

## Basic Course Information

|                   |  |                     |  |
|-------------------|--|---------------------|--|
| Semester:         | Spring 2022  | Instructor Name:    | Dr. Alejandro Cozzani  |
| Course Title & #: | Physics 202  | Email:              | alex.cozzani@imperial.edu  |
| CRN #:            | 20605  | Webpage (optional): | Refer to Canvas  |
| Classroom:        | Online   | Office #:           | 2767   |
| Class Dates:      | February 14-June 10, 2022<br>Last Day to Add: 2/26/22<br>Drop Deadline with W: 5/14/22 | Office Hours:       | Monday and Wednesday:<br>3:00-4:00 PM<br>Tuesday and Thursday:<br>10:00-11:00 AM<br>OR by appointment via Zoom |
| 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 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, 10<sup>th</sup> edition. ISBN: 978-1-118-23072-5 (Wiley).
  - i. Halliday/Resnick/Walker.
- b. Physics for Scientists and Engineers, 4<sup>th</sup> 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. 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://www.pearsonmylabandmastering.com/northamerica/>
  - Course ID: cozzani10094
    - *The dynamic study modules are part of the HW and will be graded!*
    - *Enrollment dates: 2/14/22-5/29/22. You will not be able to sign up for HW after this date!*
    - *All assignments close on 6/04/22 at 8:59 PM. After this date, the course will be expired, and it cannot open.*

You need to satisfactorily 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).

**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 share/use other's person's account to do the HW. 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 Experiments and Reports:** they have been replaced by computer simulations and labs by Labster done via Canvas (pay attention to deadlines).
4. **Lecture:** You need to read the chapters because there are assignments aligned to your readings (you can use any textbook of your choice).
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, open-ended, and free response questions (also, done in Canvas). No makeup exams! All exams have been set up to 90 minutes and 1 attempt only. However, DSPS students who may need additional time need to contact the instructor in advance (time allowances depend on individual DSPS test proctoring notice).
8. **Questions:** will be submitted via Canvas under "Assignments." Please pay attention to deadlines.

9. **Problems:** will be submitted via Canvas under "Assignments." Please pay attention to deadlines.
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). It has been set up to 150 minutes and 1 attempt only. However, DSPS students who may need additional time need to contact the instructor in advance (time allowances depend on individual DSPS test proctoring notice).
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). No makeup! (done in Canvas). It has been set up to 150 minutes and 1 attempt only. However, DSPS students who may need additional time need to contact the instructor in advance (time allowances depend on individual DSPS test proctoring notice).
12. Students will not be allowed to make up any exam or assignment unless they have a powerful reason (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):

|                                      |             |
|--------------------------------------|-------------|
| ➤ Mastering Physics                  | 10%         |
| ➤ Discussions / Problems / Questions | 15%         |
| ➤ Exams (2)                          | 20%         |
| ➤ Simulations / Quizzes              | 15%         |
| ➤ Mid-term                           | 20%         |
| ➤ Final Exam                         | 20%         |
| ➤ <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

## 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               | ASSIGNMENT DUE   |
|---|------------------------------------|-----------------------|--|
| 1-February 14   | Syllabus / HW/Canvas<br>Module 0   | Read Content Module 0 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |
| 2- February 21<br><b>Holiday</b><br><b>Monday 2/21/22</b> | Module 1:Electric Charge           | Read Content Module 1 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |
| 3 – February 28   | Module 2: Electric Field           | Read Content Module 2 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |
| 4- March 07   | Module 3: Gauss’s Law              | Read Content Module 3 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |
| 5- March 14   | <b>Exam # 1 (Modules 1-2-3)</b>    |                       | <b>Done in Canvas</b>  |
| 6- March 21   | Module 4: Electric Potential       | Read Content Module 4 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |
| 7- March 28   | Module 5: Capacitance              | Read Content Module 5 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |
| 8- April 04   | Module 6: Current and Resistance   | Read Content Module 6 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |
| 9- April 11   | Module 7: Circuits                 | Read Content Module 7 | <i>Refer to Course Syllabus, Refer to Canvas and Mastering Physics for due dates</i> |
| <b>April 18</b>   | <b>Spring Break</b>                | <b>No Class</b>       |  |
| 10- April 25  | <b>Mid-term Exam (Modules 1-7)</b> |                       | <b>Done in Canvas</b>  |
| 11- May 02  | Module 8: Magnetic Fields          | Read Content Module 8 | <i>Refer to Canvas and Mastering Physics for due dates</i>                           |

