IMPERIAL VALLEY COLLEGE

Imperial Valley College Course Syllabus –

Electrical Trades I / ELTT-101

Thank you for choosing IVC! We are so happy to join you in your educational journey.

Basic Course Information

Semester:	**Spring 2023**	Instructor Name:	**Jimenez, Javier**
Course Title & #:	**Electrical Trades I / ELTT-101**	Email:	**Javier.Jimenez@Imperial.edu**
CRN #:	**21036**	Webpage (optional):	
Classroom:	**ECCL (1285 Broadway, El Centro IID Round Building)**	Office #:	
Class Dates:	**14 FEB 2023 To 06 JUN 2023 No Class on: 11 APRIL 2023**	Office Hours:	
Class Days:	**Tuesdays**	Office Phone #:	
Class Times:	0430-0845pm	Emergency Contact:	
Units:	4.00	Class Format:	Face-to-Face (On Ground)

Course Description

Basic mathematical functions and computations as they pertain to electricity and electronics. Introduction to basic principles of electricity, AC/DC circuits, electromagnetism, symbols, schematic diagrams, and fundamental safety skills as they pertain to on-the-job training. (Nontransferable, AA/AS degree only)

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

None.

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. *Interpret basic electrical theory; explain electric circuit, Ohms Law in circuit calculations, voltage, current, and resistance.*

Course Objectives

MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":
Upon satisfactory completion of the course, students will be able to (these objectives are subject to change):
1. Practice standard safety procedures appropriate to the power utility industry.
2. Recognize and deal appropriately with hazardous materials in the power utility industry.
3. Manipulate certain mathematical functions pertaining to percentages, fractions, decimals, weights, and

measurements, algebraic equations, and fundamentals of geometry applicable to electronics.
4. Employ fundamental computations as they relate to basic electricity and electronics; i.e., impedance, current, resistance, amperage, voltage, and circuitry.
5. Identify and analyze various principles as they apply to electrical theory; i.e., conductors, electrical potential, current impedance, and simple circuits.
6. Apply fundamentals of magnetism as they pertain to permanent and electromagnets, magnetic flux, and reluctance.
7. Recognize and employ essential electrical symbols and schematic diagrams.

Textbooks & Other Resources or Links

1. Floyd, Thomas L. & Buchla, David M. (2009). Electronic Fundamentals: Circuits, Devices and Applications. (8th/e). New Jersey Prentice Hall. ISBN: 0135072956.
2. CASIO fx-115ES PLUS 2nd edition (please acquire this calculator by the 1st day of class).

Course Requirements and Instructional Methods

Assignments are designed to elicit your demonstration of critical thinking, understanding and application of the course concepts, and your proficiency in the subject matter.

Required Activities or Assignments	Points
1. Homework, Assignments:	20
3. Mid-Term Exam:	40
4. Final Exam:	40

Teaching Methods: Discussion of assignments and instructional methods will be a combination of all methods of instruction, which can be classified as telling, lecturing, or discussing; showing or demonstrating.
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.

Course Grading Based on Course Objectives

The course grade is based on total points accumulated during the semester. There is a maximum of 100 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:

Point grade vs.
Letter Table

Points	Grade
90-100	A
80-89	B

70-79	C
60-69	D
Below 60	F

Grading Rubrics: In addition to the percentages and points listed above the following grading rubric (standards expected) will be used when grading student assignments. The description that best fits your work will be the assigned grade.

Exam Rubric Range Table

Exam Rubric							
Criteria	**Ratings**						**Pts**
This criterion is linked to a Learning Outcome Summative Assessment Complies With the Summative Assessment Objectives of evaluating student learning by comparing it against some kind of benchmark or standard of performance Range	**100 to >90.0 pts** **Excellent** All the answers are correct with no or very few calculation errors, and the calculations steps are correct. Please read Instructors comments after replying.	**90 to >80.0 pts** **Competent** At least 1 answer is incorrect (according to their percentage weight) with no or very few calculation errors, and the calculations steps are correct. Please read Instructors comments after replying.	**80 to >70.0 pts** **Developing** 1 or 2 answers are incorrect (according to their percentage weight) with no or very few calculation errors, and the calculations steps are correct. Please read Instructors comments after replying.	**70 to >60.0 pts** **Beginning** 2 or 3 answers are incorrect (according to their percentage weight) with no or very few calculation errors, and the calculations steps are correct. Please read Instructors comments after replying.	**60 to >1.0 pts** **Needs Improvement** 3 or 4 answers are incorrect (according to their percentage weight) with no or very few calculation errors, and the calculations steps are correct. Please read Instructors comments after replying.	**1 to >0 pts** **Missing** The exam was missing	100 pts
						Total Points: 100	

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 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.

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.

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, only students enrolled in the class may attend; children are not allowed.

How do I act differently if I have an on-ground class during COVID?

1. **DO NOT COME TO CAMPUS OR ATTEND AN OFF-CAMPUS CLASS IF YOU FEEL SICK, HAVE A FEVER, OR HAVE A COUGH**

The CDC recommends the following preventive actions to stop the spread of germs.

