IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2025**	Instructor Name:	**Dr. Reza Afra**
Course Title & #:	**Physics 202**	Email:	**reza.afra@imperial.edu**
CRN #:	**10956**	Webpage (optional):	
Classroom:	**2731**	Office #:	**2767**
Class Dates:	**8/11-12/4**	Office Hours:	**M: 4:10-4:40 PM, T&W: 2:30-4:00 PM, Th, 2:30-3:00 PM. All in office**
Class Days:	**Tuesday & Thursday**	Office Phone #:	**760-355-5739**
Class Times:	**11:20-2:30**	Emergency Contact:	**Silvia Murray 760-355-6201**
Units:	**4.0 (3.0 Lecture/1.0 Lab)**	Class Format/Modality:	**In-Person**

Course Description

This course is designed to give an understanding of the fundamental principles of physics in Electromagnetism, atomic and nuclear physics.

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

PHYS 200 or equivalent with a grade of "C" or better and MATH 194 with a grade of "C" or better or concurrent enrollment in MATH 194.

Student Learning Outcomes

1. Solve problems involving Coulomb's law, Gauss's law, and electric fields. (ILO 1, ILO 2).
2. Solve problems involving capacitors, resistors, and electric current. (ILO 1, ILO 2).
3. Solve problems involving magnetic fields in and near conductors, the motion of charged particles in a magnetic field, and Faraday's and Lenz's Laws. (ILO 1, ILO 2).

Course Objectives

1. *The student will solve problems involving electric charges, electric field lines and the motion of a charged particle in a uniform electric field.*
2. *The student will solve problems involving Gauss' Law.*
3. *The student will solve problems involving electrical potential, potential energy due to point charges and continuous charge distributions.*
4. *The student will solve problems involving capacitors.*
5. *The student will solve problems involving current, resistance, electrical energy and power.*
6. *The student will solve problems involving EMF, resistor combinations, Kirchoff's Law, and RC circuits.*
7. *The student will solve problems involving magnetic fields in and near conductors, and the motion of charged particles in a magnetic field.*
8. *The student will solve problems involving the magnetic field of various sources.*
9. *The Student will solve problems involving Faraday's and Lenz's Laws, and induced EMFs.*
10. *The student will solve problems involving inductance for RL, LC, and RLC circuits.*
11. *The student will solve problems involving resistors, inductors, and capacitors in an AC circuit.*
12. *The student will solve problems involving electromagnetic*
13. *The student will solve problems involving molecular bonds, the energy spectra of molecules, and semiconductors.*
14. *The student will solve problems involving nuclear binding energy, radioactivity, and the decay process.*

15. The student will solve problems involving collisions between nuclear particles, fission, fusion, and elementary

Textbooks & Other Resources or Links

The textbook can be read online via: Free University Physics Volume 2 Book for Download - OpenStax
And Volume 3 could be found here: *https://openstax.org/details/books/university-physics-volume-3*

Course Requirements and Instructional Methods

1. Commitment to Excellence

Success is non-negotiable. Commit yourself wholeheartedly, pursue excellence with unwavering dedication, engage in diligent study, and consistently deliver your utmost effort.

2. Out-of-Class Assignments

In accordance with U.S. Department of Education policy, one (1) credit hour equates to a minimum of one hour of in-class instruction and two (2) hours of out-of-class work per week over the duration of a semester. The Western Association of Schools and Colleges (WASC) has adopted a comparable standard to ensure academic rigor and consistency.

3. Minimum Technical Requirements for Accessing Canvas Assignments

To successfully access and complete assignments via Canvas, students must have:
a. A functioning computer;
b. Reliable internet access (students without home internet are encouraged to utilize resources at IVC or public libraries);
c. A compatible web browser — Google Chrome or Mozilla Firefox is strongly recommended, as Safari may not properly display certain course materials.

