

ELEC 64A Course Outline as of Fall 1981**CATALOG INFORMATION**

Dept and Nbr: ELEC 64A Title: ELEC CONSTRUCTION

Full Title: Electronic Construction

Last Reviewed: 2/7/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	2.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	2.00	Lab Scheduled	3.00	6	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 105.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

A basic electronic fabrication course designed to develop fundamental skills required of all electronic mechanic/technicians. The course includes general safety rules, basic concepts of the use and care of hand tools, soldering and de-soldering techniques to a variety of terminal posts and printed circuit boards, and coaxial and shielded pair cable assembly. The student will learn to identify graphic symbols of common electronic components used on electronic schematics, the technique of chassis assembly, and chassis wiring procedures.

Prerequisites/Corequisites:

Concurrent enrollment in or completion of ELEC 60, ELEC 51A or ELEC 50A with a "C" grade or better.

Recommended Preparation:**Limits on Enrollment:****Schedule of Classes Information:**

Description: Basic techniques in layout, fabrication, assembly, wiring, testing and identification of components for the electronic chassis and printed circuit fabrication. (Grade Only)

Prerequisites/Corequisites: Concurrent enrollment in or completion of ELEC 60, ELEC 51A or ELEC 50A with a "C" grade or better.

Recommended:

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:	Transferable	Effective: Fall 1981	Inactive: Fall 2009
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

The student will be able to:

1. pass an electrical safety exam.
2. solder wires and components to terminals and printed circuit boards.
3. de-solder wires and components from terminals and printed circuit boards.
4. select the correct tool or tools to perform assigned tasks without assistance.
5. identify graphic symbols of common electronic components with a grade of 80% or better.
6. tin stranded wires and splice wires by various acceptable techniques.
7. construct a twisted shielded pair cable, and a coaxial cable.
8. inspect and ohmmeter test coaxial and twisted pair cables.
9. assemble components on single and double sided printed circuit boards.
10. repair assembled printed circuit boards by replacing components.
11. assemble a chassis by installing components, hardware, and connectors.
12. wire a chassis according to learned techniques for 100% operation.

Topics and Scope:

1. Electrical safety.
2. Soldering techniques such as tinning, splicing, and solder feeding.
3. Basic concepts and familiarization of electronic hand tools.
4. Identification of electronic symbols on schematic drawings.
5. Connecting wires and components to terminals and boards.
6. Coaxial and shielded pair coaxial cable assembly.
7. Printed circuit board assembly technique.
8. Chassis assembly.
9. Chassis wiring procedures.

Assignment:

Eight assignments.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None

Problem solving
0 - 0%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Class performances

Skill Demonstrations
75 - 90%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice

Exams
5 - 25%

Other: Includes any assessment tools that do not logically fit into the above categories.

ATTENDANCE AND TIMELY ASSIGNMENT
COMPLETION

Other Category
0 - 15%

Representative Textbooks and Materials:

ELECTRONIC FABRICATION, 2nd Edition, G.T. Shimizu.

