Syllabus College Physics II (Physics 2145) Spring 2024 (last updated 11/17/23)

Time and place: MWF 8-8:50 104 Physics
Instructor: Dr. Agnes Vojta, 206 Physics, vojtaa@mst.edu

COVID-19 Safety: **Do not come to campus if you feel sick or have tested positive for COVID-19**. Follow the university's procedures outlined at https://coronavirus.mst.edu/.

Required materials: "College Physics" by Knight, Jones, and Field, 1st or 2nd edition, Chapters 17-25; Lab manual. Computer with internet access, scanner or scanning app

Goals: The main goals of this course are to develop an understanding of the basic principles of electrodynamics (including optics) and to acquire the proper techniques for the solution of physical problems. For topics covered see schedule of assignments
Prerequisites: Physics 1145

Course format: Alternating lectures and recitation-and-discussion sessions. The lectures will review and clarify important concepts of the reading material and present examples for physical principles and problem-solving methods. **You are expected to have read the reading assignment prior to the lecture.** The recitations will be used to discuss conceptual questions and practice problem solving. You are encouraged to ask questions at any time during lectures.

Office hours/Learning assistance: Thursday, 2-4:30pm, 6-7:30pm, 202 Physics

Sources of course points:

Tests: Three tests will be given during class time on the following days: Fri, February 16; Wed, March 13; Wed April 17. Each test counts 120 points.
Final exam (Monday, May 6, 12:30-2 pm)**:** 120 points
End Material Quiz will be given during the last class period, May 6. 40 points
Quizzes (multiple choice or problem similar to homework) will be given unannounced.10 pts each.
Homework is **due Friday 8am via Canvas**. 10 points each set.
The three test-preparation homeworks as well as the assignment in the last week of class will **not** be graded; they serve solely as preparation for the tests and the end material quiz.
Lab: 6 lab exercises, lowest score will be dropped. 20 pts each.

Points available:
In order to make up for missed assignments or having a bad day:

- the lowest score of the four tests (three test + final) will be dropped
- you can earn at least 220 points for quizzes/homework/worksheets, but grade cuts are based on 200 points.
- the lowest lab score of six will be dropped

If you are sick on an exam day, do not come to class. Contact me to arrange a makeup.
If you must participate in a conflicting major university or intercollegiate event during a test, you need to contact me a week prior to the exam to arrange a makeup. I will need a letter or email from the event's Missouri S&T Faculty Sponsor.

3 tests + final, each 120 points, highest 3	360
End Material Quiz	40
Quizzes, homework, in-class problems, each 10 pts, at least 20 assignments	200
Lab	100
	700 total

Grading Scale:

A for 90% of 700	≥	630	**D** for 59.50% of 700	≥	420
B for 80% of 700	≥	560	**F** for less than 59.50%	<	420
C for 70% of 700	≥	490			

Regrades and spreadsheet corrections
Requests for regrades must be made in writing no later than the class following the class in which the assignment or test was returned. If a score has been entered incorrectly in the grade spreadsheet, you must bring me the assignment in question. Requests for corrections must be made before the beginning of the last class in the semester. No changes will be made after the end material quiz has been given.

Attendance: Do not come to class if you feel sick or have tested positive for COVID-19. Let me know, and we'll find a solution.

If you have a disability and anticipate needing accommodations in this course, you are strongly encouraged to meet with me early in the semester. You will need Student Accessibility and Testing (http://saat.mst.edu, 203 Norwood Hall, 341-6655, dss@mst.edu) verifying your disability and specifying the accommodation you will need before I can arrange your accommodation.

Academic Dishonesty will not be tolerated. See http://registrar.mst.edu/academicregs.

Title IX policies, resources and reporting options are available at http://titleix.mst.edu.

Emergency exit: classroom egress maps are posted at http://designconstruction.mst.edu/floorplan/. Please take a moment to identify the emergency exit.

Unresolved complaints: It is hoped that any problems can be resolved through discussions between student and instructor. If there are any complaints that cannot be resolved you may contact Dr. Klaus Woelk, Associate Dean for Academic Affairs (woelk@mst.edu).

Unresolved complaints about laboratory instructors: Please contact the professor in charge of the lab portion of the course, Mr. Joel Peacher (peach@mst.edu).

Physics 2145 – Spring 2024 Schedule of assignments

You are expected to have done the assigned reading **before** coming to class.
HW is due Friday 8am.

Date	Topic	Reading	Homework
Jan 15	**Martin Luther King Day-no class**		
17	Ch. 20: Coulomb's law	20.1-3	
19	Coulomb's law		*Homework #1*
22	Electric field	20.4-5	
24	Conductors; Forces on charges	20.6-7	
26	Ch. 20 review		*Homework #2*
29	Ch 21: Electric potential	21.1-2	
31	Electric potential	21.3-5	
2	Electric potential		*Homework #3*
5	Capacitors	21.6-9	
7	Capacitor networks	**23**.6	
9	Capacitors		*Homework #4*
12	Review		
14	Review		*Test PrepHW #1*
16	**Test 1 Ch. 20-21, 23.6**		
19	Ch. 22: Current and Resistance	22.1-4	
21	Ohm's Law and power	22.5-6	
23	Ohm's Law		*Homework #6*
26	Ch. 23 Circuits	23.1-3	
28	Circuits	23.4-5	
1	RC Circuits	23.7	*Homework #7*
4	RC Circuits		
6	Circuits		*Homework #8*
8	Review		
11	Review		*Test PrepHW #2*
13	**Test 2 Ch.22-23**		
15	**Spring Recess- no class**		

Mar 18	Ch. 24 Magnetic Fields	24.1-4	
20	Magnetic fields	24.3-4	
22	Magnetic fields	24.5-6	*Homework #10*
Mar 24- 31 Spring Break. No classes.			
Apr 1	Magnetic fields	24.7-8	
3	Ch. 25 Electromagnetic Induction	25.1-3	
5	Faraday's Law	25.4	*Homework #11*
8	Electromagnetic Induction		
10	Electromagnetic waves	25.5-8	
12	Review		*Homework #12*
15	Review		
17	**Test 3 Ch. 24-25**		*Test PrepHW #3*
19	Electromagnetic waves		
22	Ch. 17: Wave Optics	17.1-3	
24	Ch. 18 Ray Optics	18.1-4	
26	Lenses and Mirrors	18.5-7	*Homework #14*
29	Lenses and Mirrors		
May 1	Ch. 19 Optical Instruments	19.1-7	
3	End Material Quiz Ch.17, 18, 25		*Homework #15*

Final Exam: Monday, May 6, 12:30pm – 2:00pm