PHYS 136, Fall 2023, Introduction to Physics II

Instructor: Dr. Wonhee Ko (203 South College/233 IAMM, wko@utk.edu)

General Information

Lecture Hours: 1:50 – 2:40 pm Mon/Wed/Fri.

Location: 306 Nielsen

Office Hours: Fri 1:00 –1:50 pm, or email me anytime (starting the subject line with PHYS 136), will reply within 24 hours

Laboratory Hours: as scheduled for your section

Textbook: "College Physics", a free, online textbook by OpenStax College (http://openstaxcollege.org/). The link to the HTML version is http://cnx.org/contents/Ax2o07Ul@9.4:HR_VN3f7@3/Introduction-to-Science-and-th
A PDF copy of the book can be downloaded from the OpenStax website or from Canvas in the folder "files" of this course website.

Self-learning materials: http://labman.phys.utk.edu/phys136/

Homework

One homework will be given for each chapter, when the homework will be assigned and when it will be due will be announced on Canvas.

Due dates for problem sets are firm. Please note: No extensions or make-up problem sets will be given. I generally encourage students to work together as far as homework is concerned. The goal is to use homework as one of the most effective ways of assimilating the material. Do not take advantage of the work of other people, and do not let anybody take advantage of your own work: efforts should be shared.

Class attendance will be added to the final grade with 5% weight. Attendance points will be subtracted by the number of **unexcused absences**. If an absence is predictable, the student should contact the instructor in advance by email (starting the subject line with **PHYS 136**) and request that the absence be excused. If the absence is unpredictable, please contact the instructor via email as soon as possible.

Laboratory attendance is strictly mandatory. Work will be graded by each Lab Instructor independently. An effort will be made to ensure a uniform grading policy between different laboratory sections. Laboratory make-ups are entirely at the Lab instructor's discretion and arrangements for such must be made with the Lab instructor directly. The laboratory exercises are an important and integral part of this course and have to be completed before a final grade will be assigned. You must complete all of the Laboratory assignments. Please note: If you fail the Laboratory part of the course, you automatically fail the entire course. You find the laboratory schedule here: https://labs.phys.utk.edu/ccheney/PHYS136/.

Exams

The **In-Class Test** will be open book exams. Questions and Problems on the Short Test and Final Exam will generally require only a purely numerical answer (like homework). Short Test and Final questions will generally be similar in character to example problems in the book and example problems given in lectures.

No Short Test score will be dropped and ordinarily make-up Short Text will NOT be given. Missing the final exam is very serious and may well result in failure of the course. However, if there are extremely serious circumstances supported by proper documentation, a make-up for Short Tests and/or Final may be considered at my discretion.

Grading Policy

The semester Grade will be based on a Weighted Averages of the homework assignments, the attendance, the lab grades, one 50-min test, and the final examination as follows:

Homework: 20%
Attendance: 5%
Lab: 30%
One 50-min in-class test: 20%
Final examination (2-hour test): 25%

Conversion to Letter Grades

A	90 - 100
A-	85 - 89
B+	80 - 84
B	75 - 79
B-	70 - 74
C+	65 - 69
C	60 - 64
C-	55 - 59
D+	50 - 54
D	45 - 49
D-	40 - 44
F	0 - 39

Course Repetition Policy

If you are repeating the course, please refer to the Laboratory Policy Regarding Repeating a Course (http://www.phys.utk.edu/labs/Lab%20Repeat.pdf)

Announcements, Lecture Notes, Course Updates

Aside from in-class discussion, the primary method of communication between you and me will be via Canvas and/or email. This syllabus and other important information and announcements will be posted in Canvas, as well as copies of the slides used in the lecture. All emails to the instructor should have [**PHYS 136**] at the start of the subject line. Students are expected to use their UTK email address for communication and to check this inbox regularly.

It will be your responsibility to be aware of the content of any communication taking place in class, be it an announcement or anything related to the course material, in case you missed a class.

Questions and Appeals

I encourage you to ask questions during the lecture or/and talk to me during my office hours (Friday or by appointment – just ask after class) about the subject. You can discuss with me and/or complain to me about the grading of a given assignment, be it homework, Lab grade, Short Test or Final Exam. Any appeal will be entertained if it is raised no later than one week after the date on which the graded Exam/ Lab/ Tests /HW are made available for return to the class. After this "appeal period" of one week, exam grades will be considered final and will not be altered. Any appeal concerning a grade in the Laboratory should directly be discussed with your Lab instructor.

Physics Tutorial Center

The Department of Physics and Astronomy runs tutorial center (Nielsen 512) to provide personal attention and assistance from experienced physics students, both graduate and undergraduate, outside of the classroom. You are more than welcome to use tutorial center to get help on learning materials, HW, exams, and so on. For details, please check the link: http://www.phys.utk.edu/physlabs/tutorial-center/index.html

For students with disabilities

If you need course adaptations or accommodation because of a documented disability, please contact the Office of Disability Services at 2227 Dunford Hall (telephone/TTY 865-974-6087; e-mail ods@utk.edu) by January 24. This will ensure that you are properly registered for services.

Academic Honesty

All work submitted by a student is expected to represent his/her own work. Students are expected to enter their own homework without assistance from others. Students are expected to perform all work in conformance with the University policies regarding Academic Honesty.

Schedule

The class schedule is tentative. **I reserve the right to change the class sessions when content is taught or when midterms are administered; updates will be made in class and online.**

Date	Lecture

8/25	Electric charge
8/28	Electric force and electric field
8/30	More examples for electric force and electric field
9/1	Charges on conductor
9/4	No class (Labor day)
9/6	Electric potential energy and electric potential
9/8	Examples of electric potential
9/11	Capacitance
9/13	Energy stored in capacitance
9/15	Dielectrics
9/18	Current and resistivity
9/20	Ohm's law
9/22	Examples of Ohm's law
9/25	Electric circuit
9/27	Resistors in series
9/29	Kirchoff's rule
10/2	Examples of electric circuit problems
10/4	AC current
10/6	AC circuit & examples
10/9	Fall break
10/11	Review 1
10/13	Short Test (50 min)
10/16	Magnetic field and magnetic force
10/18	Magnetic force continued
10/20	Magnetic field from electric current
10/23	Electromagnetic wave
10/25	Electromagnetic wave continued
10/27	Reflection and refraction
10/30	Total reflection and polarization
11/1	Examples of reflection and refraction
11/3	Geometric optics
11/6-10	No class (Instructor out of town)
11/13	Geometric optics continued
11/15	Examples of geometric optics
11/17	Thin lens
11/20	Thin lens continued
11/22-24	No class (Thanksgiving)
11/27	Examples of thin lens
11/29	Interference
12/1	Diffraction
12/4	Examples of interference and diffraction
12/6	Review 2

Final: 12/12 (Tuesday) 1:00 pm - 3:00 pm, Nielsen 306