4. Laboratory Experiments and Report Submission Guidelines

- *Laboratory experiments will be conducted during scheduled class sessions. Following each experiment, students are required to submit a comprehensive laboratory report including:*
    - *Objective*
    - *Summary*
    - *Materials*
    - *Procedure*
    - *Data Table*
    - *Graphs*
    - *Responses to Assigned Questions*
    - *Conclusion*
- *Reports must be typed, double-spaced, and formatted in a standard academic font such as Times New Roman, size 12.*
- *All graphs must be generated using Excel or equivalent graphing software; hand-drawn graphs will not be accepted.*
- *A printed (hard copy) version of each report must be submitted within one week of the corresponding experiment. Deadlines are strictly enforced; late submissions will not be accepted.*

5. Laboratory Attendance and Participation

- *Punctuality is essential. Laboratory experiments will begin promptly at the scheduled time; the start will not be delayed accommodating late arrivals. Students arriving late may be denied participation in that day's experiment.*
- *Only one make-up opportunity will be granted, covering a maximum of two laboratory sessions. This policy is necessary due to constraints related to room availability, scheduling, and staffing.*
- *If you are absent on the day of the experiment, you may not include your name in the corresponding lab report.*
- *Lab reports may be prepared as a group submission, provided all members contribute meaningfully. All students whose names appear on a group report will receive the same grade. Alternatively, students may choose to submit individual reports.*

6. Lecture Preparation

Students are expected to read the assigned modules (or corresponding textbook chapters) in advance, as all assignments are aligned with these readings. While the recommended textbook is provided, students may also use alternative textbooks or instructional videos of their choice to supplement their understanding.

7. Online Discussions

Participation in online discussions, available under the "Discussions" tab in Canvas, is a required component of the course. Students must post responses according to the specific prompts provided.

8. Online Quizzes

At the conclusion of each chapter, students will complete a quiz designed to assess their comprehension of the material. Instructions for each quiz can be found under the "Quizzes" tab in Canvas.

9. Computer Simulations

To further enhance conceptual understanding, students will complete computer-based simulations via Canvas as assigned.

10. Module Problems and Questions

Each module will include problem sets and conceptual questions, to be completed and submitted through Canvas. These assignments are intended to reinforce learning and provide exam preparation.

11. Tests and Exams

Tests may consist of true/false, multiple-choice, open-ended, and free-response questions. All tests will be administered in class.

12. Midterm Examination

The midterm may contain a combination of previously used questions (recycled from earlier tests) and new questions of comparable difficulty. No make-up midterm will be offered.

13. Final Examination

The final examination may include questions drawn from prior tests as well as new questions of similar rigor. The multiple-choice portion will be comprehensive, covering all chapters. No make-up final will be offered.

14. Attendance Responsibility

Students who are absent are fully responsible for both in-class activities and any Canvas assignments due during their absence.

15. Assignment Deadlines

Assignments for each module will be available for one full week. It is the student's responsibility to submit work on time. To avoid last-minute technical issues, it is strongly advised not to wait until Sunday at 11:30 PM to upload submissions.

16. Make-up Policy for Exams and Assignments

Requests for make-up exams or assignments will be considered only in cases of documented emergencies, such as hospitalization. Students must provide official documentation and notify the instructor promptly via email to coordinate alternative arrangements.

Course Grading Based on Course Objectives

All grades follow this scale: A = [90-100] %, B = [80-90) %, C = [70-80) %, D = [60-70) %, F = [0, 60). Here [a, b) means right open interval. Grades are shown in Canvas, and a minimum "C" is required to pass. Grades are never rounded, so requests for changes will not be considered.

Grades are based on:

- Class Activities 20%
- Homework 20%
- Lab Experiments 20%
- Midterm 20%
- Final 20%

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.

Accessibility Statement

Imperial Valley College is committed to providing an accessible learning experience for all students, regardless of course modality. Every effort has been made to ensure that this course complies with all state and federal accessibility regulations, including Section 508 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), and Title 5 of the California Code of Regulations. However, if you encounter any content that is not accessible, please contact your instructor or the area dean for assistance. If you have specific accommodations through ***DSPS***, contact them for additional assistance.

We are here to support you and ensure that you have equal access to all course materials.

Course Policies

Attendance

- ***Initial Attendance Requirement****: A student who fails to attend the first meeting of a class, or who does not complete the first mandatory activity in an online class, will be dropped by the instructor as of the first official meeting date. If readmission is sought, the student will be subject to the same enrollment procedures as any*

other individual wishing to add the class. It is the student's sole responsibility to officially drop or withdraw from the course in accordance with the procedures outlined in the General Catalog.

