

PHY 20I Syllabus Fall 2017 Prof. Wimbush 703-845-6526
email: wwimbush@NVCC.EDU

MW Lecture 11:00 AM – 12:20 PM help session M W 10 AM – 10:50 AM
M Lab 12:30 AM – 3:00 PM
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/alphylaboratory/>

Good Web sites:

Physics for Biology and Chemistry majors: an excellent web textbook
<http://cw.prenhall.com/bookbind/pubbooks/giancoli/>
<http://www.rwc.uc.edu/koebler/biophys/contents.html>
pre-med : www.e-mcat.com

You can get video tutoring from these web sites:

<http://www.hippocampus.org>
<http://www.brightstorm.com/physics>
<http://www.khanacademy.org>
And a nifty site to do calculations. . . like a powerful computer
<http://www.wolframalpha.com>

Course Policy: 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.
If you miss a lab, you will not be permitted to make it up. I will drop one missed Lab.

Withdraw/Audit Grades: No audit will be permitted after 9/7/17. Last day to withdraw with
tuition refund : 9/7/17. No withdraws will be permitted after the last day to withdraw,
10/31/17. Students who miss three consecutive lectures may be withdrawn from class.
The last day to withdraw with a grade of "W" is 10/31/17.
You are responsible for withdrawing yourself from the class.

Exam Policy: There will be three or four hourly exams and one FINAL "2-hour" exam.. If you miss an exam, you may take the "second version" exam within the week at the testing center. If you fail an exam (grade <70) , there will be a second chance exam worth a maximum of 85%. There is no second chance exam for the final.

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". Cheating is defined as either the giving or the receiving of unauthorized help. Any plagiarism will be considered as cheating and will result in a grade of "0" for the assignment.

NO FORMUAL SHEETS OR NOTES WILL BE PERMITTED; FORMULAS WILL BE PROVIDED BY THE INSTRUCTOR!

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.

Classroom etiquette: 1) All cell phones and pagers are to be turned off prior to class.
2) Students are to arrive on time for class.

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.

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>

Schedule

Solutions to the Homework problems can be found on blackboard.

Chapt.	Title	Homework
8/21	1. Nature of Science & Physics	2,6,14,17,22,27
8/23	2. Kinematics	1,3,7,10,16,20,27,40
8/28	a. Kinematics Falling Objects	41,44,47,50,54,55,59,64
8/30	Two-Dimensional Kinematics	2,4,10,15,24,25,27,45, 53,57
9/4	LABOR DAY	
9/6	EXAM 1	
9/11	NEWTON'S LAWS	1,5,6,19,22,25,36,41,42,
9/13	5. friction & centripetal force	4,9,13,20,23,34,36

9/18	6. Uniform circular motion	1,2,6,10,19,23,25,29,38,45
9/20	a. Universal Law of Gravity	
9/25	EXAM 2	
9/27	7. Work and Energy	3,7,13,17,23,28,32,34,39,47,49
10/2	8. Momentum	1,7,13,17,23,38,40,54
10/4	a. Collisions	
10/9	Columbus Day	
10/11	Exam 3 (mid-term)	
10/16	9. Statics and Torque	1,5,6,12,14,17,21,25,27,39
10/18	10. Rotational Motion	2,3,5,14,27,28,39,41
10/23	A . Rotational Motion	
10/25	11. Fluid Statics	1,4,15,18,25,30,43,57,59,75
10/30	12. Fluid Dynamics	1,3,6,8,21, 26,27,29,31,35,63
11/1	a. Fluid Dynamics	
11/6	Exam 4	
11/8	16. Oscillatory Motion	1,3,8,15,22,28,36,41,
11/13	Waves	48, 52,54,56,59,61,63,66,69
11/15	a. Waves	
11/20	17. Physics of hearing	1,9,12,23,26,30,
11/22	thanksgiving	38,43,44,46,72,73,75,79
11/27	EXAM 5	
11/29	13. Temperature, Kinetic Theory	1,4,10,14,18,20 22,28,35,40,51
12/4	14. Heat and heat transfer	1,3,6,10,12,14,24,41,42,45,48,59
12/6	15 Thermodynamics	2,5,10,15 20,29,40,52
12/11	FINAL	

Laboratory Schedule: Phy 201 **tentative schedule**

- 1. BONE LAB** (lab report #1) (this will take 2 lab periods)
- Galileo and motion
- Force Table equilibrium
- Newton's Second Law
- Linear Momentum (elastic and Inelastic)
- Torques and Equilibrium
- Centripetal force (bring lab goggles)
- Simple Harmonic Motion (lab report #2) & Standing waves on a string
- Sound
- Gas Law, and Specific Heat, & Latent Heat of Fusion & Vaporization (bring lab goggles)

Instructions for Completing Laboratory Reports

During an experiment you are to record your data in a laboratory notebook. This notebook contains the actual measurements and preliminary calculations and must be handed in at the end of the semester.

One week from the day of performing the experiment you are to hand in a laboratory report. For most of the experiments the report will contain:

- 1) an introduction (history, description of how the procedure will achieve the goals of the experiment, and a brief statement of results),
- 2) labeled sketch of the apparatus,
- 3) Data (organized into tables, and graphs),
- 4) a sample calculation along with an estimation of experimental error, and
- 5) a Conclusion (summary statement as to how the results support the hypothesis of the experiment).