- Avoid close contact with people who are sick.
- If you are sick, limit contact with others as much as possible to keep from infecting them.
- Cover coughs and sneezes.
- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
- Wash your hands often with soap and water. If soap and water are not available, use an alcohol-based hand rub.
- Avoid touching your eyes, nose, and mouth. Germs spread this way.
- Clean and disinfect surfaces and objects that may be contaminated with viruses that cause flu.
- For flu, CDC recommends that people stay home for at least 24 hours after their fever is gone except to get medical care or other necessities. Fever should be gone without the need to use a fever-reducing medicine.

For more regarding the flu, colds and Covid prevention please visit https://www.cdc.gov.

Students 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.

Other Course Information

Additional Services for Students

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.

How do I access services now that we are mostly online?

- 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.

- Learning Services. In order to accommodate students and maximize student success during the COVID-19 Pandemic, all tutoring support is being provided through one Zoom link (IVC online Tutoring). When campus is open again, there are several learning labs to assist students. Whether you need support using computers, or you need a tutor, please consult your Campus Map for the Math Lab; Reading, Writing & Language Labs; and the Study Skills Center.
- Library Services. Visit the Spencer Library's page on the IVC website for a wealth of valuable resources and online access to databases, e-books and more. Contact us so we can help you with instructional and research development skills (for those conducting research and writing academic papers). When campus re-opens, students also have access to tutoring services in the Study Skills Center as well as private study rooms for small study groups. There is more to our library than just books!
- Career Services Center. The Career Services Center is dedicated to serve all IVC students and Alumni. Services include Career Assessments, Resume and Cover Letter Assistance, Interview Preparation, Internship Opportunities and Job Placement.
- Child Development Center. The Preschool and Infant/Toddler Centers are on-campus demonstration lab programs that meet the educational, research, and service needs of the institution and community at large. The Preschool program (children three to five years of age) and the Infant/Toddler program (newborn to three years of age) is in buildings 2200 and 2300. Service is available to families who meet the California Department of Education qualifications for enrollment. The centers are open during COVID from Monday-Friday 7:15-5:30. Breakfast, lunch and snack are provided through the California Adult and Child Food Program. Location: Buildings 2200 and 2300. Phone: (760) 355-6528 or (760) 355-6232. Application: IVC Preschool & Infant Toddler Center

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, book grants, transportation assistance, individualized counseling, tutoring, and community referrals to eligible students. Our staff is available to assist and support students in navigating personal, psychological, academic, and/or career-related issues through empathy, cultural-competence, and a commitment to equity and social justice. Also under the umbrella of EOPS is the CARE (Cooperative Agency Resources for Education) Program, designed to serve single parents and assist with addressing 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 about the EOPS or CARE Programs please contact our Program Office 760.335-6407 and/or visit our Program website Extended Opportunities Program & Services for eligibility criteria and application procedures. We look forward to serving you! - EOPS/CARE Staff

Student Equity Program

The Student Equity & Achievement 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. SEA addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, LGBTQIA+, Veterans, foster youth, homelessness, and formerly incarcerated students. The SEA Program also

houses IVC's Homeless Liaison, Foster Youth Liaison, Formerly Incarcerated Liaison, and Military Affiliated Liaison, who provide direct services and referrals to students in need. SEA strives 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 enrollment, education, degree and certificate completion, and the ability to transfer to a university. SEA also provides outreach at local Imperial County high schools to ensure graduating seniors are successfully matriculated into the college and have a strong support system. Please visit us online for assistance at Student Equity & Achievement or call us at 760-355-6465 or when campus reopens, visit Building 401.

What if I cannot afford food, books, or need other help?

We have many resources that are available to you. Please tell us what you need by submitting your request(s) here: Student Equity & Achievement

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

Below is a tentative, provisional overview list (the dates and Activities, Assignments and/or Topics are subject to change) of weekly activities and assignments that will assist you in meeting the course objectives and the Student Learning Outcomes.

The instructor will provide a tentative, provisional overview of the readings, assignments, tests, and/or other activities for the duration of the course.

Class Schedule

Date	Activity, Assignment, and/or Topic	Assignment Due
February 14	Syllabus & Introduction.	
February 14	A. Industry safety Practices.	
February 21	B. Hazardous Materials.	
February 21	C. Fundamentals of Mathematics 1. Addition and subtraction. 2. Multiplication. 3. Common fractions, cancellation, and LCD.	

	4. Decimals and Percentages. 5. Square root and cube root.	
February 28	C. Fundamentals of Mathematics (Continuation) 6. Useful terms and symbols 7. Positive and negative numbers 8. Calculator Functions 9. Weights and measurement 10. Introduction to algebraic equations 11. Applied geometry	
March 7 to March 14	D. Basic Math for Electricity and Electronics 1. Introduction to electricity 2. Simple electric circuits 3. Electrical formulas 4. Review of Ohm's Law	
March 21 to April 4	E. Circuits 1. Series circuits 2. Parallel circuits	
April 4	Review for Mid. Exam.	
April 11	No Classes.	
April 18	Mid Term Exam.	
April 18 to May 23	E. Circuits (Continuation) 3. Combination circuits 4. DC circuits 5. AC circuits 6. Combination circuits 7. Combination circuits	

May 30	F. Electromagnetic Induction 1. Magnetism 2. Definition of electromagnetism 3. Field strength 4. Motor Action 5. Generators 6. Transformers	
May 30	G. Fundamentals of Electricity 1. Electrical symbols 2. Review and interpretation of schematic diagrams	
May 30	Review for Final Exam.	
June 6	Final Exam.	

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