

# IOWA WESTERN COMMUNITY COLLEGE

## Classical Physics I Phy 210 Section OL01

**Term: Summer 2015**

### **I. Faculty Information:**

Instructor: Dr. Van Huett

Phone: 712.325.3249

e-mail Address: vhuett@iwcc.edu

Office: Clark 026 B

Office Hours: None for the summer  
(Please e-mail me)

### **II. Course Information:**

<u>Course Prefix/ No.</u>	<u>Course Name</u>	<u>Credits</u>	<u>Lecture</u>	<u>Lab</u>
Phy 210	Classical Physics I	4	4	0

#### Course Description:

Classical Physics I (Calculus based) is the first part of a two-semester continuing course for students majoring in science, mathematics or engineering. Kinematics, dynamics, circular motion, work, energy, linear momentum, rotational dynamics, torque, static equilibrium, fluids, wave motion, and sound are covered.

#### Prerequisites:

High school physics and prior or current enrollment in Calculus II.

#### Course Meeting Times

Dates: 6/1/2015 – 7/24/2015

#### Course Location

ROC

#### Required Textbooks

Physics for Scientists & Engineers, 4th edition  
Douglas C. Giancoli  
Pearson Prentice Hall  
ISBN 0-13-227559-7

#### Suggested Supplemental Textbooks, References

None

#### Materials and Supplies to be Furnished by Student

Notebook

Calculator: TI-36 or TI83 or better

## Course Learning Objectives and Course Competencies

1. Solve physical problems and draw mathematically based conclusions through clear and logical reasoning from course assignments, laboratory exercises
  - a. use analytical techniques appropriate to the study of physics
  - b. symbolically represent vector quantities.
  - c. select and use appropriate equipment for measuring and investigating.
  - d. use appropriate units and apply dimensional analysis.
  - e. manipulate equations and solve for variables.
2. Solve problems in the kinematics of motion in one and two dimension
  - a. use algebraic and geometric concepts to describe an object's motion.
  - b. describe and calculate appropriate quantities for an object in motion with constant velocity and constant acceleration.
  - c. describe and calculate appropriate quantities in one and two dimensions.
  - d. explain how changes in an object's motion are described by Newton's Laws.
  - e. describe the relationships between force, mass, and acceleration.
3. Solve problems in rotational motion
  - a. use algebraic and geometric concepts to describe an object's motion.
  - b. describe the relationships between force, mass, and acceleration.
4. Solve problem in elasticity and fracture of bodies in equilibrium
  - a. Identify, describe, and calculate the effects of balanced and unbalanced forces.
  - b. describe and state the consequences of the Law of Inertia.
5. Solve fluid problems
6. Explain vibration waves and sound

## Course Practices:

1. Attendance Requirements  
Students are responsible for viewing all lecture material on ROC.
2. Standards for written work
  - Homework must be legibly hand-written.
  - Essay questions (including homework) will be graded on accuracy and completeness.
  - To get full credit for homework and essay questions, show all your work.
    - If you just give the answer, it will be marked incorrect.
    - If you punch numbers in your calculator, those numbers should be on your homework and essay questions.
    - If you used an equation/formula, it should be on your homework and essay questions.
    - If you believe you used "*common sense*" to find the answer, you should write your reasoning out in words on your homework and essay questions.
3. Late papers and assignments
  - Late work will be accepted.

- The amount of credit awarded will be reduced for late assignments. For homework, the credit for one problem (approximately) will be taken off for being late, which will increase depending on how late the assignment is.
- It will always be to your advantage to turn in homework even if it is late.

#### 4. Missed exams

- A missed scheduled examination may be made up.
- The make-up exam will be comparable but not the same as the original exam.
- Students have the responsibility of keeping track of which exams they need to make-up and arranging a make-up time with the instructor.
- Students need to arrange a time for making up a missed exam within one week of the missed exam.
- If you miss quiz for an excused reason you may make it up following the procedure above for making up missed exams.

#### 5. Extra Credit

- There will be no extra credit for this course.

