George Mason University

General College Physics II (PHYS 245-002) Spring 2022

MWF 12:30-1:20PM

Synchronous meetings via Zoom

Instructor: Dr. Elena Ziu
E-mail: eziu@gmu.edu

Office Hours

Thursdays 3:30PM - 4:30PM, location TBD.
Thursdays 6:00PM - 7:00PM via Zoom

Communication Policy

The primary means of communication outside the classroom between the instructor and students are via Blackboard Announcements and e-mail. You are expected to check Blackboard and your GMU e-mail daily, Monday-Friday.

You are welcome to email me at any time. I will reply to email messages in the order received Monday-Thursday between 9:30PM-11:00PM.

Per GMU policy, all faculty and student email communication must take place strictly using GMU email addresses.

Course Format

This course has two components: lecture and recitation.
The lectures will be offered synchronously online via Zoom on MWF 12:30PM-1:20PM. The Zoom link for these meetings can be accessed directly from the course Blackboard.

Recitation format varies depending on the section you enrolled in.

Course Prerequisite

PHYS 243 or equivalent, working knowledge of algebra and trigonometry.

Textbook

Physics: Principles with Applications, 7th Edition, Giancoli, Pearson

Required Online Resources

(***All accessible through course Bb)***

- LockDown Browser (and webcam) for online exams
- Pearson MyLab and Mastering for online homework assignments
- Gradescope for handwritten assignments

Contact information for at least two classmates

Classmate 1: _____ _____

Classmate 2: _____ _____

Classmate 3: _____ _____

Course Description

The second part of the two-semester General College Physics Course taught at GMU. The course is a non-calculus treatment of physics dealing with topics in classical and modern physics of particular importance to science majors. Topics include principles of electricity, magnetism, optics, and atomic and nuclear physics.

Grading and Course Requirements

Course Components & Assessment

Your course grade will rely upon the results of your work as follows:

- Recitation (*attendance is required*) 10%
- Pre-Lecture Assignments 10%
- Mastering Physics Homework 15%
- Handwritten Homework (group assignment) 15%
- Exam-1 15%
- Exam-2 15%
- Final Exam (comprehensive) 20%

Grading Scale

GRADE	Score
A+	98% or higher
A	90.00% - 97.99%
B+	88.00% - 89.99%
B	80.00% - 87.99%
C+	78.00% - 79.99%
C	70.00% - 77.99%
D	60.00% - 69.99%
F	< 60.00%

Pre-Lecture Mastering Physics Assignments

There will be a total of 22 pre-lecture quizzes assigned via Mastering Physics.

Lecture

The primary intent of the lectures is to refine your understanding of physics concepts, to enhance your analysis skills, and to develop problem-solving strategies. Lecture time will be most profitable if you read the appropriate sections of the textbook prior to each lecture. Reading the textbook prior to each lecture greatly reduces study time.

You are solely responsible for keeping track of material discussed in class, including any changes to coursework assignments, and, in the event of a necessary absence, acquiring such information from fellow students.

You are expected to ***adhere to the highest level of personal integrity and responsibility.*** This includes joining class on time, being attentive during lecture, and demonstrating academic honesty (see below), and communicating in a professional and respectful manner with all.

Recitation

Recitation attendance is mandatory. To learn more, attend recitation and check your recitation Bb page.

Mastering Physics Homework

Online homework using Pearson's Mastering Physics system can be accessed directly from the course Bb page. Go to the course Bb page, and under the left-hand menu choose "Weekly Modules," then select "Week 1" followed by "Welcome to Mastering Physics Here."

Group Homework

In addition to reading, listening to lecture or watching videos, in order to better process the information acquired, it is fundamental that one talk about the material being studied. The purpose of Group Homework is to enable such communication, and to help you develop professional team working skills.

You will be pre-assigned to groups of 2-3 members. Each week, an assigned group member will upload the best solution the group has for the assigned homework of the week. The assignment itself will consist of three problems of which only one will be graded. You should submit your best attempt to each of the problems. Should a group fail to submit their solution to the problem being graded, all group members will receive a score of zero for that problem set.

Guidelines for submitting the handwritten, group assignment can be found at https://gradescope-static-assets.s3.amazonaws.com/help/submitting_hw_guide.pdf OR viewed at

Exams

There will be two in class exams, and a comprehensive final exam (see *Course Schedule* for exact dates). All exams will require the use of Lockdown Browser and a webcam.

