



PHY-213: Physics II

Course Title: Physics II Course Number: PHY-213 Credits: 4

Pre-requisite(s): PHY 113 & MAT 110 or MAT 106

Meeting Times: _____

Meeting Room: _____

Instructor: ____

Office Hours: _____ Office Location: _____

E-mail: _____ Telephone: ____

Course Description: This is the second of a two-course sequence in introductory physics that deals with the following topics: simple harmonic motion, wave motion, light and lenses, electric forces, and Coulomb's Law, electric fields, and electromagnetism. 3 hours lecture/3 hours lab

Students' Learning Outcomes/ Objectives (SLO)

Upon successful course completion students will be able to:

1. Employ the scientific method to analyze and solve problems involving wave mechanics, electricity, magnetism, and optics.
2. Demonstrate an understanding of concepts in physics related to wave mechanics, electricity, magnetism, and optics, including:
 - Vibratory motion as illustrated by a spring and mechanical wave in general.
 - The wave, ray, and particle nature of light.
 - Electric and magnetic fields from the perspective of how they arise and what they do.
 - Operation of a simple DC circuit by application of Ohm's law and Kirchhoff's rule.

- The concepts of resistance and capacitance.
 - Provide a brief discussion chronologically of the development of modern physics starting with Planck and Einstein.
3. Analyze the role that electricity, magnetism, electricity, wave mechanics, and optics have in society.
 4. Correctly and safely work in teams in a laboratory environment.
 5. Communicate scientific information orally and in writing using proper terminology.

Text: Douglas Giancoli, Physics: Principles and Applications 7th edition, 2014

Background readings and other materials:

1. Fundamental of Physics Extended Halliday, David and Resnick, Robert. John Wiley and Sons.
2. Feynman, Character of Physical Law. Random.

Course Outline:

(Exams & Labs schedules are based on material covered in class)

Week Topics

(Exam dates are flexible and based on material covered)

- 1 Vibration Motion (SLO 1, 2, 5)
- 2 Waves (SLO 1, 2, 4, 5)
3. Electrostatics (SLO 1, 2, 3, 4, 5)
4. Electrostatics Cont'd
5. Circuit Elements
6. Direct Current Circuits (SLO 1, 2, 3, 4, 5)
- 7.

Exam # 1

8. Magnetism (SLO 1, 2, 3, 4, 5)
9. Magnetism Cont'd
10. Induced Emf's (SLO 1, 2, 3, 4, 5)
11. Light Waves (SLO 1, 2, 3, 4 5)

Exam # 2

12. Reflection and Refraction
13. Interference and Diffraction of Waves

Exam # 3

14. Temp and Kinetic Theory (SLO 1, 2, 4, 5)
15. Heat and Heat transfer

Final Exam

Physics Lab (may adjust based on material covered in class and available material)

Week:	PHY213
1	Lab Safety Spring Constant and vibrations
2	Simple Pendulum
3	Standing Wave
4	Simple DC Circuit and Ohm's law
5	Kirchhoff's laws
6	Magnetism and magnetic field mapping
7	Electric Generator
8	Quantity of Heat and Heat Transfer
9	Geometric optics (mirrors and lenses)

Assessment

Project and lab reports: 25%
Exams: There are three in class exam: 45%
Final: cumulative final exam: 30%

FINAL AVERAGE	GRADE	FINAL AVERAGE	GRADE
92 – 100	A	75 – 77	C+
88 – 91	A–	70 – 74	C
85 – 87	B+	60 – 69	D
82 – 84	B	0 – 59	F
78 – 81	B–		

- ATTENDANCE POLICY:

Students may be dropped after 3 absences. Regular attendance is crucial to doing well in the course. All cell phones should be turned OFF. If a student expects an emergency call, clear it with me before class. If a cell phone rings during class, the student will be asked to leave for the remainder of the class. No food or drinks are to be used except bottled water. Students are expected to follow attendance guidelines as presented in the syllabus provided by the instructor. However, in case of an emergency or illness, students are advised to notify their instructor or counselor immediately. The instructor will determine the validity of the absence. The exceptions to instructor discretion exist when members of the armed forces are called for training or assignment or in any case where students are legally required to be elsewhere. Pending the submission of appropriate documentation reasonable accommodations for make-up work shall be provided, and in accordance with guidelines included in the syllabus.

- DISABILITY SUPPORT STATEMENT:

Students with disabilities who believe that they might need accommodations in this class are encouraged to contact Counselor/Coordinator, and Disability Support Services at (201) 360-4157, as soon as possible to better ensure that such accommodations are implemented in a timely fashion. All disabilities must be documented by a qualified professional such as a Physician, Licensed Learning Disabilities Teacher Consultant (LDTC), Psychiatrist, Psychologist, Psychiatric Nurse, Licensed Social Worker, or Licensed Professional Counselor, who is qualified to assess the disability that the student claims to have and make recommendations on accommodations for the student. All information provided to the Disability Support Services Program will be confidential between the program, professors involved with the student, and individual students.

