SYLLABUS

PHYS 272/272H – *Fall 2024*

Introductory Physics: Fields

INSTRUCTOR: Professor Eun-Suk Seo
Office: ATL 3203
Phone: 301-405-4855
Email: seo@umd.edu
Home page: https://cosmicray.umd.edu/
Office Hours: Tues. and Thurs. 1:45 PM – 2:30 PM, or by appointment.

CLASS MEETINGS: Tuesday and Thursday 12:30 PM – 1:45 PM, PHY 1402
Friday 12:00 noon – 12:50 PM, PHY 1402

REQUIRED TEXTBOOK: Physics for Scientists & Engineers, 5th Edition, by Douglas Giancoli Pearson Prentice Hall. (Volume II) ISBN 9780137488179

COURSE DESCRIPTION: PHYS 272 is the second course of a three-semester, calculus-based, general physics sequence. The subjects covered include electric and magnetic fields and potentials, simple circuits, and Maxwell's equations.

PREREQUISITE: PHYS161 or PHYS171; and MATH141; and must have completed or be concurrently enrolled in MATH241.

COURSE POLICIES: Students are responsible for all the material in every covered chapter, regardless the material was specifically mentioned in class. During the lecture we will focus on the material causing difficulties. Students are expected to keep a notebook and electronic excel spreadsheets to document their work. Lecture notes, exam grades and course related announcements will be available on https://elms.umd.edu/. For the University policies visit https://www.ugst.umd.edu/courserelatedpolicies.html.

HOMEWORK: Homework assignments will be made using ***Expert TA***. Its access should be through ELMS/Canvas. Go to https://elms.umd.edu/, and log in using your UMD Directory ID. If you are registered for the course, you will see the course after login. Course announcements, lecture notes and homework will be updated on ELMS, so you should check it regularly. Clicking on the first homework in ELMS will take you to the registration page on ***Expert TA***. After registration you will see the actual homework. It is recommended to register as soon as possible before the first day of class and do "Learning Expert TA" assignment which is to help you get familiar with ***Expert TA***. Your homework scores will be visible both in Expert TA and ELMS. Your lowest HW grade can be dropped. If you miss a HW, that will be the one that is dropped.

QUIZZES: There will be mini quizzes occasionally on the class material throughout the semester.

PHYS 272H: Those who are enrolled in PHYS 272H should contact Professor Seo at the beginning of the semester (within the first week) to discuss the honors project, which will involve research on your choice of the class related topic, coding, a written paper, and an oral presentation.

EXAMS: There will be three in-class exams and one two-hour final exam. The exam will include problems and conceptual questions. The lowest score of three in-class exams can be dropped. Students must take the final exam to pass the course.

Exam Schedule:

Exam 1	Thursday, September 26, 12:30 – 1:45 PM
Exam 2	Tuesday, October 29, 12:30 – 1:45 PM
Exam 3	Tuesday, November 26, 12:30 – 1:45 PM
Final Exam	Monday, December 16, 4:00 – 6:00 PM

GRADE: PHYS 272 grade will be computed as following:

Homework	20%
Midterm Exams	50%
Final Exam	30%

TENATIVE CLASS SCHEDULE:

PHYS 272 Fall 2024		
Week	Chapters	Lecture Topics
Aug 27	21	Introduction
Aug 29	21	Electric Charge and Electric Field
Sept 3	21	Electric Charge and Electric Field
Sept 5	21	Electric Charge and Electric Field
Sept 10	22	Gauss' Law
Sept 12	22	Gauss' Law
Sept 17	23	Electric Potential
Sept 19	23	Electric Potential
Sept 24	24	Capacitance, Dielectrics, Electric Energy Storage
Sept 26	***21-23***	***Midterm EXAM #1***
Oct 1	24	Capacitance, Dielectrics, Electric Energy Storage
Oct 3	25	Electric Currents and Resistance
Oct 8	25	Electric Currents and Resistance
Oct 10	26	DC Circuits
Oct 15	26	DC Circuits
Oct 17	27	Magnetism
Oct 22	27	Magnetism
Oct 24	28	Sources of Magnetic Field
Oct 29	***24-27***	***Midterm EXAM #2***
Oct 31	28	Sources of Magnetic Field

Nov 5	29	Electromagnetic Induction and Faraday's Law
Nov 7	29	Electromagnetic Induction and Faraday's Law
Nov 12	29	Electromagnetic Induction and Faraday's Law
Nov 14	30	Inductance, Electromagnetic Oscillations, and AC Circuits
Nov 19	30	Inductance, Electromagnetic Oscillations, and AC Circuits
Nov 21	31	Maxwell Equations and Electromagnetic Waves
Nov 26	***28-30***	***Midterm EXAM #3***
Nov 28	NO CLASS — ***Thanksgiving***	
Dec 3	31	Maxwell Equations and Electromagnetic Waves
Dec 5	21-31	Review
Dec 16	***21-31***	***Final Exam***

TEACHING ASSISTANT:

Aneesh Anandanatarajan
Email: aanandan@terpmail.umd.edu
Office: PHY 1303
Office Hours: Monday and Wednesday 11:00 AM – 12:00 noon, or by appointment.

DISABILITIES: Students with documented disability should contact Professor Seo at the beginning of the semester (within the first week) to discuss accommodations.

ACADEMIC SUPPORT: If you are experiencing any difficulties with the course material get help as soon as possible. The Society of Physics Students provides free online free online and in-person tutoring program for anyone taking an introductory physics course at UMD. Tutoring is available on a drop-in basis through Zoom from 4-6pm, Monday through Thursday. It is also available in Toll 1303 at the same time. In order to request the Zoom information, students must fill out the following brief form: https://forms.gle/M8FnJrEDgTkwSiUR8.

ACADEMIC INTEGRITY: The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitating academic dishonesty, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.shc.umd.edu.

UNIVERSITY CLOSURE: If the University is closed due to weather or some emergency situation the scheduled class activities will be rescheduled. Closing/opening is announced over local radio/TV and the University's homepage: http://www.umd.edu/. The course specific instructions will be given on http://elms.umd.edu/ as needed.

RELIGIOUS OBSERVANCES: If students need to miss class, discussion, a homework deadline, or an exam due to a religious observance, students must discuss possible schedule conflict with the instructor in advance, at the beginning of the semester so appropriate arrangements could be made.

COVID RELATED ABSENCE: Follow the University of Maryland Policy on the Conduct of Undergraduate Courses and Student Grievance Procedure.

COUNSELING SERVICE: The University of Maryland's Counseling Center offers counseling services by phone at 301-314-7651. If you or someone you know is in crisis, dial 1-800-273-TALK or text 741-41. If you tested COVID-19 positive or have related issues, you can utilize the Health Center Heal Line (301) 405-4325. The Health Center is staffing this line to provide information/support and direction to students about what they should do in their situation.

DISCLAIMER: The instructor reserves the right to make minor changes to this syllabus to meet the specific needs of the class during the semester.