Make-up exams are not provided in this course; those absent from a midterm exam without prior arrangements will receive a score of zero.

The final exam is mandatory. It can be used to replace a midterm exam with a lower score than the final, including a midterm score of zero. The final exam grade cannot be dropped.

Late Assignment, Make-ups, Participation and Attendance

Late assignments and make-up exams are not provided in this course. Those absent from a midterm exam without prior arrangements will receive a score of zero. As mentioned under "**Exams**," the final exam is mandatory.

That notwithstanding, in order to accommodate for unforeseen hardships or circumstances you might face, the following policies are set in place:

- The Final Exam can be used to replace a midterm exam with a lower score than the final, including a midterm score of zero. The final exam grade cannot be dropped.
- The two lowest scores of your
  - *Group Homework,*
  - *Mastering Homework, and*
  - *Pre-Lecture Assignment* will also be dropped when calculating your final grade.

See "Disability Accommodations" for consideration of additional qualifying accommodations.

Course Policies

Safe Return to Campus

All students taking courses with a face-to-face component are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (https://www2.gmu.edu/safe-return-campus). Similarly, all students in face-to-face and hybrid courses must also complete the Mason COVID Health Check prior to coming to campus. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, Red, or Blue email response. Only students who receive a "green" notification are permitted to attend courses with a face-to-face component. If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing. Faculty are allowed to ask you to show them that you have received a Green email and are thereby permitted to be in class.

Students are required to follow Mason's current policy about facemask-wearing. As of August 11, 2021, all community members are required to wear a facemask in all indoor settings, including classrooms. An appropriate facemask must cover your nose and mouth at all times in our classroom. If this policy changes, you will be informed; however, students who prefer to wear masks will always be welcome in the classroom.

Covid-19 Note: Students who have a Covid-related disability should contact the Disability Services office; DS will contact faculty using standard protocols about any students who require accommodations. Faculty are not expected to create accommodations for students outside of the Disability Services official guidelines.

Electronic and Technology Requirements, Video Recordings, Student and Faculty Privacy

- This course lecture will use Zoom as a web-conferencing software. In addition to the requirements listed below, **you are required to have a device with a functional camera and microphone**. In an emergency, you can connect through a telephone call, but **video connection is the expected norm**.

- Activities and assignments in this course will use the Blackboard learning system, available at https://mymason.gmu.edu. You are required to have regular, reliable access to a computer with an updated operating system (recommended: Windows 10 or Mac OSX 10.13 or higher) and a stable broadband Internet connection (cable modem, DSL, satellite broadband, etc., with a consistent 1.5 Mbps [megabits per second] download speed or higher. You can check your speed settings using the speed test on this website.)

All course materials posted to Blackboard or other course sites (MasteringPhysics, OneNote, Gradescope) private to this class. By Federal Law, any materials that identify specific students (via their name, voice, or image) must not be shared with anyone not enrolled in this class.

- Video recordings made by instructors of class meetings that include audio, visual, or textual information from other students are private and must not be shared outside the class

- Live video conference meetings (in our case via Zoom) that include audio, textual, or visual information from other students must be viewed privately and **not shared** with others in your household **or recorded** and shared outside the class

Academic Integrity and Honesty

Student-to-student interaction is strongly encouraged in this course. Class participation is also encouraged. However, any form of collusion or communication with others during exams, plagiarism or other forms of dishonorable conduct will not be tolerated. See “Online Public Sites.” No grade is important enough to justify academic misconduct.

To learn more about the GMU Honor Code, including definitions of cheating, lying, and plagiarism can be found at the Office of Academic Integrity Policy.

Online Public Study Sites

Some kinds of participation in online study sites violate the Mason Honor Code. These include accessing exam or quiz questions for this class; accessing exam, quiz, or assignment answers for this class; uploading of any of the instructor's materials or exams; and uploading any of your own answers or finished work.

For more information, see the Office of Academic Integrity's summary of information about online study sites.

Inclement Weather or other Emergencies

Any announcements regarding potential changes in the course delivery due to inclement weather or other emergencies will be posted under "Announcements" in the course Bb. The adjustments would be made following GMU policy for the given situation. To learn more see https://universitypolicy.gmu.edu/policies/inclement-weatheremergency-closure/

Disability Accommodations

GMU is committed to providing each qualified student an equal opportunity to pursue a college education regardless of disability. Accommodations will be provided for all students who email me their Faculty Contact Sheet. Accommodations will begin as soon as the form is received and are not retroactive.

