



IMPERIAL VALLEY COLLEGE PHYSICS 200 – GENERAL PHYSICS I Course Syllabus – Fall 2012

Instructor: Dr. Alejandro Cozzani
Phone: 760-355-5720
E-mail: Alex.Cozzani@imperial.edu
Webpage: www.imperial.edu/alex.cozzani
Office: 2767

Office Hours: Mondays from 11:05-11:35 AM and 3:30-4:00 PM.
Wednesdays from 11:05-12:05 PM and 3:30-4:00 PM.
Thursdays from 11:40 AM to 12:10 PM.
Tuesdays and Thursdays from 7:00 to 7:30 AM.

Code: CRN 10051

Credit Units: 5.0

Class Meetings:

Lecture: Tuesday and Thursday 1:40 PM to 3:30 PM, Room 2731.

Lab: Monday and Wednesday 3:40 PM to 5:05 PM, Room 2731.

Textbook: Fundamental of Physics, 9th edition, Chapters 1-15, ISBN: 978-0-470-46908-8.

Author: Halliday, Resnick, and Walker.

Prerequisite: Math 192 with a grade of “C” or better.

Course Philosophy: This course is designed to give an understanding of the fundamental principles of physics in the area of mechanics.

Measurable Course Objectives and Minimum Standards for Grade of “C”

1. The student will solve problems involving SI units, scientific notation, dimensional analysis, and calculations to the proper number of significant digits.
2. The student will solve problems involving vectors, scalars, frames of reference, components of a vector, and unit vectors.
3. The student will solve one-dimensional motion problems involving position, velocity, and acceleration.
4. The student will solve problems involving two-dimensional motion with vector applications.
5. The student will solve problems involving Newton’s Laws and their applications including friction.
6. The student will solve problems involving circular motion, accelerated frames of reference, and motion in the presence of resistive forces.
7. The student will solve problems involving work, energy, and power.
8. The student will solve problems involving potential and kinetic energies and conservation of energy.
9. The student will solve problems involving impulse, momentum, and center of mass.
10. The student will solve problems involving rotation about a fixed axis of a rigid body.
11. The student will solve problems involving angular momentum and torque as vector quantities.
12. The student will solve problems involving static equilibrium of a rigid body.

13. The student will solve problems involving simple harmonic motion, damped, and forced oscillations.
14. The student will solve problems involving the law of universal gravitation, Kepler's Laws of planetary motion, and gravitational potential energy.
15. The student will solve problems involving the mechanics of solids and fluids.

INSTITUTIONAL LEARNING OUTCOMES (ISLOs):

1. Communication Skills
2. Critical Thinking Skills
3. Personal Responsibility
4. Information Literacy
5. Global Awareness

STUDENT LEARNING OUTCOMES (SLOs)

1. Solve one-dimensional and two-dimensional motion problems involving position, velocity, and acceleration.
2. Solve problems (using algebra, calculus, and trigonometry as tools) involving Newton's Laws and their applications including friction.
3. Solve problems involving potential and kinetic energies and conservation of energy.
4. Solve problems involving impulse, momentum, and conservation of momentum.
5. Solve problems involving work, energy, and power.

Grading Criteria

Course must be taken on a "letter-grade" (LG) basis only.

Grading Policy

The student's grade will depend on the following areas:

| | | |
|------------------------|-----------------------------|-----|
| Homework (15) | 10 points each = 150 points | 20% |
| Reading Questions (15) | 5 points each = 75 points | |
| Tests (1-2) | 50 points each = 100 points | 20% |
| Lab Reports (8) | 20points each = 160 points | 20% |
| Mid-term (1) | 150 points | 20% |
| Final Exam (1) | 150 points | 20% |
| TOTAL | 785 points | |

All grades are calculated by using the standard scale of:

A = 100-90% **B = 89-80%** **C = 79-70%** D = 69-60% F = 59% and below

Class Rules and Expectations

1. Students are expected to be actively involved in the learning process so failure is not a good choice; apply yourself, study, do not give up on the first try, attend class regularly, ask for help when needed, and always do your best!

