)**
- **Adobe**
  - **Adobe Privacy Policy (Links to an external site.)**
  - **Adobe Accessibility (Links to an external site.)**
- **Honorlock**
  - **Honorlock Privacy Policy (Links to an external site.)**
  - **Honorlock Accessibility**

Student Resources for Academic and Personal Wellbeing

Health and Wellness

***U Matter, We Care*:**
If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

***Counseling and Wellness Center*:**
http://www.counseling.ufl.edu/cwc/Default.aspx, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services **(SARS) Student Health Care Center, 392-1161.**

University Police Department**, 392-1111 (or 9-1-1 for emergencies). http://www.police.ufl.edu/ (Links to an external site.)**
UF Student Success : For improving study skills to connecting with a peer tutor, peer mentor, success coach, academic advisor, and wellness resources, go to http://studentsuccess.ufl.edu (Links to an external site.)

Academic Resources

E-learning technical support**, 352-392-4357 (select option 2) or e-mail to Learning- support@ufl.edu. https://lss.at.ufl.edu/help.shtml.**

Career Resource Center**, Reitz Union, 392-1601. Career assistance and counseling. http://www.crc.ufl.edu/**

Library Support**, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.**

Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/ (Links to an external site.)**
Writing Studio**, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. http://writing.ufl.edu/writing-studio/ (Links to an external site.)**
Student Complaints**: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf (Links to an external site.)**

Congratulations! You have reached the end of the syllabus!