Imperial Valley College-Course Syllabus-Physics 202-Spring 2020

Basic Course Information

Semester	**Spring 2020**	Instructor Name	**Dr. Alejandro Cozzani**
Course Title & #	**Physics 202 Hybrid**	Email	**alex.cozzani@imperial.edu**
CRN #	**21314**	Webpage (optional)	**Refer to Canvas**
Room	**2731**	Office	**2767**
Class Dates	**February 18-June 12, 2020**	Office Hours	**Monday 3:45-4:15 PM** **Tuesday and Thursday 7:15 to 8:00 AM.** **Online office hours: Wednesday 10:00 AM to 12:00 PM**
Class Days	**Tuesday**	Office Phone #	**760-355-5720**
Class Times	**11:20 AM-2:30 PM**	Office contact if student will be out or emergency	**Silvia Murray 760-355-6201 or Ofelia Duarte 760-355-6155**
Units	**4.0**		

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

1. **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).
      i. William Moebs, Samuel J. Ling, and Jeff Sanny.

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: MPCOZZANI4900151**. **Please refer to webpage for deadline.** 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). **No exceptions.**
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. **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. 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!
   ➢ **You are required to answer only the questions and graphs for each lab. You can submit either a group report or an individual one.**
   ➢ **If you are absent, you must submit a full individual report (refer to rubric).**

4. **Lecture**: You need to read the chapters because there are assignments aligned to your readings (you can use any textbook of your choice). Please refer to Canvas "Discussions" tab (see item # 5 below).
5. **Online Discussions**: As part of the course requirements, you need to answer the online discussions found in Canvas, under the "Discussions" tab.
6. **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.
7. **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!
8. 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.
9. **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!
10. **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!
    a. 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.

11. **Notes/formulas**: During exams, students can only use the table of equations provided in Canvas (No other notes).
12. **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 fellow students; clear well modulated voice	some eye contact; little need to reference notes; some involvement with fellow students; varies voice at times	no eye contact; uses notes frequently; very little involvement with fellow students; rarely varies voice	avoids looking at audience; reads notes; no involvement with fellow students; 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

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

Review questions

    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.

    e.   Add daily applications of your topic (when available).

Review problems

    f.   About three with increasing level of difficulty.

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

Audio

Since you will not be presenting to the class, add audio to your presentation.

Presentation dates: PPTs will be uploaded into Canvas under a special discussion called "Presentations." More info will be available to you as we get closer to the end of the semester.

Course Grading Based on Course Objectives

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

➢ Homework / Class Participation (online discussions)	20%
➢ Tests / Presentation	20%
➢ Lab Reports / Lab Tests / Quizzes (done online)	15%
➢ Mid-term	20%
➢ 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 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.
- 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.

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.

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.

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

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

Subject to modifications based on students 'needs.

WEEK OF	ACTIVITY, ASSIGNMENT, AND/OR TOPIC	READING	ASSIGMENT DUE
1-February 17	Syllabus / Introduction Chapter 21	Read Chapter Content Module 1	Module 0 Discussion Module 1 Discussion and Quiz
2- February 24	Chapter 22	Read Chapter Content Module 2	Module 2 Discussion and Quiz
3 - March 02	Chapter 23	Read Chapter Content Module 3	Module 3 Discussion and Quiz
4- March 09	**Test # 1 (Chapters 21-22-23)** Chapter 24	Read Chapter Content Module 4	Module 4 Discussion and Quiz
5- March 16	Chapter 25	Read Chapter Content Module 5	Module 5 Discussion and Quiz
6- March 23	Chapter 26	Read Chapter Content Module 6	Module 6 Discussion and Quiz
7- March 30	Chapter 27	Read Chapter Content Module 7	Module 7 Discussion and Quiz
8- April 06	**Mid-term (Chapters 21-27)**		
April 13	*Spring Break*	*No Class*	

9 - April 20	Chapter 28	Read Chapter Content Module 8	Module 8 Discussion and Quiz
10- April 27	Chapter 29	Read Chapter Content Module 9	Module 9 Discussion and Quiz
11- May 04	Chapter 30	Read Chapter Content Module 10	Module 10 Discussion and Quiz
12- May 11	Chapter 31	Read Chapter Content Module 11	Module 11 Discussion and Quiz
13- May 18	Chapter 32	Read Chapter Content Module 12	Module 12 Discussion and Quiz
14-May 25	**Test # 2 (Chapters 28-32)** Chapter 38	Read Chapter Content Module 13	Module 13 Discussion and Quiz
15- June 01	Chapter 39 Chapter 40	Read Chapter Content Module 14 Read Chapter Content Module 15	Module 14 Discussion and Quiz Module 15 Discussion and Quiz
16-June 08	**Final Exam** *(All Chapters)*		

Mastering Physics
System Requirements

Please make sure that your computer meets all of the requirements detailed below.

Note that you may need administrative access to be able to install applications or make other changes to your computer. If the computer you are using is not your own personal property, you may need to contact your organization's IT department to make such updates.

- **Operating Systems and Browsers**
  - Browser Settings
  - Players and Plug-ins
  - Browser and Operating System Check
- **Mobile Devices**
  - Mobile Browser Requirements
  - Mobile Apps

- **Other Requirements**
  - ○ Requirements for Editing and Creating Content (for Educators only)

Operating Systems and Browsers

You are currently using the web browser Safari version 13.
You are currently using the operating system OS X 10.14.6.
This combination of browser and operating system is Not Supported.