#### 6. Participation

- Contributing to the discussion sessions will figure into your grade.

#### 7. Classroom Management and Behavior

- Be on your best behavior.
- Do not disturb your fellow students during class.

#### 8. Communication with Instructor

- The best way to contact me outside of class is by e-mail. [vhuettt@iwcc.edu](mailto:vhuettt@iwcc.edu)
- Normally I will respond to e-mail within 24 hours.
- Normally you will receive your homework back in about a week after it is due.

#### Instructional Techniques and Practices

- Lectures will be provided on ROC
- There will be homework, discussions, and quizzes/exams.

#### Classroom Assessment Techniques

Please e-mail me with any questions you might have.

#### Grading

##### 1. Exams/Tests

- There will be three examinations over the material covered.
- The examinations will in general include the following type of questions:
  - Short essay
  - Multiple choice

Examinations may also include the following type of questions:

- Fill-in the blank
- Matching
- True-false

##### 2. Final Exam will be cumulative, covering all topics. The final exam will have the same format as the regular exams.

##### 3. Quizzes

- There will be quizzes every week we do not have an exam.

4. Homework
  - Homework will be graded on accuracy and completeness.
  - To get full credit for homework and essay questions, show all your work.
5. Discussions
  - There will be class discussions that students will be expected to contribute to.

#### Relative Weight of Grades

40% Homework/Quizzes/Discussions

40% Examinations

20% Final Exam

#### Grading Scale

A = 90 – 100 %

B = 80 – 89%

C = 70 – 79%

D = 60 – 69%

F = 0 – 50%

Final grades are viewable on ROC, Self-Services Menu, Students, Academic Record the Tuesday after the end of the semester.

#### Important Dates

- Friday, July 3: Holiday College/offices closed
- Monday, July 13: Last Day to Drop
- Friday, July 24: Class Ends

#### Problem Resolution

If you have a conflict with me, concerns about my teaching and/or the course material, please discuss this first with me. If we cannot resolve the difficulty, contact Kim Carter, Dean of Math, Engineering and Industrial Technology, Lewis 103, (712)325-3320.

#### Notice of Class Cancellation

1. Emergency closing of entire campus such as for weather – Students will be notified through the Reiver Alert system. Students must register for this service; find Reiver Alert on your ROC homepage.
2. Emergency cancellation of a class session such as for faculty illness – Students will be notified through an announcement on the ROC course page if possible and/or a posted note on the classroom door.

## Course Topical Outline and Schedule

### Classical Physics I - Phy 210 - Summer 2015

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Date	Sections Covered	Due
Week 1		
Monday, June 01, 2015	Syllabus 1.1.1-1.2.1	
Tuesday, June 02, 2015	1.3.1-1.7.1	
Wednesday, June 03, 2015	2.0-2.2.5	
Thursday, June 04, 2015	2.3.1-2.5.5	
Friday, June 05, 2015		
Saturday, June 06, 2015		
Sunday, June 07, 2015		Week 1 Discussion & Quiz
Week 2		
Monday, June 08, 2015	2.6.1-2.7.5	Homework #1
Tuesday, June 09, 2015	3.1.1-3.4.5	
Wednesday, June 10, 2015	3.4.6-3.8.8	
Thursday, June 11, 2015	4.1.0-4.4.4	Online Exam and Exam Essay open
Friday, June 12, 2015		
Saturday, June 13, 2015		
Sunday, June 14, 2015		Week 2 Discussion & Online Exam
Week 3		
Monday, June 15, 2015	4.4.5-4.7.8	Homework #2-3 & Exam Essay
Tuesday, June 16, 2015	5.1.1-7.3.1	
Wednesday, June 17, 2015	7.4.1-7.4.5	
Thursday, June 18, 2015	8.2.1-8.5.1	
Friday, June 19, 2015		
Saturday, June 20, 2015		
Sunday, June 21, 2015		Week 3 Discussion & Quiz
Week 4		
Monday, June 22, 2015	8.6.1-9.2.6	Homework #4
Tuesday, June 23, 2015	9.3.1-9.5.6	
Wednesday, June 24, 2015	9.6.1-9.8.6	
Thursday, June 25, 2015	10.1.1-10.9.1	Online Exam and Exam Essay open
Friday, June 26, 2015		
Saturday, June 27, 2015		
Sunday, June 28, 2015		Week 4 Discussion & Online Exam
Week 5		
Monday, June 29, 2015	10.4.1-10.8.3	Homework #5 & Exam Essay
Tuesday, June 30, 2015	10.8.4-12.1.6	
Wednesday, July 01, 2015	12.1.7-12.3.1	
Thursday, July 02, 2015	13.1.1-13.5.2	
Friday, July 03, 2015		
Saturday, July 04, 2015		
Sunday, July 05, 2015		Week 5 Discussion & Quiz
Week 6		
Monday, July 06, 2015	13.6.1-13.7.9	Homework #6-7
Tuesday, July 07, 2015	13.8.1-14.1.5	
Wednesday, July 08, 2015	14.2.1-14.5.3	
Thursday, July 09, 2015	14.7.1-15.3.1	Online Exam and Exam Essay open
Friday, July 10, 2015		
Saturday, July 11, 2015		
Sunday, July 12, 2015		Week 6 Discussion & Online Exam