Students can begin the registration process with Disability Services at any time during their enrollment at George Mason University. For detailed information about the Disability Services registration process visit GMU Disability Servies which is located in the Student Union Building I (SUB I), Suite 2500. Email:ods@gmu.edu | Phone: (703) 993-2474

Sexual Harassment, Sexual Misconduct, and Interpersonal Violence

George Mason University is committed to providing a learning, living and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence in order to promote community well-being and student success. We encourage students and employees who believe that they have been sexually harassed, sexually assaulted or subjected to sexual or interpersonal misconduct to seek assistance and support. University Policy 1202: Sexual Harassment and Misconduct speaks to the specifics of Mason's process, the resources, and the options available to students and employees.

As a faculty member, I am designated as a "Non-Confidential Employee," and must report all disclosures of sexual assault, sexual harassment, interpersonal violence, stalking, sexual exploitation, complicity, and retaliation to Mason's Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-993-3686 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance or support measures from Mason's Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

Resources for GMU Students

Information and links regarding these and other student support offices are available on our Student Support Resources on Campus page.

- Student Support and Advocacy Center (SSAC)
- Counseling and Psychological Services
- The Learning Services Office or field-specific tutoring
- The Center for Culture, Equity, and Empowerment
- LBGTQ+ Resources
- University Career Services
- University Writing Center

Course Schedule

PHYS 245-002

	WEEK OF...	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Week 1	Jan 23, 2022					
	Ch. 16 Electric Charge and Field	Introduction Math Review vector algebra		Ch.16. 1-5		Ch. 16. 7-9
Week 2	Jan 30, 2022					
	Ch. 17—Electric Potential	Ch.16. 6		Ch. 17. 1-5		Ch. 17. 7-9
Week 3	Feb 6	Feb 7 Last day to withdraw with 100% tuition refund				
	Ch. 18, 19—Electric Circuits	Ch. 18.1-6		Ch. 19.1-2, Ch. 19.5		Ch.18.10, Ch. 19.4
Week 4	Feb 13					
	Ch. 19—DC Circuits	Ch. 19.3		Ch. 19.6-8		Summarize Electricity and Electric Circuits
Week 5	Feb 20					
	Ch. 20—Magnetism	**Exam 1** (Chapter 16, 17, 18, 19)		Ch. 20.1-7		Ch. 20. 11-12
Week 6	Feb 27		Mar 1			
	Ch. 21—Electromagnetism	Ch. 21.1-3	Withdrawal period ends	Ch. 21. 4-5		Ch. 21. 7-9
Week 7	Mar 6					
	Oscillations & Waves	Review of Oscillations Ch. 11.1-3		Review of Oscillations Ch. 11.7-8, 11-12		Ch. 22.1-5
Mar 14 - Mar 20, 2022		**Spring Break**				
Week 8	Mar 20					
	Ch. 12—Sound	Ch. 12.1-4		Ch. 12.5-7		Ch. 12.8-9
Week 9	Mar 27					
	Ch. 24—Wave Nature of Light	Ch. 24. 1-4		Ch. 24.5-6, 10;		Ch. 22.7, Ch. 24.7
Week 10	Apr 3					
	Geometric and Optical Instruments Part 1	**Exam 2** (Chapters 20, 21, 12, 22, 24)		Ch. 23. 1-3		Ch. 23. 4-6
Week 11	Apr 10					
	Geometric and Optical Instruments Part 2	Ch. 23. 7-8		Ch. 25. 1-3, 9		Ch. Ch. 25. 4-6
Week 12	Apr 17					
	Ch. 27—Early Quantum	Ch. 27. 1-3		Ch. 27. 6-9		Ch. 27. 10-12
Week 13	Apr 24					
	Ch. 28—Atomic Physics	Ch 28. 1-4		Ch. 28. 5-8		Ch. 30. 1-6
Week 14	May 1					May 6 Last day of PHYS 245 classes
	(Ch. 30—Radioactivity) + (Ch. 31—Effects of Radiation)	Ch. 30. 7-11		Ch. 31. 1-5		Ch. 31.9
Monday, May 16, 2022		Final Exam 10:30AM - 1:15 PM				

I acknowledge receipt of this Syllabus, the duties, responsibilities, terms and conditions, stated herein.

Printed Name _____ Signature _____ Date _____