SYLLABUS

PHYS 270 (Sections 0101 to 0103) – *Fall 2019*

General Physics: Electrodynamics, Light, Relativity and Modern Physics

INSTRUCTOR: Professor Eun-Suk Seo
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Phone: 301-405-4855
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Home page: http://cosmicray.umd.edu
Office Hours: Tuesday and Thursday 3:00 – 4:00 PM, or by appointment.

LECTURE: Tues. and Thurs. 5:00 PM – 6:15 PM, Rm 1410, Toll Physics Building (PHY)

REQUIRED TEXTBOOK: Young and Freedman "University Physics" 14th edition, Pearson, 2016, ISBN-13: 978-0-321-97361-0

COURSE DESCRIPTION: PHYS 270 is a 3-credit course covering various topics including Electrodynamics, Maxwell's equations and electromagnetic waves, geometrical optics, interference, diffraction, special theory of relativity, and modern physics. It is the third course of a three-semester calculus-based general physics course designed for engineering students. PHYS 270 and PHYS 271 (lab) must be taken in the same semester.

PREREQUISITE(S): Prerequisite: PHYS261, MATH241, and PHYS260. Corequisite: PHYS271.

COURSE POLICIES: Students are responsible for all of the material in every covered chapter, regardless of whether or not 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. Full solutions for the homework assignments will be discussed at the Discussion sessions with the TA.

DISCUSSIONS: Discussion sessions will give you an opportunity to obtain clarification of the material presented in class, or in the textbook. Homework problems and Exam questions will be discussed. This is an opportunity to get help from the Teaching Assistant (TA) and from fellow students.

Section	0101	0102	0103
Time	Th 2:00 - 2:50 pm	Th 4:00 – 4:50 pm	W 9:00 - 9:50 am
Location	EGR 3106	PHY 1219	CHM 0128
TA	Nicholas Grabon	Nicholas Grabon	William Grunow

TEACHING ASSISTANTS:

Nick Grabon
Email: ngrabon@gmail.com
Phone: 262-388-4162
Office: ATL 3340
Office hrs: M 3 - 4pm, W 4 – 5 pm

William Grunow
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Office: PHY 3121
Office hrs: TuTh 9 – 10 AM

TENTATIVE CLASS SCHEDULE:

PHYS 270 Fall 2019, Phys Bldg. Rm 1410		
DATE	Chapters	Lecture Topics
Aug 27	27	Introduction
Aug 29	27	Magnetic Field and Magnetic Forces
Sep 3	27	Magnetic Field and Magnetic Forces
Sep 5	28	Sources of Magnetic Field
Sep 10	28	Sources of Magnetic Field
Sep 12	29	Electromagnetic Induction
Sep 17	29	Electromagnetic Induction
Sep 19	30	Inductance
Sep 24	31	Alternating Current
Sep 26	***Midterm EXAM #1: Ch.27 - 30***	
Oct 1	31	Alternating Current
Oct 3	32	Electromagnetic Waves
Oct 8	32	Electromagnetic Waves
Oct 10	33	The Nature and Propagation of Light
Oct 15	33	The Nature and Propagation of Light
Oct 17	34	Geometric Optics
Oct 22	34	Geometric Optics
Oct 24	35	Interference
Oct 29	***Midterm EXAM #2: Ch.31- 34***	
Oct 31	35	Interference
Nov 5	36	Diffraction
Nov 7	36	Diffraction
Nov 12	37	Relativity
Nov 14	37	Relativity

Nov 19	38	Photons: Light Waves Behaving as Particles
Nov 21	38	Photons: Light Waves Behaving as Particles
Nov 26	39	Particles Behaving as Waves
Nov 28	NO CLASS -- Thanksgiving Day	
Dec 3	***Midterm EXAM #3: Ch. 35 - 39***	
Dec 5	40	Quantum Mechanics in 1D: Wave Functions
Dec 13	***FINAL EXAM* 6:30-8:30 pm (TBD location)**	

EXAMS: There will be three in-class exams and one two-hour final exam. The exam will include problems and conceptual questions. There will be no make-up exams. The lowest score of three in-class exams can be dropped. Students must take the final exam to pass the course.

Tentative Exam Schedule:

Exam 1	Thursday September 26, 5:00-6:15 PM
Exam 2	Tuesday October 29, 5:00-6:15 PM
Exam 3	Tuesday December 3, 5:00-6:15 PM
Final Exam	Friday December 13, 6:30 – 8:30 PM

GRADE: PHYS 270 grade will be computed as following:

Homework	20%
Midterm Exams	50%
Final Exam	30%

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.

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