

## PHYS 272/272H – Spring 2020

### Introductory Physics: Fields

INSTRUCTOR: [Professor Eun-Suk Seo](#)

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Office Hours: Wednesday 11:00 AM – Noon, or by appointment.

CLASS MEETINGS: Tuesday and Thursday 12:30 PM – 1:45 PM, PHY 1201

Wednesday 10:00 AM – 10:50 AM, CHM 0115

REQUIRED TEXTBOOK: Physics for Scientists & Engineers, 4th Edition, by Douglas Giancoli  
Pearson Prentice Hall. (Volume II)

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 <http://elms.umd.edu/>. For the University policies visit <http://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.

QUIZZES: There will be a 10 minute quiz occasionally at the beginning of the class on the material covered the previous week and/or on the material to be covered that week. Makeup quizzes are not allowed. Your lowest quiz grade can be dropped. If you miss a quiz, that will be the quiz that is dropped.

EXAMS: There will be two midterm exams and one two-hour final exam. The exam will include problems and conceptual questions. There will be no make-up exams. Students must take the final exam to pass the course.

Tentative Exam Schedule:

Exam 1	Thursday February 27, 12:30 – 1:45 PM
Exam 2	Thursday April 9, 12:30 – 1:45 PM
<a href="#">Final Exam</a>	Tuesday May 19, 1:30 – 3:30 PM

GRADE: PHYS 270 grade will be computed as following:

Homework	20%
Quizzes	10%
Midterm Exams	40%
Final Exam	30%

TENTATIVE CLASS SCHEDULE:

PHYS 272 Spring 2020		
Week	Chapters	Lecture Topics
Jan 28	21	Introduction, Electric Charge and Electric Field
Feb 4	21	Electric Charge and Electric Field
Feb 11	22	Gauss's Law
Feb 18	23	Electric Potential
Feb 25	24	Capacitance, Dielectrics, Electric Energy Storage
	<b>21-24</b>	<b>Midterm EXAM #1</b>
Mar 3	25	Electric Currents and Resistance
Mar 10	26	DC Circuits
Mar 17		NO CLASS -- <b>Spring Break</b>
Mar 24	27	Magnetism
Mar 31	28	Sources of Magnetic Field
April 7	29	Electromagnetic Induction and Faraday's Law
	<b>25-28</b>	<b>Midterm EXAM #2</b>
April 14	29	Electromagnetic Induction and Faraday's Law
April 21	30	Inductance, Electromagnetic Oscillations, and AC Circuits
April 28	31	Maxwell Equations and Electromagnetic Waves
May 5	31	Maxwell Equations and Electromagnetic Waves
May 12		Review
May 19	<b>21-31</b>	<b>FINAL EXAM</b>

## TEACHING ASSISTANTS:

Srivatsa Tata

Email: [stata@umd.edu](mailto:stata@umd.edu)

Office: PHY 0104

Office Hours: Tuesday and Thursday  
2:00 – 3:00 PM, or by appointment.

Dan Fernandez

Email: [dferman1@terpmail.umd.edu](mailto:dferman1@terpmail.umd.edu)

Office: ATL 3213

Office Hours: Monday 1:00 PM - 2:00 PM,  
Friday noon – 1:00 PM, or by appointment.

**ACADEMIC SUPPORT:** If you are experiencing any difficulties with the course material get help as soon as possible. The Physics Department has a free tutoring service, the Slawsky Clinic, run by retired senior physicists on a walk-in, first-come, first-served basis. It is located in PHY 1214. It is open during the semester typically M-F 10 AM - 3 PM. Society of Physics Students also provide free tutoring in physics and math M-Thurs 4 PM to 6 PM in PHY 1304 from upper-level physics majors, see <https://sps.physics.umd.edu/resources/tutoring>.

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

**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.

**COPYRIGHT:** Class materials provided for this course are copyrighted. They should not be reproduced for anything other than personal use without written permission from the instructor.

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