- ACADEMIC INTEGRITY STATEMENT:

Academic Integrity Standards

Academic integrity is central to the pursuit of education. For students at HCCC, this means maintaining the highest ethical standards in completing their academic work. In doing so, students earn college credits through their honest efforts. When they are awarded a certificate of degree, they have attained a goal representing genuine achievement and can reflect with pride on their accomplishment. This is what gives college education its essential value.

Violations of the principle of academic integrity include:

Cheating on exams, Reporting false research data or experimental results

Allowing other students to copy one's work to submit to instructors

Communicating the contents of an exam to other students who will be taking the same test

Submitting the same project in more than one course, without discussing this first with the instructor

Submitting plagiarized work. Plagiarism is the use of another writer's words or ideas without properly crediting that person. This unacknowledged use may be from published books or articles, the Internet, or another student's work

When students act dishonestly in meeting their course requirements, they lower the value of education for all students. Students who violate the college's policy on academic integrity are subject to failing grades on exams or projects, or for the entire course. In some cases, serious or repeated instances of academic integrity violations may warrant further disciplinary action.

Hudson County Community College Classroom Recording Policy

- Hudson County Community College prohibits the audio-visual recording, transmission, and distribution of classroom sessions. Classes may only be recorded with the advance written permission of the instructor. The Hudson County Community College classroom recording policy must be listed in all syllabi.
- All classroom recordings can only be used for academic purposes by students enrolled in that class. Recordings may not be shared, reproduced, or uploaded to public websites or other mediums, and these recordings may contain copyrighted material and are prohibited from any form of commercial use.
- All students and guests must be informed that the class may be recorded. Due to issues related to privacy and the possible inhibition of student participation, instructors should be mindful of the effects of permitting classroom recording.
- Instructors should retain electronic or paper copies of their written consent to grant classroom recordings.
- Students must destroy their recordings at the end of the semester.
- Students who are granted permission to record their class by the office of Disability Support Services should inform the instructor beforehand and are subject to the policies outlined in this document.
- Violation of this policy is subject to disciplinary action listed under the code of conduct as included in the Student Handbook. Instructor Classroom Recording Policy
- Instructors may record their classes as long as students are informed in writing in advance that recording will take place. Instructors may distribute their own lectures, but this must be limited to the lecture portion of the class. Recordings of student presentations or activities may be used in the class if the students are notified in advance of the recording. Recordings of student presentations or activities may not be distributed in any way without the advance written consent of the students. This should be included in all syllabi: Hudson County Community College prohibits the audio-visual recording, transmission, and distribution of classroom sessions. Classes

may only be recorded with the advance written permission of the instructor. The complete classroom recording policy is listed in the student handbook.

Successful people access support from others when needed. Hudson County Community

College has many supportive services available to help you meet your goals. You are encouraged to contact your instructors or other professionals on campus. Below are resources available to you.

IN AN EMERGENCY, PLEASE CONTACT SECURITY or 911.

	Journal Square Campus	North Hudson Campus
<p><u>Counseling Services</u> counseling@hccc.edu</p>	<p>201-360-4150 A Building, Floor 2 https://myhudson.hccc.edu/advisement</p>	<p>201-360-4150 Enrollment Center, Floor 1 https://myhudson.hccc.edu/advisement</p>
<p>The National Suicide Prevention Lifeline: 1-800-273-8255 Crisis Text Line: Text HELLO to 741-741</p>		
<p><u>Advising Services</u> advising@live.hccc.edu</p>	<p>201-360-4150 A Building, Floor 2 https://myhudson.hccc.edu/advisement</p>	<p>201-360-4150 Enrollment Center, Floor 1 https://myhudson.hccc.edu/advisement</p>
<p><u>Career Development</u> career@hccc.edu</p>	<p>201-360-4181 A Building, Floor 3 https://myhudson.hccc.edu/career-development</p>	<p>201-360-4181 Floor 2, Room 204 https://myhudson.hccc.edu/career-development</p>
<p><u>Disability Support Services</u> dss@hccc.edu</p>	<p>201-360-4157/4163 A Building, Floor 2 https://myhudson.hccc.edu/dss</p>	<p>201-360-4157/4163 Enrollment Services, Floor 1 https://myhudson.hccc.edu/dss</p>
<p><u>Library</u> Journal Square librarian@hccc.edu North Hudson librarynhc@hccc.edu</p>	<p>201-360-4360 L Building, Floor 1 http://www.hccclibrary.net/</p>	<p>201-360-4605 Floor 3 http://www.hccclibrary.net/</p>
<p><u>Tutoring Center</u> tc@hccc.edu</p>	<p>201-360-4187 Lower Level of Library Building https://myhudson.hccc.edu/tutoring</p>	<p>201-360-4623 Floor 5, Room 511 https://myhudson.hccc.edu/tutoring</p>
<p><u>Writing Center</u> wc@hccc.edu</p>	<p>201-360-4370 J Building, Room 204 https://myhudson.hccc.edu/tutoring</p>	<p>201-360-4779 Floor 7, Room 703A https://myhudson.hccc.edu/tutoring/</p>