

Physics 201 Course Outline

This is the first part of the two-semester [General College Physics Course](#) taught at [NOVA](#).

The course is a non-calculus treatment of physics dealing with topics in classical and modern physics. This course is intended for students in some of the two-year technical programs offered at NVCC and also for pre-med, pre-vet, pre-dental, Liberal Arts and pre-teaching non-science majors, thus satisfying the requirement for a laboratory science at many four-year institutions.

Prerequisites. [MTH 163](#) and a satisfactory placement score for [ENG 111](#).

Note: Students unfamiliar with trigonometry are strongly advised to take [MTH166](#) instead of [MTH 163](#).

Additional Requirements.

- Students are required to have access to a computer with fast internet connection.
- Students are expected to have working knowledge of some form of Editing Software, such as Microsoft Office, Open Office, Google Documents, etc.

Course Organization and Policies.

- **Course Organization.** Detailed description of the course policies, including, grading, disability issues, academic misconduct, etc., are available in the Course Information Folder on Blackboard.
- **Schedule.** A Tentative Schedule of Classes is available in the Course Information Folder on Blackboard. Please note, the schedule is subject to change.
- **Communication.** Preferred communication is through email. The instructor will respond to emails within 48 hours, unless there are extraordinary circumstances.
- **Academic Dishonesty.** Students are expected to abide by the [College's Rules on Academic Dishonesty](#).
- **Attendance.** Students are expected to attend *all* classes.

Course Objectives and Learning Outcomes.

- [Course Content Summary and Objectives](#) as published on the NVCC web site.
- By the end of the semester students are expected to know how to apply the following concepts to topics of Mechanics, Fluids, Oscillations and Waves, and Thermodynamics:
 - Kinematics: Motion in one and more dimensions, including Rotational Motion
 - Dynamics: Forces, Newton's Three Laws and their applications.
 - Energy and the Laws of its Conservation.
 - Linear and Angular Momentum and their conservation.
- The course grade is comprised of labs, weekly quizzes, and exams including a final exam. Details about the grading policies are posted at in the Course Information Folder on Blackboard.

Miscellaneous

- [The Alexandria Testing Center](#) is located at AA 332. In order to be admitted to take an exam there, a student must bring a photo ID and go no later than 2 hours before closing time. For the latest open hours check out the [Testing Center Hours of Operation](#).
- [The Alexandria Campus Library](#) is located on the first floor of Bisdorf Building.
- [Alexandria Student Services](#)
- Academic support is provided at [the Alexandria Academic Support Center](#). NOVA also provides [Tutoring Services](#)
- **Communication Etiquette.** In their emails, posts, or in the classroom, students must address the instructor as "Prof. Chung", must be courteous in their expressions (no profanity), and must sign all their messages with their name.

- **Technical Support.**

- [NVCC IT Help Desk](#) provides general support concerning email, access to Blackboard and NovaConnect.
 - Some questions are answered in the [Student FAQ](#) page.
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Bong Jae Chung

Last modified: Wed Aug 21 21:59:25 EDT 2014

PHYSICS 201**COURSE POLICIES****Spring 2017****Lecturer:**Dr. B.
Chung*Office:* To *E-mail :*
beannounced bchung5@gmu.eduby
appointment bchung@nvcc.edu*Phone:* 443

255 1496

*Office**Hours:*

- By appointment: in person or on-line.
- Note:** Students who request a meeting but do not show up, or are very late, will lose their right to request appointments.

Learning Resources:

- [College Physics](#) by [OpenStax](#) (2012)
- Physics by Douglas C. Giancoli, 7th Ed., [Prentice Hall](#).
- [Lab Manual, Physics 201-202](#) by Walter L. Wimbush (2012)

Attendance:

- Students are expected to attend **all** scheduled lecture and laboratory sessions. If an online meeting is scheduled, due to an emergency or other reason, student participation in those meetings counts towards attendance.
- Students are responsible to know all the material covered and information discussed in class regardless of whether they have attended the class or not.
- Students should read the assigned chapters in advance, and come to the class sessions ready to participate in problem discussions.

W/Audit Grades:

- [Last day for Schedule Adjustments with Tuition Refund \(Census Date\)](#) is Jan. 26.
- Students who have neither attended any class nor submitted any assignments by the **Census Date** will be administratively withdrawn from the class.
- No Audit will be permitted after the **Census Date**.
- No withdrawals will be permitted after the [Last Day to Withdraw Without Grade Penalty](#), March 21.
- Students are responsible for withdrawing themselves from the class.

Grading scale:A: 90- 100%
B: 80- 89%
C: 70- 79%
D: 60- 69%
F: <60%**Grades:**

Total points 400. Lab - 15%; Quizzes- 15%; Exams - 45%; Final Exam - 25%

Lab:

Total points 60.

- All labs and assignments are 4 pts each.
 - Experiments: 2 pts for lab activities; 2 pts for complete and accurate results.
 - Problems Solving Sessions are counted as lab assignments: 4 pts
- Late/missed policy:
 - Late for lab penalty: 2 pts.
 - Late assignments/reports penalty: 1 pts. **No late assignments are accepted if they are overdue by more than one week!**
 - One lab will be dropped.
- **Students without protective shatter-resistant eye goggles or with open-toe shoes will not be permitted to stay in the laboratory room!**
- It is the responsibility of the students to check with the schedule of classes posted in the Course Information Folder on Blackboard and to know which labs require protective goggles.
- Students must have a passing lab grade in order to pass the class!

