



Basic Course Information

Semester:	SPRING 26	Instructor Name:	Javier Soto
Course Title & #:	EWIR 115	Email:	Javier.soto@imperial.edu
CRN #:	20511	Webpage (optional):	
Classroom:	3113	Office #:	3121
Class Dates:	2/18/26 – 6/10/26	Office Hours:	T/Th 2:00pm – 4:00pm
Class Days:	M/W	Office Phone #:	
Class Times:	6:00pm – 10:20pm	Emergency Contact:	Tisha Nelson 760-355-6361
Units:	4	Class Format/Modality:	Face to Face

Course Description

This course meets National Electric Code (NEC) guidelines consistent with industry standards. This course covers wiring installation and connection for conductor terminations and splices, use of cable pulling equipment, NEC standards for cable tray, installation of electrical service, electrical protection components and equipment, use of material take-off methods and troubleshooting techniques; identification of ratings for current breakers and fuses; regulations for sizing use and installation of relay systems, conductors, over current protection. Instruction will include installation, service and maintenance of commercial and industrial photovoltaic systems. The course is approved by the Department of Industrial Relations (DIR) and will allow students to qualify for an Electrical Trainee (ET) card and count towards an electrical journeyman license.

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

N/A

Student Learning Outcomes

Recognize the different conductor systems used in residential and light commercial wiring in accordance with the codes and authorities for installation.

Use the NEC to adjust conductor ampacity based on ambient temperature and number of conductors of raceway systems.

Explain the causes of overcurrent conditions and describe electrical circuit overcurrent protective devices (OCPDs).

List the components of the service entrance, service drop clearances specified in the NEC, and eight basic guidelines when locating a residential service entrance.



Course Objectives

Demonstrate and practice electrical safety.

Plan, set up for and install a cable pull, and properly install a pull line for a cable-pulling operation.

Describe the mechanism for making correct conductor terminations and grounding continuity.

Describe the types of electrical services for commercial and industrial installations. Evaluate grid-tied photovoltaic system, with and without battery.

Interpret electrical blueprints and diagrams describing service installations.

Compute circuit loads, number of circuits required, and the installation requirements of distribution panels. Identify the sizing considerations for stand-alone systems.

Understand photovoltaic applications for AC and DC.

Describe the different types of service connections, GFI, and service grounding.

Describe the operation of electro-mechanical conductors and solid state relays.

Identify photovoltaic systems maintenance and investigate troubleshooting of wiring problems using a multimeter.

Read diagrams involving conductors and relays, and connect and test a simple control circuit.

Interpret lighting layouts on commercial and industrial blueprints; interpret light fixtures and schedules.

Learn to install photovoltaic systems, mounting hardware and solar tracking systems.

Demonstrate and practice installation safety.

Textbooks & Other Resources or Links

Pearson NCCER ELECTRICAL 2023 update LEVEL 2 11th Edition ISBN: 13: 978-0-13-823167-5

Course Requirements and Instructional Methods

Computer , LAB, Video, Lecture

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Course Grading Based on Course Objectives

Letter Grade

The course grade is based on total points accumulated during the semester. There is a maximum of 1200 points. Very limited extra credit points may be available, either through some class participation activity, group work or perfect attendance. Failing to turn in regular assignments will stop you from being able to earn extra credit points and late assignments will have points subtracted. Final Grades are calculated as follows:

Below is the Instructional Scale:

Grade breakdown is subject to change Breakdown (1872 points)

- Exams: 572 Pts
- Midterm/Final: 500 Pts
- Lab activities: 700 Pts.
- Participation: 100 Pts.
- Total points 1872pts.

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

- *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*

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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. What does it mean to “attend” an online class?*

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 importance of acknowledging and safeguarding intellectual property. Imperial

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Other Course Information

- **CANVAS LMS:** *Canvas is Imperial Valley College’s main Learning Management System. To log onto Canvas, use the 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.***
- *You may consult your college map for the **Reading and Writing Lab, Study Skills Center and/or Library***
- **Library Services:** *As you know there is more to our library than just books. You have access to tutors in the learning center, study rooms for small groups, and online access to a wealth of resources.*

Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Making 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.

Anticipated Class Schedule/Calendar

[Provide a tentative overview of the readings, assignments, tests, and/or other activities for the duration of the course. A table format as in the example below may be used for this purpose.]

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 2/18/26	Syllabus Review / Safety Video	



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Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 2 2/23/26	Chapter 1 Review Quiz 1 (70 Points) Lab 50 Points	
Week 3 3/2/26	Chapter 2 review Quiz 2 (90 Points) Lab 50 Points	
Week 4 3/9/26	Chapter 3 Review Quiz 3 (65 Points) Lab 50 Points	
Week 5 3/16/26	Chapter 4 Review Quiz 4 (75 Points) Lab 50 Points	
Week 6 3/23/17	Chapter 5 review Quiz 5 (60 Points) Lab 50 Points	
Week 7 3/30/26	Chapter 6 Review Quiz 6 (65 Points) Lab 50 Points	
Week 8 4/6/26	NO SCHOOL SPRING BREAK	
Week 9 4/13/26	MIDTERM 250 Points Lab 50 Points	
Week 10 4/20/26	Chapter 7 Review Quiz 7 (47 Points) Lab 50 Points	
Week 11 4/27/26	Chapter 8 review Quiz 8 (40 Points) Lab 50 Points	
Week 12 5/4/26	Chapter 9 Review Quiz 9 (60 Points) Lab 50 Points	



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Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 13 5/11/26	Chapter 10 review Quiz 10 (40 Points) Lab 50 Points	
Week 14 5/18/26	Lab 50 Points	
Week 15 5/27/26	No Class 5/25/26 Lab 50 Points	
Week 16 6/1/26	Make up Day (1 Test) Lab 50 Points	
Week 17 6/8/26	FINALS 250 POINTS	

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