- ***Ongoing Attendance**: Regular attendance is a fundamental expectation for all students. Any student whose continuous, unexcused absences exceed the total number of class hours scheduled per week may be dropped from the course. For online courses, failure to complete required assignments or activities for two consecutive weeks may be considered excessive absence and may result in withdrawal from the class.*
- ***Excused Absences**: Absences related to official college representation at sanctioned events (e.g., conferences, competitions, or field trips) will be considered excused, provided proper verification is submitted.*

Classroom Etiquette

- ***Electronic Devices**: All cell phones and electronic devices must be silenced and stored away during class sessions unless their use is expressly permitted by the instructor for instructional purposes.*
- ***Food and Drink**: Eating and drinking are not permitted in classrooms. The sole exception is water in a sealed, lidded container. Laboratory environments may have additional restrictions that must be observed as directed by the instructor.*
- ***Disruptive Conduct**: Students whose behavior disrupts the learning environment may be asked to leave the classroom and will be required to meet with the Campus Disciplinary Officer before returning. Disciplinary measures will follow the procedures outlined in the General Catalog.*
- ***Children in the Classroom**: In compliance with college policies and state regulations, only enrolled students may be present in class. Children or other non-enrolled individuals are not permitted.*

Online Netiquette

Netiquette refers to the accepted norms of courtesy, respect, and professionalism in online communication. Students are expected to adhere to the following guidelines:

1. *Identify yourself clearly in all communications.*
2. *Include a relevant subject line in emails and discussion posts.*
3. *Avoid sarcasm, which may be easily misunderstood.*
4. *Respect the opinions and privacy of others.*
5. *Respond to messages promptly.*
6. *Copy others on correspondence only when appropriate.*
7. *Refrain from sending spam or irrelevant messages.*
8. *Be concise and clear in your writing.*
9. *Always use professional language.*
10. *Use emoticons sparingly and only when they enhance clarity.*
11. *Avoid excessive use of capital letters, multiple exclamation marks, or other intensifiers that may be perceived as shouting.*

Academic Honesty

The pursuit of academic excellence requires the highest standards of integrity. All members of the academic community are expected to respect and protect the intellectual property of others.

Forms of Academic Dishonesty

- ***Plagiarism**: Presenting another person's words, ideas, or creative work as your own without proper attribution. Students must familiarize themselves with correct citation practices. When in doubt, seek guidance from the instructor.*
- ***Cheating**: Engaging in or attempting to engage in fraud, deceit, or dishonest conduct in connection with any academic exercise. This includes, but is not limited to:*
    - *Copying from another student during an examination or assignment.*
    - *Communicating with others about test content during an examination.*
    - *Allowing another individual to complete all or part of an assignment on your behalf.*
    - *Using unauthorized materials or devices during an assessment.*
    - *Submitting purchased or commercially prepared work as your own.*

***Consequences**: Any student found to have committed plagiarism or cheating will receive a grade of zero on the affected assignment or examination. The incident may be reported to the Campus Disciplinary Officer, and documentation may be placed in the student's disciplinary record. Multiple offenses can result in failure of the course and further disciplinary action, as outlined in the General Catalog.*

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. 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 using 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. • 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 in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodation.*

Financial Aid

Your Grades Matter! To continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Makings SAP means that you are maintaining a 2.0 GPA, you have successfully completed 67% of your coursework, and you will graduate on time. If you do not maintain SAP, you may lose your financial aid. If you have questions, please contact financial aid at finaid@imperial.edu.

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.
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Anticipated Class Schedule/Calendar

Week	Activity, Assignment, and/or Topic	Reading
August 11	Syllabus, Introduction, Electric Charges	Ch. 5
August 18	Electric Field	Ch. 6
August 25	Gauss's Law	Ch. 7
September 2	Electric Potential	Ch. 8
September 8	Capacitance	Ch. 9
September 15	Current and Resistance| **Exam I**	Ch. 10
September 22	Magnetic Fields	Ch. 11
September 29	Sources of Magnetic Fields	Ch. 12
October 6	Electromagnetic Induction and Faraday's Law	Chs. 13 & 14
October 13	Electromagnetic Oscillations and Alternating Current	Ch. 15
October 20	Electromagnetic Waves | **Exam II**	Ch. 16
October 27	Optics	TBD
November 3	Quantum Mechanics	Vol 3. Ch. 7
November 11	Atomic Structure	Vol 3. Ch. 8
November 17	Nuclear Physics	Vol 3. 10
December 1	Review | **Final**	

*****Subject to change without prior notice*****