2. Students are expected to attend class meetings regularly. After the second absence, if the student does not drop the class via Webstar, he/she will receive an "F" as final grade; so it is the student's responsibility to drop before the deadline.
3. ABSENCES. What constitutes an absence? Not showing up to class during a regular class meeting, or arriving more than 20 minutes after the beginning of the class, or leaving more than 20 before the end of the class.
 - a. Example: Class starts at 10:00 AM and ends at 12:00 PM. If you arrive after 10:20 AM you are absent. If you leave before 11:40 AM you are marked absent. If you leave the room for more than 20 minutes for whatever reason, you are absent.
4. TARDIES. What constitutes a tardy? Arriving within the first 20 minutes after the beginning of the class or leaving within the last 20 minutes before the end of the class (3T = 1A).
 - a. Example: Class starts at 10:00 AM and ends at 12:00 PM. If you arrive between 10:01 AM and 10:20 AM you are marked tardy. If you leave between 11:41 AM and 12:00 PM you are marked tardy as well as if you "disappear" from the room for no more than 20 minutes (i.e. having lunch). If you need to use the restroom, you are expected to return within a reasonable time period.
 - b. If you are late to class, please enter the room quietly, do not distract your classmates, and avoid talking to them to find out what is going on in class (it is your responsibility to arrive on time). On the second offense you will be dropped from class.
5. If a student reaches the third absence after the deadline, his/her grade will be reduced one letter grade for each subsequent absence.
 - a. Example: your current grade is an "A." On the 3rd absence you will get a final grade of "B." On the 4th one, your grade is "C," and on the 5th one, a "D." Beyond that, your final grade is "F." Exceptions include-for example- hospitalization for several days and with appropriate documentation.
6. Deadline to drop the class with a "W" is November 10, 2012. Late drops on graded classes will require that the student receive an F.
7. Class materials such as a notebook or binder with lined or quad ruled paper, pen, pencil, scientific calculator, and the textbook will be brought to every class meeting.
8. It is up most important that students review the material to do well on exams. Students are encouraged to form study groups to meet regularly to keep up with assignments and to study for tests/mid-term/final exam.
9. Late assignments will not be accepted. It is student's responsibility to turn assignments in when they are due regardless he/she is absent (no excuses!).
10. Students will not be allowed to make up a test or exam or final exam.
11. The work is individual which means that you are responsible for what you turn in regardless whether you were part of a team or group. It is understandable that you may need to share data with partners but you are expected to write up your own assignments. Identical assignments will not be accepted; failure to comply will result in a "zero" for that specific assignment.
12. No photocopied textbooks are allowed. No audible pagers, cell phones, and music players (IPODs, MP3, etc) allowed during class time. You will be dropped on your second offense for disturbing the class in this manner.

13. No food or drinks are allowed in the classroom.
14. No children are allowed in the classroom.
15. Absences attributed to the representation of the college at officially approved conferences and contests and attendance upon field trips will not be counted as absences (this includes sports). However, the student is responsible for notifying the instructor and for the work done in class. If your absence coincides with an exam, it is student's responsibility to contact the instructor via e-mail or by phone before the following class meeting to make it up. Failure to do so will result in a "zero" for that particular exam.
16. Classroom Etiquette-In class, it is expected that you will treat your instructor and each other with respect. Do not talk when the instructor is lecturing except to ask a question to the instructor or answer a question posed to the class. Feel free to ask questions as needed and listen when someone else is asking a question because you may have the same one.
17. Discipline: you need to understand that this is a college class so appropriate behavior is expected at all times (i.e. not speaking out of turn, raise your hand to talk and wait until acknowledged, paying attention, avoid side comments, not answering your cell phone in class, working in assignments for another class, etc.). For this reason, no discipline problem will be tolerated.
 - a. First offense: warning.
 - b. Second offense: student will immediately be dropped from the class.
18. Academic Integrity- If a student is found cheating in a test or assignment, he/she will receive a grade of zero for the test. If cheating is repeated, he/she will receive a grade of F for the course and will be immediately dropped from the class.
19. Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP & S) office as soon as possible. DSP&S, Room 2117, Health Sciences Building, (760) 355-6312.

