IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	Fall 2024	Instructor Name:	T. Eliott Watson
Course Title & #:	Electronic Devices ELTR 120	Email:	eliott503@gmail.com
CRN #:		Webpage (optional):	
Classroom:		Office #:	
Class Dates:	M & W	Office Hours:	
Class Days:	M & W	Office Phone #:	cell: 760-595-5300
Class Times:	1-4:10	Emergency Contact:	
Units:		Class Format:	

Course Description

This course covers a study of basic electronics laws and components in dc circuits. It emphasizes voltage, current, and resistance relationships. An introduction to magnetism is also included. (CSU)

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

None

Student Learning Outcomes

This course is designed to equip students with the knowledge and skills necessary to:

- Pursue further education in electrical, engineering, or related disciplines.
- Contribute to the development of innovative technological solutions.
- Understand the impact of electrical technology on society and the environment.

Course Objectives

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

1. Demonstrate the correct safety practices and procedures used in the laboratory.
2. Properly operate and accurately read conventional d.c. meters; utilize dc meters in testing various circuits.
3. Demonstrate the function and purpose of potentiometers and rheostats.
4. Construct resistive circuits utilizing the protoboard, resistors, and conventional handtools.
5. Experimentally validate Ohm's law expression.

6. Recognize series circuits and compare mathematical relationships and calculations to the measured values.
7. Construct series aiding and opposing circuits and measure current and voltage, and anticipate correct polarity of connections.
8. Accurately measure current in parallel circuits utilizing Ohm's Law to verify measurements.
9. Understand magnetism and magnetic units.
10. Construct, test, and troubleshoot various series dc circuits.
11. Construct, test, and troubleshoot various parallel dc circuits.
12. Experimentally validate Kirchoff's voltage and current laws.

Textbooks & Other Resources or Links

(Click Here)

Electronics Fundamentals A Systems Approach

by Floyd, Thomas L.; Buchla, David M.

ISBN13: 9780133143638

ISBN10: 0133143635

Course Requirements and Instructional Methods

- Regular attendance and active participation in class discussions.
- Completion of assigned homework and laboratory exercises.
- Successful completion of quizzes, midterm, and final exams.
- Collaboration with classmates on group projects (if applicable).

Course Grading Based on Course Objectives

Your final grade will be determined based on the following components:

- 200 points: Homework assignments
- 200 points: Laboratory reports / Project
- 200 points: Quizzes
- 200 points: Midterm exam
- 200 points: Final exam

Course Policies

Classroom Professionalism

Professionalism is highly valued in this course. This includes arriving on time, active participation, respectful communication with classmates and the instructor, and adhering to academic integrity standards. Cell phone use is discouraged during class time unless explicitly permitted for academic purposes.

Other Course Information

Office Hours

Available upon request/demand.

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

Course Schedule

Note: This schedule is a suggested outline and can/will be adjusted based on class progress and instructor preference.

Week	***Monday***	***Wednesday***
1	**Syllabus Review**	**Electrical Safety**
2	**Fundamentals of Electricity**	**Ohm's Law**

3	Energy and Power	Quiz 1
4	Power in Electric Circuits	Power Ratings of Resistors
5	Energy Conversion and Voltage Drop	Power Supplies and Batteries
6	Series Circuits	Quiz 2 / Application Ohm's Law
7	Voltage Sources in Series	Kirchoff's Voltage Law
8	Power / Midterm Review	Midterm Exam
9	Voltage Measurements	Parallel Circuits
10	Application of Ohm's Law in Parallel	Kirchhoff's Current Law
11	Current Dividers	Quiz 3 / Power in Parallel Circuits
12	Thanksgiving Break	Thanksgiving Break
13	Magnetism	Magnetism (continued)
14	Course Review	Project/Essay Due
15	Final Exam Preparation	Final Exam Preparation
16	Final Exam	Final Exam