

PHYS 1111 – Introductory Physics I

Fall 2008, MWF: 10:10 – 11:05, 109 Rogers Hall

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Office Hours: MWF: 9:00 – 10:00, 11:10 – 11:40, TR: 10:10 – 11:05

Catalog Description: Prerequisite: MATH 1113 or permission of instructor. The introductory physics sequence (PHYS 1111 and PHYS 1112) is a survey of the primary fields of physics: mechanics, electromagnetism, optics, thermodynamics, and modern physics. Elementary algebra and trigonometry will be used in this course. The first course of the sequence will focus on the field of classical mechanics and its applications. (3 credit hours)

Text: The main textbook for this course is: College Physics, Vol. I, 2nd Ed., by Giambattista, Richardson and Richardson. It is available to buy from the university bookstore. There are some times when I may refer to another text, but I will make copies of these other texts for you.

North Georgia Learning Outcome #3: The student will engage in integrative learning. *The instructor will guide the student in learning how to make connections across courses, disciplines, and co-curricular activities and to make connections between liberal arts and professional fields, through activities such as experiential and academic learning, advanced integrative projects, and culminating work.*

Course Syllabus

August 20 th *	Course Introduction
August 22 nd	Chapter 1: Introduction: units, significant figures, trigonometry.
August 25 th – Sept. 3 rd	Chapter 2: Force: Types of forces, vectors, free-body diagrams, equilibrium.
September 5 th – Sept. 10 th	Chapter 3: Acceleration & Newton's 2nd Law: displacement, velocity, acceleration, mass, interpreting graphs.
September 12 th – Sept. 19 th	Chapter 4: Motion with a Changing Velocity: kinematics, free fall, projectile motion.
September 15 th	<u>Exam 1</u> (Chapters 1-3)
September 22 nd – Sept. 29 th	Chapter 5: Circular Motion: angular kinematics, planetary motion.
October 1 st	<u>Exam 2</u> (Chapters 4-5)
October 3 rd – Oct. 15 th	Chapter 6: Conservation of Energy: work, kinetic energy, gravitational potential energy, elastic potential energy, power.
October 17 th – Oct. 22 nd	Chapter 7: Linear Momentum: momentum, impulse, conservation of momentum, center of mass.
October 24 th – Oct. 31 st	Chapter 8: Torque & Angular Momentum: Rotational kinetic energy, torque, rotational inertia, rotational equilibrium, angular momentum, conservation of angular momentum.
November 3 rd – Nov. 10 th	Chapter 13: Temperature & the Ideal Gas: temperature, thermal expansion, ideal gas, kinetic theory of gases.
November 5 th	<u>Exam 3</u> (Chapters 6-8)
November 12 th – Nov. 17 th	Chapter 14: Heat: internal energy, heat, specific heat, phase transitions, mechanisms of heat flow.
November 19 th – Nov. 21 st	Chapter 15: Thermodynamics: laws of thermodynamics, thermodynamic work, heat engines, refrigerators, reversible/irreversible processes, entropy.
November 24 th	<u>Exam 4</u> (Chapters 13-15)
December 5 th (10:30 – 12:30)	<u>Final Exam</u> (Comprehensive)

* All dates are tentative and subject to change.

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Resources: Course Webpage

The course webpage provides course information, assignments, online discussion forums, announcements, and handouts. You can access the course webpage at:

<http://polaris.deas.harvard.edu/galileo/students/?courseID=1954>

In the upper right corner of the course webpage, click the Sign In link. This is where you will register. Below the Login button, click Not registered? Enroll to set up your account. Please register your account today! Your first reading assignment is already posted.

WebAssign Webpage

Problem sets for each chapter will be assigned and submitted through WebAssign. You can access this page through a link on the course webpage, or directly:

<https://www.webassign.net/login.html>.

I have already created a WebAssign account for you. Your username is the same as your NGCSU email ID. The institution is NGCSU. The first time you login, your password will be your NGCSU ID# (ie: your 9000#). You must change your password the first time you login.

Homework: You will be responsible for two types of homework assignments in this course: Lecture warm-ups and WebAssign problems.

1. Lecture warm-ups. When you login to the course webpage, you will be able to access your reading assignments by clicking the READINGS title at the top of the page. There will be a reading assignment before every lecture. Along with the reading, there will be 3-5 questions to answer about the reading, a.k.a. the lecture warm-up. Your answers will be submitted electronically via the course webpage. All warm-ups are due no later than 8:10 A.M. on the day of lecture.

2. WebAssign problems. Problem sets for each chapter will be posted on a webpage (using WebAssign). This is also where you will complete the problem sets. There will be extensive homework assignments with each chapter covered. Each assignment will consist of approximately 5 - 8 problems and will be due on the specified due-date before class begins. Do not wait until the last minute to complete the assignment, you will regret it. Homework problems are intended for you to learn how to apply the skills you are taught in class. Therefore, it is useful to work on the problems while we are covering the corresponding material in lecture. No late homework assignments will be accepted.

Attendance: Regular class attendance and class participation is essential to satisfactory completion of this course. If you miss a lecture, you will be responsible for the material covered that day and for the homework assigned. A grade of WF may be given for six or more absences at the discretion of the instructor.

Exams: There will be four in-class exams and one two-hour final exam given. The final exam will be comprehensive. The exams will consist of multiple-choice problems similar to those seen on the MCAT exam, short answer questions, and one longer problem. A calculator may be used during the exams, but calculators cannot be shared. A cell-phone cannot be used as a calculator.

Absence from any exam will result in an automatic grade of zero. The only exception is if you notify me at least one day prior to the exam with a reasonable excuse for missing the exam and I approve your excuse. If you are sick the day of the exam, you will be allowed to make up the exam with some written proof of your illness, such as a Dr.'s note with the doctor's phone number.

Grading: Each in-class exam will be worth 15% of your final grade. Homework will also be worth 15%. The final exam will be worth 25%. A = 90 -100; B = 80 – 89; C = 70 – 79; D = 60 – 69; F = < 60.

Class Evaluations: Class evaluations at NGCSU are now conducted on-line through Banner. Evaluation of the class is considered a component of the course and students will not be permitted to access their course grade until the evaluation has been completed. The evaluations will be accessible beginning one week prior to Final Exam week.

Early Intervention: I am committed to your success in this course and at this university. I may, therefore, refer you to other persons and/or services available to help you achieve academic success. In turn, if you are referred, you will be expected to comply with the referrals. Please understand that such referrals are not a form of punishment, rather, they are intended to help you.

Academic Honesty: NGCSU's integrity code- "On my honor, I will not lie, cheat, steal, plagiarize, evade the truth, or tolerate those who do" -reflects the university's commitment to academic integrity. The "Academic Integrity Policy" (2004-2006 Undergraduate Bulletin, pp. 78-81) is incorporated herein by reference.