Week 7		
Monday, July 13, 2015	15.6.1-15.9.6	Homework #8 & Exam Essay
Tuesday, July 14, 2015	15.9.7-16.3.6	
Wednesday, July 15, 2015	16.4.1-16.6.5	
Thursday, July 16, 2015	16.7.1-16.8.1	
Friday, July 17, 2015		
Saturday, July 18, 2015		
Sunday, July 19, 2015		Week 7 Discussion & Quiz
Week 8		
Monday, July 20, 2015		Homework #9-10
Tuesday, July 21, 2015		Online Exam and Exam Essay open
Wednesday, July 22, 2015		
Thursday, July 23, 2015		
Friday, July 24, 2015		Week 8 Discussion & Online Exam
		Homework #11 & Exam Essay

Please Note: This syllabus is your guide to the course. Please keep it for reference.  
All items are subject to change at the instructor's discretion.

### Homework Assignments

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HW #	Chapter	Homework problems	Due Date
1	Chapter 1	7, 8, 16, 21, 25, 41	6/8/2015
2	Chapter 2	7, 17, 21, 24, 33, 38, 50, 60	6/15/2015
3	Chapter 3	8, 10, 17, 31, 46, 53	6/15/2015
4	Chapter 4	10, 11, 24, 33, 35	6/22/2015
	Chapter 5	11, 18	
5	Chapter 7	8, 9, 55, 56	6/29/2015
	Chapter 8	3, 8, 15, 20, 29, 32, 70, 73	
6	Chapter 9	10, 16, 23, 35, 37, 45, 46	7/6/2015
7	Chapter 10	6, 10, 19, 22, 26, 41, 44, 47, 48, 53, 63, 65	7/6/2015
	Chapter 11	10	
8	Chapter 12	3, 5, 8, 9, 11, 20, 22, 26, 71	7/13/2015
9	Chapter 13	3, 4, 9, 15, 30, 35, 48, 88	7/20/2015
10	Chapter 14	5, 6, 10, 15, 72, 82	7/20/2015
	Chapter 15	6, 48, 49, 50	
11	Chapter 16	7, 8, 22, 26, 44, 58, 62, 95	7/24/2015

These are all end of chapter **Problems** and **General Problems** (not Questions)

### III. College Policy/Information

#### Honor Code – Academic Honesty

Upon enrolling at Iowa Western Community College, each student assumes an obligation to conduct her/his academic affairs in a manner compatible with the standards of academic honesty established by the College and its faculty. If this obligation is neglected or ignored by the student, disciplinary action will be taken. Please refer to the Student Code of Conduct for the Academic Dishonesty Policy.

