IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Spring 2025**	Instructor Name:	**Jimenez, Javier**
Course Title & #:	**Electronic Circuits & Semiconductors/ELTR 140**	Email:	**Javier.Jimenez@imperial.edu**
CRN #:	**20438**	Webpage (optional):	
Classroom:	**3110**	Office #:	
Class Dates:	**14 FEB 2025 to 6 JUN 2025 No Classes February 14 & April 25**	Office Hours:	**Fridays 07:00AM to 8:00AM & 02:30PM to 03:30PM**
Class Days:	**Fridays**	Office Phone #:	
Class Times:	08:00AM to 02:30PM	Emergency Contact:	**Javier.Jimenez@imperial.edu**
Units:	4.00	Class Format/Modality:	Face-to-Face (On Ground)

Course Description

A continuation of ELTR 120. Topics will include: semiconductor devices, amplifiers, and solid state components. (CSU)

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

RECOMMENDED PREPARATION: *ELTR 120*

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. *Analyze AC circuits.*
2. *Describe the functions of Capacitors and Inductors.*
3. *Analyze RC, RL, and RLC circuits and obtain their respective equations.*
4. *Construct, Test, and Troubleshoot various RC, RL, and RLC circuits.*

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. *Measure AC voltage and current sine wave form patters.*
2. *Measure capacitor ability to store electrical energy.*
3. *Solve problems related to AC series, AC parallel, and AC series-parallel RC circuits.*
4. *Measure the inductor ability to store electromagnetic energy.*
5. *Solve problems related to AC series, AC parallel, and AC series-parallel RL circuites.*
6. *Solve problems related to AC series, AC parallel, and AC series-parallel RLC circuites.*
7. *Measure the transformer ability to increase/decrease voltage & current amplitudes.*
8. *Verify the PN junction seminconductor behavior.*

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Textbooks & Other Resources or Links

1. *Floyd, Thomas L. & Buchla, David M.. 2013. Electronics Fundamentals: A System Approach. 1st Pearson Education Limited. ISBN: 978-0133143638.*
2. Floyd, Thomas L. & Buchla, David M. (2009). Electronic Fundamentals: Circuits, Devices and Applications. (8th/e). New Jersey Prentice Hall. ISBN: 0135072956.
3. Basic Mathematics for Electricity and Electronics (8th/e). Bertrand B. Singer, Harry Forster, and Michael E. Schultz (2000). New York Macmillan/McGraw-Hill. ISBN: 0-02-805022-3.

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:	10
2. Laboratory Experiments:	30
3. Laboratory Reports:	10
3. Mid-Term Exam:	25
4. Final Exam:	25

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:

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.

Grade	Rubric or Standard Expected
A	Focused and clearly organized. Contains advanced critical thinking and analysis. Convincing evidence is provided to support conclusions. Clearly meets or exceeds assignment requirements.

B	Generally focused with some development of ideas, but may be simplistic or repetitive. Evidence is provided to support conclusions. Occasional grammatical errors. Meets assignment requirements, but does not exceed.
C	Unfocused, underdeveloped, or rambling, but has some coherence. Minimal evidence is provided to support conclusions. Several grammatical errors. Meets minimum assignment requirements.
D	Unfocused, underdeveloped, and/or rambling. Limited evidence is used to support conclusions. Serious grammatical errors that impede overall understanding. Does not address the assignment requirements
F	Unfocused, underdeveloped, and/or rambling. Incomplete or too brief. No evidence is used to support conclusions. Serious grammatical errors that block overall understanding. Does not meet assignment requirements. Minimal to no student effort.

Laboratory Rubric Range Breakdown

Laboratory Rubric						
Criteria	**Ratings**					**Pts**
This criterion is linked to a Learning Outcome Formative Assessment Complies With the Formative Assessment Objectives of evaluating student learning by comparing it against some kind of benchmark or standard of performance	**100 to >90.0 pts Excellent** Laboratory Practice Built correctly at the 1st try with no blown fuses.	**90.0 to >80.0 pts Competent** Laboratory Practice Built correctly at the 1st or 2nd try with no more than one blown fuse.	**80.0 to >70.0 pts Developing** Laboratory Practice Built correctly at the 2nd or 3rd try with no more than two blown fuse.	**70.0 to >60.0 pts Beginning** Laboratory Practice Built correctly at the 3rd or 4th try with no more than three blown fuse.	**60.0 to >1.0 pts Needs Improvement** Laboratory Practice Built correctly at more than 4 tries with several blown fuses.	100 pts
						Total Points: 100

Late Assignments will be accepted until the graded assignment is returned to the class, but assessed a penalty of 10 points per calendar day it is late.

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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

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

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Other Course Information

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.

Financial Aid

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

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.

Date	Activity, Assignment, and/or Topic	Assignment Due
February 14	No Classes- State Holiday	
February 21	Syllabus & Introduction	

February 21 to February 28	AC Resistive Series Parallel Circuits	
March 7	Capacitors	
March 14 to March 21	RC Circuits	
March 28 to April 4	RL and RLC Circuits	
April 4	Review for Mid Term Exam	
April 11	Mid Term Exam	
April 11	Introduction to Semiconductors	
April 18	Diodes and Applications	
April 25	No Classes- Spring Break	
May 2	Diodes and Applications (Continuation)	
May 9 to May 16	Transformers	
May 23	Transistors	
May 30	Review for Final Exam	
June 6	Final Examination	

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