|   |   |                        |  |
|---|---|------------------------|--|
| 12- May 09  | Module 9: Magnetic Fields due to Currents   | Read Content Module 9  | <i>Refer to Canvas and Mastering Physics for due dates</i> |
| 13- May 16  | Module 10: Electromagnetic Induction and Faraday's Law  | Read Content Module 10 | <i>Refer to Canvas and Mastering Physics for due dates</i> |
| 14- May 23  | Module 11: Electromagnetic Oscillations and Alternating Current<br><b>Exam # 2 (Modules 8-9-10)</b> | Read Content Module 11 | <i>Refer to Canvas and Mastering Physics for due dates</i> |
| 15- May 30<br><b>Holiday</b><br><b>Monday 5/30/22</b> | Module 12: Maxwell's Equations  | Read Content Module 12 | <i>Refer to Canvas and Mastering Physics for due dates</i> |
| 16-June 06  | <b>Final Exam (All Modules 1-12)</b>  |                        | <b>Done in Canvas</b>                                      |

### Mastering Physics (Online homework) 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](#)

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|                | <b>OPERATING SYSTEMS</b> | <b>BROWSERS</b>  |
|----------------|--------------------------|--|
| <b>Windows</b> | Windows 10               | Chrome 49 or newer<br>Firefox 45 or newer<br>Microsoft Edge<br>IE 11 |
|                | Windows 7                | Chrome 49 or newer<br>Firefox 45 or newer<br>IE 11                   |
| <b>OS X</b>    | OS X 10.12               | Safari 12<br>Safari 11<br>Chrome 49 or newer<br>Firefox 45 or newer  |
|                | OS X 10.13               | Safari 12<br>Safari 11<br>Chrome 49 or newer<br>Firefox 45 or newer  |
|                | OS X 10.14               | Safari 12<br>Chrome 49 or newer<br>Firefox 45 or newer               |
|                | OS X 10.15               | Chrome 49 or newer   |
|                | <b>Chrome OS</b>         | Chrome OS  |
| <b>Android</b> | 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  |
| <b>iOS</b>     | iOS 10                   | Safari 10<br>Chrome Mobile 46 or newer                               |
|                | iOS 10.1                 | Safari 10<br>Chrome Mobile 46 or newer                               |
|                | iOS 10.2                 | Safari 10<br>Chrome Mobile 46 or newer                               |
|                | iOS 10.3                 | Safari 10<br>Chrome Mobile 46 or newer                               |
|                | iOS 11                   | Safari 11<br>Chrome Mobile 46 or newer                               |
|                | iOS 11.4                 | Safari 11<br>Chrome Mobile 46 or newer                               |
|                | iOS 12                   | Safari 12<br>Chrome Mobile 46 or newer                               |
|                | iOS 12.2                 | Safari 12<br>Chrome Mobile 46 or newer                               |

| OPERATING SYSTEMS | BROWSERS                               |
|-------------------|--|
| iOS 12.4          | Safari 12<br>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)**
  - [Learn how to get the Pearson eText mobile app](#), and sign in with your user account for Mastering.
  - [Find out about app features](#), including the ability to use your eText with or without Wi-Fi.
- **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              |
|----------------|---|-----------------------|
| <b>Windows</b> | Windows 7                                     | Internet Explorer 9.x |
| <b>Mac OS</b>  | You need a <a href="#">Windows emulator</a> . | 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.



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