Basic Course Information

Semester:	**Spring 2024**	Instructor Name:	**Dr. Alejandro Cozzani**
Course Title & #:	**Physics 202**	Email:	**alex.cozzani@imperial.edu**
CRN #:	**20605**	Webpage (optional):	**Refer to Canvas**
Classroom:	**2731**	Office #:	**2776**
Class Dates:	**February12-June 07, 2024** **Last Day to Add: 02/24/24** **Drop Deadline with W: 05/11/24**	Office Hours:	**Monday: 7:30-8:00 AM & 3:45-4:15 PM** **Tuesday: 9:00-10:00 AM (online) & 10:30-11:15 AM** **Wednesday: 7:30-8:00 AM** **Thursday: 10:30-11:15 AM**
Class Days:	**Wednesday**	Office Phone #:	**760-355-5720**
Class Times:	**8:00-11:10 AM**	Emergency Contact:	**Silvia Murray 760-355-6201**
Units:	**4.0 (3.0 Lecture/1.0 Lab)**	Class Format/Modality:	**Hybrid**

Course Description

This course is designed to give an understanding of the fundamental principles of physics in the areas of electricity, magnetism, 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. 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 waves.
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 particles.

Textbooks & Other Resources or Links

Textbooks (either one):

    a. Fundamental of Physics, 10th edition. ISBN: 978-1-118-23072-5 (Wiley).
       i. Halliday/Resnick/Walker.
    b. Physics for Scientists and Engineers, 4th edition. ISBN: 978-13-149508-1 (Pearson).
       i. Giancoli, Douglas C.
    c. University Physics, Volume II-III (Openstax.org). FREE OER
       i. William Moebs, Samuel J. Ling, and Jeff Sanny.

Course Requirements and Instructional Methods

1. **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.

2. **Minimum Requirements**:
    a. Access to a computer,
    b. Internet access (consider accessing the internet at alternative locations like IVC or the public library if you don't have it at home),
    c. Browser: use Google Chrome or Firefox (opt for Google Chrome or Firefox as your browser choice, as Safari may not display certain content correctly).

3. **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: https://mlm.pearson.com/northamerica/masteringphysics/

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- *Enrollment dates: 2/12/24-5/31/24. You will not be able to sign up for HW after this date! Please refer to webpage for details. Please double-check dates in the webpage.*
- *All assignments close on 06/01/24 at 8:59 PM. After this date, the course will be expired, and it cannot be open.*

To receive full credit, aim for an overall score of 90% or higher. Falling below that threshold will result in your earned percentage being converted to points, for example, 72% translates to 72 points.

Using the exact first and last name from the IVC roster is crucial to ensure proper credit for your homework. Sharing or using another person's account is strictly prohibited, with no exceptions.

4. **Lab Experiments and Reports Guidelines:**
- Lab experiments will be conducted during class. Following each experiment, full lab reports must be submitted (include objective, summary, materials, procedure, data table, response to questions, and a conclusion).

- Ensure that your lab reports are typed, utilizing double-spacing, and adhering to a font like Times New Roman, size 12 or similar.
- Graphs should be created using Excel or another graphing program. Please refrain from submitting hand-drawn graphs.
- Submit your reports within a week from the date of the experiment via Canvas. Strictly adhere to this timeline; late submissions will not be accepted under any circumstances.
- Kindly note that there will be no make-up opportunities for missed experiments due to room constraints and staffing limitations. Your understanding is appreciated.

5. **Lecture**: You need to read the chapters because there are assignments aligned to your readings (you can use any textbook of your choice).

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. **Computer Simulations:** To enhance your knowledge, you will have to run computer simulations (PhET) and labs by Labster (done via Canvas).

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

10. **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).

11. **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).

12. Students who are absent bear responsibility for both in-class activities and Canvas assignments.

13. **Students may only request exam or assignment makeup if they provide valid documentation, such as hospitalization records, and promptly inform the instructor via email to coordinate arrangements.**

Course Grading Based on Course Objectives

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

➢ Laboratory Experiments	20%
➢ Online Homework	20%
➢ Discussions / Quizzes / Simulations	15%
➢ Exams (2)	20%
➢ 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.

Check your grades on Canvas, ensuring you achieve a minimum grade of "C" to successfully pass the class.

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

- 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.
- 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-February 12	Syllabus / HW/Canvas Module 0	Read Content Module 0	*Refer to Canvas for due dates*

2- February 19 ==Monday 02/19 Holiday==	Module 1: Electric Charge	Read Content Module 1	*Refer to Canvas for due dates*
3 – February 26	Module 2: Electric Field	Read Content Module 2	*Refer to Canvas for due dates*
4- March 04	Module 3: Gauss's Law	Read Content Module 3	*Refer to Canvas for due dates*
5- March 11	**Exam # 1 (Modules 1-2-3)**		**Done in Class**
6- March 18	Module 4: Electric Potential	Read Content Module 4	*Refer to Canvas for due dates*
7- March 25	Module 5: Capacitance	Read Content Module 5	*Refer to Canvas for due dates*
April 01	*SPRING BREAK*	*NO CLASS*	*April 01*
8- April 08	Module 6: Electric Current and Resistance	Read Content Module 6	*Refer to Canvas for due dates*
9- April 15	Module 7: DC Circuits	Read Content Module 7	*Refer to Canvas for due dates*
10- April 22	**Mid-term Exam (Modules 1-7)**		**Done in Class**
11- April 29	Module 8: The Magnetic Field	Read Content Module 8	*Refer to Canvas for due dates*
12- May 06	Module 9: Magnetic Fields due to Currents	Read Content Module 9	*Refer to Canvas for due dates*
13- May 13	Module 10: Electromagnetic Induction and Faraday's Law	Read Content Module 10	*Refer to Canvas for due dates*
14- May 20	Module 11: Electromagnetic Oscillations and Alternating Current	Read Content Module 11	*Refer to Canvas for due dates*

	Exam # 2 (Modules 8-9-10)		**Done in Class**
15- May 27 Monday 05/27 Holiday	MODULE 12: Maxwell's Equations; Magnetism of matter	Read Content Module 12	*Refer to Canvas for due dates*
16-June 02	**Final Exam *(All Modules 1-12)***		**Done in Class**