Basic Course Information

Semester	**Fall 2016**	Instructor Name	**Dr. Alejandro Cozzani**
Course Title & #	**Physics 200**	Email	**alex.cozzani@imperial.edu**
CRN #	**10064**	Webpage (optional)	**Refer to Blackboard**
Room	**2731**	Office	**2767**
Class Dates	**August 15-December 09, 2016** **Deadline to drop class with W: November 05, 2016**	Office Hours	**Mondays through Thursday 7:00 to 7:30 AM.** **Mondays and Wednesdays 12:50 to 1:50 PM.**
Class Days	**Tuesdays and Thursdays**	Office Phone #	**760-355-5720**
Class Times Units	**7:30-8:45 and 8:55 to 11:10 AM** **4.0**	Office contact if student will be out or emergency	**Silvia Murray 760-355-6201 or Ofelia Duarte 760-355-6155**

Course Description

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

Student Learning Outcomes

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.

Course Objectives

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.

Textbooks & Other Resources or Links

1. **Textbooks (either one)**:
    a. Fundamental of Physics, 10th edition, Chapters 1-15, ISBN: 978-1-118-23072-5 (Wiley).
        i. Halliday/Resnick/Walker.
    b. Physics for Scientists and Engineers, 4th edition, Chapters 1-14, ISBN: 978-13-149508-1 (Pearson).

i. Giancoli, Douglas C.

Course Requirements and Instructional Methods

1. **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. Homework is done online at www.masteringphysics.com.
   Course ID: MPCOZZANI18982. Please refer to webpage for deadline (12/04/16).
   - ✓ You need to complete at least an overall 80% to get full credit, otherwise your earned percentage will be converted to points (i.e. 80%=100 points, 72%=72 points).
2. **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). Reports are due a week after the experiments have been performed (If the experiment was done on September 03, it is due on September 10). Corrections will be allowed on the first two labs only. No exceptions and no late submissions!
   a. **You are required to answer the questions and graphs for each lab; however -if you are absent- you must submit a full report as shown in Blackboard (no exceptions).**
3. **Lecture**: It is highly recommended that students read the chapters in advance.
4. **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!
5. **Lab Tests:** Students will be tested on laboratory experiments. These will be based on the data collected and the analysis questions on the experiments. You may be asked the exact same questions or similar to those found on the lab manual and some theoretical questions related to those labs. No makeup exams!
6. The laboratory environment contains a variety of chemical and physical hazards. It is vital to understand those potential hazards and their safeguards in order to prevent accidents and injuries.
   a. In order to work in a laboratory in the Science Department at Imperial Valley College, the student must understand and agree to abide by the laboratory safety rules set forth. Please log into Webstar with your credentials and find Sports Survey and Safety Policy.
   b. Read the guidelines and answer *yes* to all the questions and click "*submit*." Failure to comply will result in no lab participation with the corresponding zeros in experiments until the form is submitted.
7. **Mid-term:** It may include questions from the tests (recycled questions) and new questions (you have not seen them before but with similar difficulty). No makeup!
8. **Final Exam:** It may include questions from the tests (recycled questions) and new questions (you have not seen them before but with similar difficulty). The MC section will include ALL chapters. No makeup!
9. Students will not be allowed to make up any exam unless they have a powerful reason to miss a test (e.g. hospitalization, jury duty, etc. and bring the corresponding paperwork as evidence). It is students 'responsibility to notify the instructor via e-mail or by phone to make arrangements.
10. Notes/formulas: During exams, students can only use the table of equations provided in Blackboard (No other notes).
11. **Special Project:** Please see below.

Rubric

Criterion	*High (5)*	*Medium (3)*	*Medium-Low (2)*	*Low (1)*	*Student Evaluation*	*Instructor Evaluation*
Content/ information	*accurate and concise; all relevant information is presented completely; clearly describes all principles involved; gives accurate history of application or theory*	*information is accurate; relevant information is present with some details missing; states all principles involved & describes most; gives brief history*	*information has some errors; most of the relevant information is present; states some of the principles covered; no history*	*major errors in information presented; not all relevant information presented; names a few or none of the principles involved; no history*		
Presentation	*makes eye contact; speaks knowledgeably without referring to notes; involves*	*some eye contact; little need to reference notes; some involvement with fellow*	*no eye contact; uses notes frequently; very little involvement with fellow*	*avoids looking at audience; reads notes; no involvement with fellow students;*		

