Course Information Form (CIF)

Course Code: ELT 193

Course Title: Electronic Systems Repair

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 15.1201
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 2-2-3
Credit Hour Distribution:

Lecture: 2	Lab: 2	Clinical: 0	**Total: 3**

General Course Information

Catalog Description

Component identification and function, schematic symbols and diagrams, component replacement, circuit construction, and system testing.

General Course Objectives

- Student will identify components, schematic symbols, and their electronic function.
- Troubleshoot and repair common electronic circuits.
- Construct and test electronic circuits.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit in ELT 171

Methods of Evaluation

Students will be given a minimum of 6 quizzes, 1 midterm exam, 1 final exam, and 8 labs. In addition, in-class and/or homework assignments are recommended.

Instructional Materials and Additional Supplies

Troubleshooting Electrical/Electronic Systems, Mazur. 9780826917911
Safety glasses

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Passive Components, Their Schematic Symbols, and Functions	1. Identify passive components by device or symbol. Describe function and electrical characteristics. 2. Construct, test, measure, and analyze electrical parameters of resistive circuits.	2	2	0
Reactive Components, Their Schematic Symbols, and Functions	1. Identify reactive components by device or symbol. Describe function and electrical characteristics. 2. Construct, test, measure, and analyze electrical parameters of inductive and capacitive circuits.	2	2	0
Transistors, Their Schematic Symbols, and Functions	1. Identify transistors by device or symbol. Describe function and electrical characteristics. 2. Construct, test, measure, and analyze electrical parameters of transistor circuits.	4	4	0
Thyristors, Their Schematic Symbols, and Functions	1. Identify thyristors by device or symbol. Describe function and electrical characteristics. 2. Construct, test, measure, and analyze electrical parameters of thyristor circuits.	2	2	0
Amplifiers, Their Schematic Symbols, and Functions	1. Identify amplifiers by device or symbol. Describe function and electrical characteristics. 2. Construct, test, measure, and analyze electrical parameters of amplifier circuits.	4	4	0
Logic Gates and Circuits, Their Schematic Symbols, and Functions	1. Identify logic gates and circuits by device or symbol. Describe function and electrical characteristics. 2. Construct, test, measure, and analyze electrical parameters of logic circuits.	4	4	0
Construct Electronic Projects	1. Construct, troubleshoot, and verify operation of electronic circuits used in industry.	12	12	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0