Quizzes:

Total points 60. **No more than 60 pts can be counted toward the final grade!**

- Each week, there will be one or two on-line quizzes posted on [Blackboard](#), due Thursday 5:59 pm.
- No late quizzes will be accepted. The most current quiz deadlines will always be posted on Blackboard.
- **It is the student's responsibility to know when each quiz is due.**

Exams:

- There will be four exams each worth 60 points. The top three highest scores will be counted toward the final grade.
- The final exam is worth 100 points, is comprehensive, and all problems are show work.
- The instructor will provide formula sheets for the exams. Students may print it out at home in advance, and bring it to class. **No other formula sheets will be allowed.**
- During an exam, students may bring only a pen/pencil and a calculator programmable calculators must have blank memory before the exam.

- No cell phones or other electronic devices are allowed to be turned on during an exam.
- No late or make-up exams will be given. For students who know in advance that they will not be able to attend an exam, an arrangement may be made for that exam to be taken at **EARLIER** time.

**Make-up policy:
Academic misconduct:**

There will be absolutely no make up exams, quizzes, or labs. Students are expected to abide by the [NVCC Rules on Academic Dishonesty](#). Be advised that:

- Cheating will not be tolerated in any form. Copying and using someone else's work to obtain credit, as well as letting someone else copy your work, is considered cheating.
- Any cheating incident will be reported to the Dean of Students and may then become part of your official student record.
- Cheating on any assignment will result in failing that assignment. A second instance of cheating will result in automatic failing of the class!
- During an exam, if you leave the room for any reason, you will not be permitted to continue working afterwards.
- All assignments are individual unless otherwise specified.
- The use of unauthorized electronic devices during an exam is considered cheating.
- **Students who show a discrepancy greater than a full letter grade between their performance on two separate class assignments (in-class or online), MAY BE EXAMINED additionally by the instructor!**

**Disability
accommodations:**

No disability accommodations will be provided unless a Disability Data Sheet is provided to the instructor. Those seeking accommodations based on disabilities should obtain a Disability Data Sheet through the [Counselor for Special Needs](#), located in the Bisdorf Building, Room 229 (tel. 703.933.1840).

Last modified: Mon, Jan, 9 12:08:26 EST 2017

<i>B. Chung</i>	<i>Physics 201</i>	<i>Spring 2017*</i>
Monday (Lab)	Wednesday (Lecture)	Quiz due every Wed 5:59 pm
	11 Jan	
	Ch. 1 Introduction, Ch. 2 Kinematics 1D	
16 Jan	18 Jan	18 Jan
Martin Luther King Holiday	Ch. 2 Kinematics 1D	
	Ch.3 Kinematics in 2D: Vectors	
23 Jan	25 Jan	25 Jan
Lab 01: Density	Ch.4 Dynamics and its applications	<i>Quiz: Introduction, Kinematics 1D, Vectors</i>
30 Jan	1 Feb	1 Feb
Lab 02: Force Table	Ch.4 Dynamics and its applications	<i>Quiz: Kinematics 2D, Dynamics</i>
	Ch.5 Circular Motion: Rotational Kinematics, Gravitation	
6 Feb	8 Feb	8 Feb
Lab 03: Uniform Acceleration	Problem Solving Session 01 (4pts)	<i>Quiz: Dynamics</i>
Problem Solving Session 01 (Lab)	Exam 1: Ch. 1 – Ch. 4	
13 Feb	15 Feb	15 Feb
Lab 04: Newton's Second Law	Ch. 6 Energy: Work, Energy	<i>Quiz: Circular Motion, Gravitation</i>
20 Feb	22 Feb	22 Feb
Lab 05: Circular Motion***	Ch. 7 Momentum: Impulse and Collisions	<i>Quiz: Energy</i>
	Ch. 8 Torque: Rot. Inertia	
27 Feb	1 Mar	1 Mar
Lab 06: Conservation of Energy	Problem Solving Session 02 (4pts.)	<i>Quiz: Momentum</i>
Problem Solving Session 02 (Lab)	Exam 2: Ch. 5 – 7	
6 Mar	8 Mar	
Spring Break: No Classes		
13 Mar	15 Mar	15 Mar
Lab 07: Linear Momentum	Ch. 9 Torque: Static Equilibrium, Elasticity	<i>Quiz: Rotation</i>
20 Mar	22 Mar	22 Mar
Lab 08: Torque	Ch. 10 Fluids: Static Fluids, Fluids in Motion	<i>Quiz: Statics</i>
27 Mar	29 Mar	29 Mar
Lab 09: Springs	Problem Solving Session 03 (4pts.)	<i>Quiz: Fluids</i>
Problem Solving Session 03 (lab)	Exam 3: Ch. 8-10	
3 Apr	5 Apr	5 Apr
Lab 10: Pendulum	Ch. 11 Waves, Ch. 12 Sound	<i>Quiz: no quiz</i>
10 Apr	12 Apr	12 Apr
Online lab (extra)	Problem Solving Session 04 (4pts.)	<i>Quiz: Waves, Sound</i>

Problem Solving Session 04 (Lab)	Exam 4: Ch. 11, 12	
17 Apr	19 Apr	19 Apr
Lab 11: Standing Wave Patterns	Ch. 13 Temperature , Ch. 14 Heat	<i>Quiz: no</i>
24 Apr	26 Apr	26 Apr
Lab 12: Gas Laws***	Ch. 15: Thermodynamics	<i>Quiz: Temperature, Heat</i>
1 May	3 May	3 May
Lab 12: Specific Heat*** (??) no need...		
Problem Solving Session	Final Exam	<i>Quiz: Thermodynamics Laws</i>

*** Schedule subject to change**

Problem Solving Sessions may be held in lab AA 385

**** Online Activity**

***** Lab Requires Goggles**