	fellow students; clear well modulated voice	*students; varies voice at times*	*students; rarely varies voice*	*speaks in a monotone*		
Visual Aids (models, diagrams, etc.)	*aid used in the presentation is neat and organized; provides excellent support to the presentation making the words more easily understood*	*aid is used but as such is messy (globs of glue, dirty/cramped, dirty, pieces of tapes, etc.); provides good support for the presentation*	*visual aid is messy and poorly organized; adds little support to the presentation*	*no visual aids used*		
Creativity	*keeps other students interested throughout*	*some students appear distracted at times during the presentation*	*fails to capture and maintain interest of all students*	*fails to capture student interest at any time*		
Organization	*presentation follows a logical pattern; smooth transitions between sections*	*presentation follows a logical pattern; only a few rough points*	*presentation not given in a logical sequence but some organization present; transitions are abrupt*	*presentation lacks organization; speaker appears to move randomly from one idea to the next*		
Understanding of the Topic	*presenter conveys an outstanding understanding of the material*	*presenter conveys a good understanding of the material*	*presenter lacks a complete understanding of the material*	*presenter has a poor understanding of the material*		

Oral presentation: 30 points

a. Follow Rubric for point distribution.
b. Topics: Any chapters not addressed in class for Mechanics only.

Review questions: 10 points

c. Between 3 and 5.
d. They should reflect what you have taught to your classmates. You may use the ones available in BB but make sure you know the answers and the reason for those answers.

Review problems: 10 points (about three with increasing level of difficulty).

e. You have to be able to explain them to your classmates in an understandable way.

Presentation dates: according to sign-up list. Once dates have been established, they cannot be changed because presentations have a sequential order. You may pick the topic and your team members (no more than 3 per group) or you may work individually if you prefer to do so.
Minimum time is 30 minutes and up to an hour long (to be determined depending how many groups will present per day).

- If you are absent the day of your presentation, your grade is ZERO (no exceptions!) so plan ahead.
- Use your own computer or the one available in the classroom.

Course Grading Based on Course Objectives

The student's grade will depend on the following areas (not on total points):

- Homework 20%
- Tests – Presentation 20%
- Lab Reports - Lab Tests 20%

- Mid-term 20%
- Final Exam 20%
- **TOTAL** **100%**

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

Blackboard displays two grades: the weighted and the total. Your grade is the weighted one, so please keep it in mind.

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class unless otherwise directed by the instructor.
- Calculators: scientific or graphing calculators can be used during class time and exams. NO phones or tablets as a substitute for calculators during exams.
- Food and Drink: are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Academic Honesty

- Plagiarism is to take and present as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to correctly 'cite a source', you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment or using or attempting to use materials, or assisting others in using materials, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question.

  Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment ;(c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment, (e) use of a commercial term paper service.

Additional Help

- Blackboard support center: http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543

- Learning Labs: There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Learning Services (library). Please speak to the instructor about labs unique to your specific program
- Library Services: There is more to our library than just books. You have access to tutors in the learning center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

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. The DSP&S office is located in Building 2100, telephone 760-355-6313 if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see http://www.imperial.edu/students/student-health-center/. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities please refer to the IVC General Catalog available online at http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Information Literacy

Imperial Valley College is dedicated to help students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/

Anticipated Class Schedule / Calendar

Subject to modifications based on students 'needs.

WEEK # START DAY	CORE CONTENT	READING DUE	ASSIGMENT DUE
1-August 15	Day 1: Syllabus / Introduction Day 2: Measurement	--- Chapter 1	
2-August 22	Vectors	Chapter 3	
3-August 29	Motion in One Dimension	Chapter 2	
4- September 05	Motion in Two Dimensions	Chapter 4	
5- September 12	Force and Motion-I	Chapter 5	**Test # 1** **(Chapters 2-3-4)**

6- September 19	Force and Motion-II	Chapter 6	
7- September 26	Kinetic Energy and Work	Chapter 7	
8- October 03	Potential Energy and Conservation of Energy	Chapter 8	
9- October 10	Center of Mass and Linear Momentum	Chapter 9	**Mid-term** **(Chapters 1-7)**
10- October 17	Rotation	Chapter 10	
11- October 24	Rolling, Torque, and Angular Momentum		
12-October 31	Equilibrium and Elasticity	Chapter 12	
13- November 07	Gravitation	Chapter 13	
14- November 14	Fluids	Chapter 14	
November 21	***THANKSGIVING BREAK***	***NO CLASS***	
15-November 28	Day 1: Oscillations Day 2: Review for Final Exam	Chapter15	
16-December 05	**Day 1: Final Exam** **Day 2: Final Grades**		***Final Exam*** ***(Chapters 8-15)***