Course Syllabus - Physics 200 - Fall 2023

Basic Course Information

Semester:	**Fall 2023**	Instructor Name:	**Dr. Alejandro Cozzani**
Course Title & #:	**Physics 200**	Email:	**alex.cozzani@imperial.edu**
CRN #:	**10820**	Webpage (optional):	**Refer to Canvas**
Classroom:	**Online**	Office #:	**2776**
Class Dates:	**August 14-December 09, 2023** **Last Day to Add: 08/26/23** **Drop Deadline with W: 11/04/23**	Office Hours:	**Monday 7:30-8:00 AM** **Tuesday 12:30-1:00 PM** **Thursday 12:30-1:00 PM** **Online: Wednesday 9:00-11:30 AM.**
Class Days:	**Asynchronous Class (no Zoom meetings)**	Office Phone #:	**760-355-5720**
Class Times:	N/A	Emergency Contact:	**Silvia Murray 760-355-6201**
Units:	**4.0 (3.0 Lecture/1.0 Lab)**	Class Format:	**Online Asynchronous Class (no Zoom meetings)**

Course Description

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

Textbooks & Other Resources or Links

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.
   c. University Physics, Volume I (Openstax.org). Free OER
      i. William Moebs, Samuel J. Ling, and Jeff Sanny.

Course Requirements and Instructional Methods

1. **Special Project:** You will be working on a case study of your choice involving an application of physics and a related practical that you can use for the project. Please refer to Canvas for specific details and deadline.

   ➢ **Refrain from using ChatGPT or any other AI app.**

2. **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.

3. **Minimum Requirements**:
   a. Access to a full computer,
   b. Internet access (if you do not have internet at home, go to your local college, public library, etc.),
   c. Browser: use Google Chrome or Firefox (do not use Safari as some content may not display properly).

4. **Lab Experiments:** they have been replaced by computer simulations (PhET) and labs by Labster (done via Canvas).

5. **Lecture**: You need to read the chapters or modules because there are assignments aligned to your readings (you can use any textbook of your choice). Pre-recorded lectures are available for each module.

6. **Online Discussions**: As part of the course requirements, you need to answer the online discussions found in Canvas, under the "Discussions" tab.

7. **Online Quizzes**: At the end of each chapter, you will take a quiz to check your knowledge. Please refer to specific instructions under the "Quizzes" tab in Canvas.

8. **Tests or Exams:** They may be T/F, multiple choice, open-ended, and free response questions (also, done in Canvas).

9. **Questions**: will be submitted via Canvas under "Assignments." Please pay attention to deadlines.

10. **Problems**: will be submitted via Canvas under "Assignments." Please pay attention to deadlines.

11. **Mid-term:** It may include questions from the first exam (recycled questions) and new questions (you have not seen them before but with similar level of difficulty). No makeup! (Done in Canvas).

12. **Final Exam:** It may include questions from the tests (recycled questions) and new questions (you have not seen them before but with similar level of difficulty). The MC section will include ALL chapters. No makeup! (Done in Canvas).

13. Students <u>will not be allowed to make up any exam or assignment unless they have a powerful reason</u> (e.g., hospitalization) and send the corresponding paperwork as evidence; it is students 'responsibility to notify the instructor via e-mail to make arrangements.

Course Grading Based on Course Objectives

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

➢	Special Project	15%
➢	Problems/Questions	10%
➢	Discussions / Quizzes	15%
➢	Exams (2)	25%
➢	Simulations / Labs	10%
➢	Mid-term / Final Exam	25%
	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

Grades are displayed in Canvas and you need to earn at least a "C."

Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

Course Policies

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 absence 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
- <u>Electronic Devices:</u> Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- <u>Food and Drink</u> 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.
- 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

- 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.

Other Course Information

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.
- CANVAS LMS. Canvas is Imperial Valley College's 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.
- 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.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.

Anticipated Class Schedule/Calendar

Subject to change without prior notice

WEEK OF	ACTIVITY, ASSIGNMENT, TOPIC	READING	ASSIGMENT DUE
1-August 14	Syllabus / HW/Canvas Module 0: Meet and Greet MODULE 1: Measurement	Read Content Module 0 Read Content Module 1	*Refer to Canvas for due dates*
2- August 21	MODULE 2: Vectors	Read Content Module 2	*Refer to Canvas for due dates*
3 – August 28	MODULE 3: Motion in One Dimension	Read Content Module 3	*Refer to Canvas for due dates*
4- September 04 <mark>Monday 09/04/23 is a Holiday</mark>	MODULE 4: Motion in Two Dimensions	Read Content Module 4	*Refer to Canvas for due dates*
5- September 11	**Exam # 1 (Modules 2-3-4)** MODULE 5: Newton's Laws of Motion	Read Content Module 5	**Done in Canvas** *Refer to Canvas for due dates*
6- September 18	MODULE 6: Applications of Newton's Laws of Motion	Read Content Module 6	*Refer to Canvas for due dates*
7- September 25	MODULE 7: Kinetic Energy and Work	Read Content Module 7	*Refer to Canvas for due dates*
8- October 02	**Mid-term (Modules 2-7)**		**Done in Canvas**
9- October 09	MODULE 8: Potential Energy and Conservation of Energy	Read Content Module 8	*Refer to Canvas for due dates*
10- October 16	MODULE 9: Center of Mass and Linear Momentum	Read Content Module 9	*Refer to Canvas for due dates*
11- October 23	MODULE 10: Rotation	Read Content Module 10	*Refer to Canvas and Mastering Physics for due dates*
12- October 30	MODULE 11: Rolling, Torque, and Angular Momentum	Read Content Module 11	*Refer to Canvas for due dates*
13- November 06	MODULE 12: Fluids	Read Content Module 12	*Refer to Canvas for due dates*
14- November 13	**Exam # 2 (Modules 8-9-10-11)** MODULE 13: Gravitation	Read Content Module 13	**Done in Canvas** *Refer to Canvas for due dates*
November 20	*Thanksgiving Break*	*No Class*	*-----*
15- November 27	MODULE 14: Oscillations	Read Content Module 14	*Refer to Canvas for due dates* ***RESEARCH PROJECT DUE!***
16-December 04	**Final Exam *(All Modules)***		**Done in Canvas**