#### Diversity Statement

Iowa Western Community College values diversity and supports learning experiences that promote intellectual growth and human enrichment.

#### American with Disabilities Act Statement

If you are an individual with a disability who requires an accommodation to fully participate in academic programs or campus activities, please email [disabilityservices@iwcc.edu](mailto:disabilityservices@iwcc.edu) or call 712-325-3299. Accommodations are arranged through the Disability Services Office, on the second floor of the Student Center on the Council Bluffs campus. Please allow adequate time to implement your accommodations.

*Any student with mobility impairments should prepare for an emergency ahead of time by instructing faculty and/or classmates on how to assist in case of an evacuation.*

#### FERPA

Student rights concerning access to educational records are spelled out in Federal Public Law 98-380 as amended by Public Law 93-568 and in regulations published by the Department of Education. The law and regulations require educational institutions to limit the disclosure of information from the student's record to those who have the student's written consent or to officials specifically permitted within the law. Students who wish to grant access to their educational (class schedule, transcript of final grades, and progress reports) or financial records (grants, loans, financial aid documents, statements and billing) may do so by submitting an Access to Student Information Consent Form to the Records and Registration Office. Access to information is only given at the Records and Registration Office or Financial Aid and Cashier Offices.

For more information, including the full Access to Student Information policy, refer to the Iowa Western Community College General Catalog or contact the Records and Registration Office.

#### Cyber-Library and Academic Support

- Students can access books, magazines, journals, newspapers, films and audio books 24/7 through the *Cyber-Library* by clicking on the Cyber Library under Academics in ROC.
- For questions about finding information at your campus or center, email [cyberlibrary@iwcc.edu](mailto:cyberlibrary@iwcc.edu) or call 712-325-3247 for the Council Bluffs Campus or 712-542-5117 for the Clarinda Campus. You can find the library hours posted on ROC.
- FREE tutoring and academic assistance are available through the *Academic Support Center*, located on the second floor of the Student Center on the Council Bluffs campus in a variety of core, general requirement classes.
  - One-on-one assistance is available on a walk-in basis

- Group tutoring is available, but must be scheduled in advance.
- FREE online tutoring is available through SMARTHINKING on ROC, to access SMARTHINKING, locate Online Tutoring next to My ROC Classes.
- For more information about tutoring services or help in your classes, email [tutoring@iwcc.edu](mailto:tutoring@iwcc.edu) or call 712-388-6841. A full tutoring schedule is posted by subject area on ROC.

### Dropping Classes

While we encourage you to do everything you can to complete your classes, it is always better to drop a class than to fail it. If it becomes necessary for you to drop a class you can drop a class online through ROC up to the last day to drop. We recommend that you always talk to your advisor and financial aid before you drop a class. For more information on dropping classes see the Advising Information Site in ROC under the Academics tab.

### Personal Electronic Devices

To provide an environment conducive to learning, Iowa Western Community College requires that cellular phones, pagers, and other personal electronic devices be turned off or set to vibrate when entering classrooms, computer labs, library, offices, auditoriums, or arena areas. Cellular phones with picture taking capabilities are not allowed in bathrooms, locker rooms, or other areas where there is a reasonable expectation of privacy. Faculty members do have the right to prohibit the use of any electronic device in their classroom.

### **EQUAL EDUCATIONAL OPPORTUNITY AND NON-HARASSMENT**

Iowa Western Community College is committed to a policy of equal educational opportunity. Therefore the College prohibits discrimination on the basis of unlawful criteria such as race, color, creed, religion, national or ethnic origin, ancestry, genetic information, physical or mental disability, age, sex, sexual orientation, gender identity or expression, pregnancy, marital status, veteran status, AIDS/HIV status, citizenship, or medical condition, as those terms are defined under applicable laws, in admitting students to its programs and facilities and in administering its admissions policies, educational policies, scholarship and loan programs, athletic programs, and other institutionally administered programs or programs made available to students. In keeping with this policy of equal educational opportunity, the College is committed to creating and maintaining an atmosphere free from all forms of harassment.