20. **Calendar:**

| WEEK # START DAY | CORE CONTENT | READING DUE | ASSIGNMENT DUE |
|-----------------------------|--|------------------------|--|
| 1 August 20 | Day 1: Syllabus / Introduction Day 2: Measurement | Chapter 1 | |
| 2 August 27 | Day 1: Vectors Day 2: Vectors | Chapter 3 | |
| 3 September 3 | Day 1: Motion in One Dimension Day 2: Motion in One Dimension | Chapter 2 | |
| 4 September 10 | Day 1: Motion in Two Dimensions Day 2: Motion in Two Dimensions | Chapter 4 | Test # 1 (Chapters 2-3) |
| 5 September 17 | Day 1: Force and Motion-I Day 2: Force and Motion-I | Chapter 5 | |
| 6 September 24 | Day 1: Force and Motion-II Day 2: Force and Motion-II | Chapter 6 | |
| 7 October 01 | Day 1: Kinetic Energy and Work Day 2: Kinetic Energy and Work | Chapter 7 | Test # 2 (Chapters 4-5-6-7) |
| 8 October 08 | Day 1: Potential Energy and Conservation of Energy Day 2: Potential Energy and | Chapter 8 | |

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|-------------------|--|------------|---|
| 9 October 15 | Day 1: Center of Mass and Linear Momentum Day 2: Center of Mass and Linear Momentum | Chapter 9 | Mid-term (Chapters 1-7) |
| 10 October 22 | Day 1: Rotation Day 2: Rotation | Chapter 10 | |
| 11 October 29 | Day 1: Rolling, Torque, and Angular Momentum Day 2: Rolling, Torque, and Angular Momentum | Chapter 11 | Test # 3 (Chapters 8-9-10) |
| 12 November 05 | Day 1: Equilibrium and Elasticity Day 2: Equilibrium and Elasticity | Chapter 12 | |
| 13 November 12 | Day 1: Gravitation Day 2: Gravitation | Chapter 13 | |
| 14 November 19 | Day 1: Fluids Day 2: Fluids | Chapter 14 | Test # 4 (Chapters 11-12-13) |
| 15 November 26 | Day 1: Oscillations Day 2: Review for Final Exam | Chapter 15 | |
| 16 December 03 | Day 1: Final Exam Day 2: Final Grades | | Final Exam (Chapters 8-15) |

21. **Homework:** The purpose of homework is to provide the student with sufficient practice to master all topics studied in class and to do well on tests. Each homework assignment is due a week after we complete each chapter. For example, if we finish chapter # 1 on February 20th, homework # 1 is due on February 27th. From each chapter you are required to answer any 10 problems not previously solved in class. When turning in homework assignments please include the following information: Your Name, Class Code, Homework #, Page #, and Problem #. Failure to do so may result in inaccurate grade recording.
22. **Lab Reports:** These reports must be typed, double-space, font Times New Roman or similar, size 12, and the graphs must be done with Excel or any graphing program (i.e. TI InterActive). Refer to rubric and sample reports in webpage as a reference. Reports are due a week after the specific experiment has been performed (If the experiment was done on September 03, it is due on September 10). No corrections will be allowed except for the first two reports.
23. **Reading Questions:** They are available in the webpage in PowerPoint format. You will read the questions and you will answer them as you read the textbook. Since they are multiple-choice, you will pick the best answer to each statement according to your interpretation along with a brief justification. Correct answers are provided to check your understanding. If your answers do not agree, go back and see if you are able to figure out why that given answer is the right one instead of the one you have chosen. They are due along with HW assignments.
24. **Tests or Exams:** They may be T/F, multiple choice or combination of T/F and/or multiple choice and free response questions. No makeup exams!
25. **Mid-term and Final Exam:** They may include questions from the tests (recycled questions) and new questions (you have not seen them before but with similar difficulty). No makeup exams!