

PHY 20I Syllabus Spring 2018 Prof. Wimbush 703-845-6526 email: wwimbush@NVCC.EDU

T R Lecture 11:00 AM – 12:20 PM

R Lab 1:00 AM – 2:30 PM

internet: <http://www.nvcc.edu/home/nvwimbw> Secretary phone: 703-845-6341

Textbook: College Physics, OPENSTAX COLLEGE, 2017 free Download at <http://openstaxcollege.org/>.

textbook: lab procedures will be posted on blackboard.

Lab

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/koehler/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 your lowest Lab Grade.

Withdraw/Audit Grades: No audit will be permitted after **1/29/18**. Last day to withdraw with tuition refund : 1/29/18. No withdraws will be permitted after the last day to withdraw, 3/ 21. Students who miss three consecutive lectures may be withdrawn from class.

The last day to withdraw with a grade of "W" is **3/22/2018**.

You are responsible for withdrawing yourself from the class.

Exam Policy: There will be four hourly exams (1 hr and 20 min) and one "2-hour" final exam.. **If you miss an exam or score below a 70%, The final exam will be worth more to make up for the missing exam or to replace the failed exam. You are not allowed to miss more than one exam.**

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; SOME FORMULAS WILL BE PROVIDED BY THE INSTRUCTOR!

Organization of Class: ...Lecture 1 hr. 40 MIN.

Each exam will be worth 100 pts. Final exam will be worth approxiately 150 points.

Homework assignments approx.. 50 points..

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

Homework:

Solutions to the Homework problems can be found on blackboard.

Date	Chapt. Title	Homework
1/11	1. Nature of Science & Physics	2,6,14,17,22,27
1/16	2. Kinematics	1,3,7,10,16,20,27,40
1/16	a. Kinematics Falling Objects	41,44,47,50,54,55,59,64
1/16		Read ch 3
1/18	3. Two-Dimensional Kinematics	2,4,10,15,24,25,27,45, 53,57
1/23	4. Dynamics	1,5,6,19,22,25,36,41,42,
1/25	a. Dynamics	
1/30	5. Applic. Of Newtons Laws	4,9,13,20,23,34,36
2/1	EXAM I	
2/6	6. Uniform circular motion	1,2,6,10,19,23,25,29,38,45
2/8	a. Gravitation	
2/13	7. Work and Energy	3,7,13,17,23,28,32,34,39,47,49
2/15	8. Momentum	1,7,13,17,23,38,40,54
2/15		
2/20	a. Collisions	
2/22	Exam II (mid-term)	
2/27	9. Statics and Torque	1,5,6,12,14,17,21,25,27,39
3/1	10. rotational kinematics	2,3,5,14,27,28,39,41
3/6	10. Rotational Motion	
3/12-3/16	SPRING BREAK	
3/20	11. Fluid Statics	1,4,15,18,25,30,43,57,59,75
3/20	12. Fluid Dynamics	1,3,6,8,21, 26,27,29,31,35,63
3/22.	a. Fluid Dynamics	
3/27	Exam III	
3/29	13.9 Temperature, Kinetic Theory	1,4,10,14,18,20 22,28,35,40,51
4/3	a. Kinetic Theory	
4/5	14. Heat and heat transfer	1,3,6,10,12,14,24,41,42,45,48,59
4/10	a. Heat transfer	
4/12	15 Thermodynamics	2,5,10,15 20,29,40,52
4/17	16. Oscillatory Motion	1,3,8,15,22,28,36,41, // 48, 52,54.56.59.61,63,66,69
4/19	a. Waves	
4/24	17. Physics of hearing	1,9,12,23,26,30, // 38,43,44,46,72,73,75,79
4/26	a. Sound	
5/1	Final ?	11:00 AM – 12:45 PM

- 5 bonus points will be added to your final exam score for filling out the course evaluation on line, you must bring proof.

Laboratory Schedule: Phy 201 tentative schedule

1. Measurement (bone lab),
2. Galileo and motion
3. Measuring forces (static)
3. Newton's Second Law (**lab report #1**)
4. Linear Momentum (elastic and Inelastic collisions), impulse forces
5. Torques and Equilibrium
6. Centripetal force (bring **lab goggles**)
7. Simple Harmonic Motion (**lab report #2**) & Standing waves on a string
8. Gas Law, and Specific Heat, & Latent Heat of Fusion & Vaporization (bring **lab goggles**)

There will two formal lab reports which will be done independently and submitted one week after the lab.

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 checked by the instructor before you can leave the lab..

One week from the day of performing the experiment you are to hand in a laboratory report.

A. **report.** This report should begin with a description of the principle or phenomena that was investigated during the experiment. It should include a labeled diagram of the apparatus. It should include the data, a sample calculation, tables, and graphs. It should end with a conclusion which is a statement describing what principles or phenomena that was actually verified by the data.