



## Imperial Valley College Course Syllabus – Physics 200 Winter 2018

### Basic Course Information

Semester	<b>Winter 2018</b>	Instructor Name	<b>Dr. Alejandro Cozzani</b>
Course Title & #	<b>Physics 200</b>	Email	<b>alex.cozzani@imperial.edu</b>
CRN #	<b>15199</b>	Webpage (optional)	<b>Refer to Canvas</b>
Room	<b>2731</b>	Office	<b>2767</b>
Class Dates	<b>January 02-February 02, 2018</b> <b>Last day to add: January 04, 2018</b> <b>Deadline to drop class with W:</b> <b>January 25, 2018</b>	Office Hours	<b>NONE</b>
Class Days	<b>M-T-W-TH-F</b>	Office Phone #	<b>760-355-5720</b>
Class Times	<b>10:00-11:40 AM and 12:00 to 3:15 PM</b>	Office contact if student will be out or emergency	<b>Silvia Murray 760-355-6201 or Ofelia Duarte 760-355-6155</b>
Units	<b>4.0</b>		

### Course Description

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

### Course Prerequisite(s) and/or Corequisite(s)

MATH 192 with a grade of "C" or better or concurrent enrollment in MATH 192.

### Student Learning Outcomes

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

### 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.



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### Textbooks & Other Resources or Links

#### 1. Textbooks (either one):

- Fundamental of Physics, 10<sup>th</sup> edition, Chapters 1-15, ISBN: 978-1-118-23072-5 (Wiley), Halliday/Resnick/Walker.
- Physics for Scientists and Engineers, 4<sup>th</sup> edition, Chapters 1-14, ISBN: 978-13-149508-1 (Pearson), Giancoli, Douglas C.
- University Physics, Volume I (Openstax.org), William Moebs, Samuel J. Ling, and Jeff Sanny.

### Course Requirements and Instructional Methods

- 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](http://www.masteringphysics.com).  
**Course ID: MPCOZZANI79505.** Please refer to webpage for deadline.  
You need to complete at least an overall 70% to get full credit, otherwise your earned percentage will be converted to points (i.e. 70%=100 points, 62%=62 points).  
**It is extremely important that you use the same first and last name as in the IVC roster otherwise you may not get credit for HW. You cannot use other's person account to do the HW. No exceptions!**
- Out of Class Assignments:** The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.
- Lab Reports:** These reports must be typed, double-space, font Times New Roman or similar, and size 12. Include a cover page and the graphs must be done with Excel or any other graphing program including the best-fit line and its equation. Reports are due 48 hours after the experiments have been performed (If the experiment was performed on January 03, it is due on January 05). Corrections will be allowed on the first two labs only. No exceptions and no late submissions!
  - Students are required to answer only the questions and graphs for each lab (one per group and submit a hard copy); however -if you are absent- you must submit an individual full report (no exceptions).**
- Lecture:** It is highly recommended that students read the chapters in advance.
- 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!
- 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!
- 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.
  - 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](#).
  - 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.
- 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!
- 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!
  - 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.
- Notes/formulas:** During exams, students can only use the table of equations provided in Canvas (No other notes).
- Special Project:** Please see below.



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## Rubric

<b>Criterion</b>	<b>High (5)</b>	<b>Medium (3)</b>	<b>Medium-Low (2)</b>	<b>Low (1)</b>	<b>Student Evaluation</b>	<b>Instructor Evaluation</b>
<b>Content/ information</b>	<i>accurate and concise; all relevant information is presented completely; clearly describes all principles involved; gives accurate history of application or theory</i>	<i>information is accurate; relevant information is present with some details missing; states all principles involved &amp; describes most; gives brief history</i>	<i>information has some errors; most of the relevant information is present; states some of the principles covered; no history</i>	<i>major errors in information presented; not all relevant information presented; names a few or none of the principles involved; no history</i>		
<b>Presentation</b>	<i>makes eye contact; speaks knowledgeably without referring to notes; involves fellow students; clear well modulated voice</i>	<i>some eye contact; little need to reference notes; some involvement with fellow students; varies voice at times</i>	<i>no eye contact; uses notes frequently; very little involvement with fellow students; rarely varies voice</i>	<i>avoids looking at audience; reads notes; no involvement with fellow students; speaks in a monotone</i>		
<b>Visual Aids (models, diagrams, etc.)</b>	<i>aid used in the presentation is neat and organized; provides excellent support to the presentation making the words more easily understood</i>	<i>aid is used but as such is messy (globs of glue, dirty/cramped, dirty, pieces of tapes, etc.); provides good support for the presentation</i>	<i>visual aid is messy and poorly organized; adds little support to the presentation</i>	<i>no visual aids used</i>		
<b>Creativity</b>	<i>keeps other students interested throughout</i>	<i>some students appear distracted at times during the presentation</i>	<i>fails to capture and maintain interest of all students</i>	<i>fails to capture student interest at any time</i>		
<b>Organization</b>	<i>presentation follows a logical pattern; smooth transitions between sections</i>	<i>presentation follows a logical pattern; only a few rough points</i>	<i>presentation not given in a logical sequence but some organization present; transitions are abrupt</i>	<i>presentation lacks organization; speaker appears to move randomly from one idea to the next</i>		
<b>Understanding of the Topic</b>	<i>presenter conveys an outstanding understanding of the material</i>	<i>presenter conveys a good understanding of the material</i>	<i>presenter lacks a complete understanding of the material</i>	<i>presenter has a poor understanding of the material</i>		

### Oral presentation: 30 points

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

### Review questions: 10 points

- Between 3 and 5.



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- 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.
- You may use your own computer (check connections first) 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	15%
➤ Mid-term	20%
➤ Final Exam	25%
➤ <b>TOTAL</b>	<b>100%</b>

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

***Grades will be displayed in Canvas and you need to earn at least a "C."***

### 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.
- 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 by the instructor.
- 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](#).



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- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

### Online Netiquette

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

### Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting 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 "cite a source" correctly, 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 that 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 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) using a commercial term paper service.

### Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- **CANVAS LMS**. Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services**. There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- **Library Services**. There is more to our library than just books. You have access to tutors in the [Study Skills 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. Please contact them if you feel you need to be evaluated for educational accommodations.



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### Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information.

### Veteran's Center

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

### Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, [lourdes.mercado@imperial.edu](mailto:lourdes.mercado@imperial.edu).

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, [alexis.ayala@imperial.edu](mailto:alexis.ayala@imperial.edu).

### Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of



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developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

### Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

### Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

### Anticipated Class Schedule / Calendar

The calendar is tentative and it may be modified according to students' needs.

WEEK #	CORE CONTENT	ASSIGNMENTS – TESTS
1-January 2	Syllabus / Introductions Measurement Vectors Motion in One Dimension Motion in Two Dimensions	--- Chapter 1 Chapter 3 Chapter 2 Chapter 4
2-January 08	Force and Motion-I Force and Motion-II Kinetic Energy and Work	Chapter 5 Chapter 6 Chapter 7 <b>Test # 1 (Chapters 2-3-4)</b>
3- January 15	Potential Energy and Conservation of Energy Center of Mass and Linear Momentum Rotation	Chapter 8 Chapter 9 Chapter 10 <b>Mid-term (Chapters 1-7)</b>
4- January 22	Rolling, Torque, and Angular Momentum Equilibrium and Elasticity Gravitation	Chapter 11 Chapter 12 Chapter 13
5-January 29	Fluids Oscillations Review for Final Exam <b>Final Exam</b>	Chapter 14 Chapter 15 <b>Final Exam (Chapters 1-15)</b>