To download the latest versions of these browsers, visit their websites:
Chrome   Edge   Firefox   Internet Explorer   Safari

	OPERATING SYSTEMS	BROWSERS
Windows	Windows 10	Chrome 49 or newer Firefox 45 or newer Microsoft Edge IE 11
	Windows 7	Chrome 49 or newer Firefox 45 or newer IE 11
OS X	OS X 10.12	Safari 12 Safari 11 Chrome 49 or newer Firefox 45 or newer
	OS X 10.13	Safari 12 Safari 11 Chrome 49 or newer Firefox 45 or newer
	OS X 10.14	Safari 12 Chrome 49 or newer Firefox 45 or newer
	OS X 10.15	Chrome 49 or newer
Chrome OS	Chrome OS	Chrome 49 or newer
Android	Android 6	Chrome Mobile 46 or newer
	Android 7	Chrome Mobile 46 or newer
	Android 8	Chrome Mobile 46 or newer
	Android 9	Chrome Mobile 46 or newer
iOS	iOS 10	Safari 10 Chrome Mobile 46 or newer
	iOS 10.1	Safari 10 Chrome Mobile 46 or newer

OPERATING SYSTEMS	BROWSERS
iOS 10.2	Safari 10 Chrome Mobile 46 or newer
iOS 10.3	Safari 10 Chrome Mobile 46 or newer
iOS 11	Safari 11 Chrome Mobile 46 or newer
iOS 11.4	Safari 11 Chrome Mobile 46 or newer
iOS 12	Safari 12 Chrome Mobile 46 or newer
iOS 12.2	Safari 12 Chrome Mobile 46 or newer
iOS 12.4	Safari 12 Chrome Mobile 46 or newer
iOS 13	Chrome Mobile 46 or newer

Browser Settings

- **Pop-ups must be enabled.** How to enable pop-ups for Mastering features that require pop-ups.
- **Cookies must be enabled.** How to enable Mastering cookies for Chrome, Firefox, Safari, Internet Explorer, Edge. Use the appropriate Mastering website (domain) name.
- **JavaScript must be enabled. Some Mastering assignment content may also require Java.** How to enable Java and JavaScript for your browser.

Players and Plug-ins

You may receive a message that some Mastering assignment content cannot be displayed because it requires a browser player or plug-in. Click the player or plug-in name below to download the latest version. If the browser you're using no longer supports such players or plug-ins (like recent versions of Chrome or Firefox), please use another supported browser for this content.

- Flash Player, version 20 or higher
- Shockwave Player
- Adobe Reader
- Java (Recent versions of Chrome, Firefox, & Edge do not support the Java plugin.)
- QuickTime Player
- PowerPoint Viewer (Windows only)
- OpenOffice (Mac OS only)

These players and plug-ins may have their own system requirements, which can be found on their websites. In some cases, you may need to register for the player or plug-in, and you may need to restart your computer when you finish the download and installation.

Browser and Operating System Check

To make your product experience as smooth as possible, our system checks that your device uses a supported web browser and operating system for the product you are accessing. More about browser settings and this compatibility check.

Mobile Devices
Mobile Browser Requirements

After you sign in to your Mastering course on a computer at least once, you have the option to use a smartphone or tablet to work on Mastering assignments, Learning Catalytics sessions, and Dynamic Study Modules. (Educators, a student account is needed to work in Mastering standard's Mobile view.) Note that you may need to return to your computer to complete some assignments or assignment items. Supported browsers are listed above. The Kindle is not supported.

Mobile Apps

The following optional, free mobile apps are available for your convenience.

- **Pearson eText app (for smartphones and tablets)**
    - o Learn how to get the Pearson eText mobile app, and sign in with your user account for Mastering.
    - o Find out about app features, including the ability to use your eText with or without WiFI.
- **App to work on Dynamic Study Modules on smartphones and iPod touch**
  This app optimizes your Dynamic Study Modules experience on a mobile device. If your Mastering course has the Dynamic Study Modules link on its Course Home page and you have clicked this link at least once on your computer to open a module, you can use the Dynamic Study Modules app on your iOS or Android smartphone. (This app is not supported on tablets or for MasteringPlus users.)
  Tablet users: You can work on any available Dynamic Study Modules after you sign in to your course.

Other Requirements
Requirements for Editing and Creating Content (for Educators only)

The Simple Editor and the Advanced Editor (also known as the Authoring Tool) enable you to produce custom assignable items.

SIMPLE EDITOR

Requirements for the Simple Editor match the latest operating systems and browsers for Mastering (above). To access all features of the Simple Editor, set your browser security to allow pop-ups.

ADVANCED EDITOR

The requirements for the Advanced Editor are more restrictive than for either Mastering or the Simple Editor.

	OPERATING SYSTEMS	BROWSERS
Windows	Windows 7	Internet Explorer 9.x
Mac OS	You need a [Windows emulator](#).	Internet Explorer 9.x

Important information about working with Internet Explorer 9: Regardless of your operating system, you should use Internet Explorer 9 to work with the Advanced Editor. (Internet 10 Desktop is not yet fully supported for authoring.) When downloading Internet Explorer 9, be sure to choose the 32-bit version (rather than the 64-bit version). After you have opened the Advanced Editor in 32-bit mode, it will automatically open in this mode every time after that.