

PHY 202 Syllabus Fall 2017

Prof. Wimbush 703-845-6526 email: wwimbush@NVCC.EDU

Lecture T R 11:00 AM – 12:20 PM help session M W 10 AM – 10:50 AM

Lab T 12:30 PM – 3:00 PM Rm 385

internet: <http://www.nvcc.edu/home/nvwimbw>

Secretary phone: 703-845-6341

Textbook: College Physics, OPENSTAX COLLEGE, 2017

free Download at openstax.org/l/PHYS and select your preferred book format on the right side.

The recommended version is Web-view (free). Also preferred is PDF (free). Some students may want a hard copy from Amazon (\$48.50 from seller OpenStax) or your campus bookstore.

Additional resources: At openstax.org/l/PHYS click “student resources” download Student Getting Started Guide

Visit cc.openstax.org and click “Sign up Now” to register to use Concept Coach (free).

Lab textbook: Wimbush 201-202 lab manual

Laboratory procedures can also be found at: <http://blogs.nvcc.edu/alphy/laboratory/>

You can get video tutoring from these web sites:

<http://www.hippocampus.org>

<http://www.brightstorm.com/physics>

<http://www.khanacademy.org>

<http://www.wolframalpha.com> And a nifty site to do calculations. . . like a powerful computer

Classroom Etiquette:

All cell phones and pagers are to be turned off during class.

Students are to arrive in class on time.

Attendance will be taken every day.

Students are responsible for all material covered in either the textbook or in the lectures. If you miss a lecture you should get the material from another student.

Make-up policy: If you miss an exam, you may take a second version of exam within one week of the missed exam.

There is no make-up for the final exam.

If you miss a lab, you need to contact Mr. Said Bouzianne for a time and date to make up the lab with another class. If this is not possible, I will assign an alternative assignment in its place.

Withdraw/Audit Grades: No audit will be permitted after the first two weeks of classes.

The Last day to drop with refund: 9/8/16.

The last day to withdraw with a grade of “W” is Nov. 1, 2016.

You are responsible for withdrawing yourself from the course.

The **Academic Center for Excellence (ACE)** and the **Academic Center for Reading and Writing (ACRW)** provide free peer tutoring and reading and writing assistance. ACE and ACRW are located in AA229. For more information or to schedule an appointment, stop by (AA229), call them (703.845.6363), or visit them online:

<http://www.nvcc.edu/campuses-and-centers/alexandria/campus-resources/academic-support/index.html>.

Any **cheating** on any exam or laboratory quiz will result in a grade of "0" for that test. The second time you are caught cheating will result in a grade of 'F' for the course. Cheating is defined as either the giving or the receiving of unauthorized help. Copying someone else's work or letting someone copy your work will be considered as cheating and will result in a grade of "0" for the assignment.

NO FORMUAL SHEETS OR NOTES WILL BE PERMITTED; Learn (memorize) the FORMULAS; this WILL help you in doing your homework and passing the exams. FORMULAS WILL BE PROVIDED BY THE INSTRUCTOR!

Special Needs and Accommodations: Please address with the instructor any special problems or needs at the beginning of the semester. If you are seeking accommodations based on a disability, you must provide a disability data sheet, which can be obtained from the counselor for special needs, who is located in Room 148 of the Bisdorf Building, telephone number 845-6301.

Grade determination: Each exam will be worth 100 pts. Final exam will be worth 200 points. Exams account for 65% , Homework worksheets for 10% and the lab accounts for 25%.
A = 90 to 100% B = 80 to 89% C = 70 to 79% etc.

Lecture Schedule:

Solutions to the Homework problems can be found on blackboard.

8/22	Static Electricity (ch 18)	1,10,26,28,29, 39,42,46,53,60
8/24	NO CLASS	
8/29	Electric Potential & Capacitors(ch 19)	2,9,21,25,26,36
8/31	Dielectrics(ch 19)	41,46,53,60,61
9/5	<u>Exam I</u>	
9/7	Electric Current & Resistor Circuits ch 20:	1,7,19,24,29,41,
9/12	Series & parallelch 20:	50,64,72,88,95
9/14	RC circuits ch 21:	2,15,21,31,36,42,47,48,58,64,68
9/19	<u>Exam II</u>	
9/21	Magnets(ch 22)	1,13,17,20,23,
9/26	Magnetic field due to currents(ch 22)	26,40,42,55,64,72,

9/28	induced EMF (ch 23)	2,5,17,28,44,56,70
10/3	Alternating Current (ch 23)	74,79,82,84,92,93,101
10/5	Exam III	
10/10	NO Class	
10/12	Electromagnetic Waves ch 24	4,6,9,18,25,32,
10/17	reflection & refraction ch 25	2,7,10,20,27,32,42,57,58,
10/19	optical instruments Ch 26	1,6,9,15,26,30,33,35,
10/24	interference & diffraction ch 27	3,6,19,26,45,60,70,71,79,89,
10/26	Exam IV	
10/31	Relativity (ch 28)	3,15,25,29,35,44,47,52,67,
11/2	homework	
11/7	Early Quantum Physics (ch 29)	1,4,8,20,29,41,51,63,
11/9	homework	
11/14	Quantum Physics (ch 30)	5,11,19,24,32,35,47,
11/16	Homework	
11/21	Nuclear Physics (ch 31)	4, 12, 21, 22, 23, 25, 35, 38, 45,
11/23	THANKSGIVING	
11/28	Radioactivity	
11/30	Biological, (ch 32)	45,47, 51, 55, 57
12/4	fission, fusion	
12/6	review	
12/12	Final	

Lab schedule

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|--------------------------|---------------------------------|
| 1. Electroplating | 2. Electric Field mapping |
| 3. Ohm's LAW | 4. RC Circuit |
| 5. E/M | 6. AC circuits |
| 7. Ray optics | 8. Interference and diffraction |
| 9. Analysis of light | 10. Geiger tube |
| 11. Half-Life Ba isotope | |

A lab report is required for **each lab**. It should be short, 2 **typed** pages max. plus any graphs and tables.

Basic calculations are to be completed in the laboratory and checked by the instructor for accuracy and significant digits.

Experiments are to be performed as outlined either in the textbook or the handouts; lab reports are to be submitted at the start of the following laboratory period.

The lab report should include:

1. **Abstract**: A brief statement of what the experiment "proves" and the validity of the method or procedures used.
2. **Theory**: Derive the formulas used in the experiment.
3. A **labeled diagram** of the apparatus. (Labels in ink artwork in pencil)
4. **Procedure**: Should be written in 3rd person, passive voice, and past tense example: The thermometer was read in three-minute intervals and the value recorded in table II. (Do not write "I read the thermometer" or "read the thermometer every three minutes.")
5. **Data tables**: (data in pencil; labels and lines separating columns and rows in ink)
Graphs: (labels, scales for x- and y - axis: in ink, curve in pencil)
6. **estimation** of error
7. **Conclusion**