

CATALOG INFORMATION

Dept and Nbr: ELEC 60L Title: DIR/ALT CURRENT LAB
Full Title: Direct & Alternating Current Lab
Last Reviewed: 7/16/2001

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	10	Lab Scheduled	52.50
		Contact DHR	1.00		Contact DHR	17.50
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 122.50

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:
Measurement and analysis of DC and AC circuits. Documentation of results in a lab report format.

Prerequisites/Corequisites:
Course Completion or Current Enrollment in ELEC 60

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Analysis & measurement of DC & AC cir; lab report writing. (Grade Only)
Prerequisites/Corequisites: Course Completion or Current Enrollment in ELEC 60
Recommended:
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree: Area
CSU GE: Transfer Area

Effective: Inactive:
Effective: Inactive:

IGETC: Transfer Area

Effective: Inactive:

CSU Transfer: Effective:

Inactive:

UC Transfer: Effective:

Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

The student will be able to:

1. analyze resistance measurements using a VTVM.
2. construct circuits following a schematic diagram.
3. evaluate current through different parts of an electrical circuit using an ammeter.
4. evaluate voltage across different points in an electrical circuit using a voltmeter.
5. use an oscilloscope to compare/contrast DC and AC.
6. assemble lab results using data tables, schematics, and graphs as appropriate.
7. organize and prepare lab results through written observations.

Topics and Scope:

1. Resistance measurement (VTVM).
2. Circuit connections - use of a springboard.
3. Meter reading.
4. Meter connections (in circuit).
5. Lab report writing.
6. Oscilloscope fundamentals.
7. Comparison of theoretical (through computation) and measured results

Assignment:

Lab Reports:

1. Resistance measurement.
2. Ohm's Law.
3. Series circuits.
4. Parallel circuits.
5. Series-parallel circuits.
6. Internal resistance.
7. Maximum power transfer.

8. Voltage dividers.
9. RC time constant.
10. Oscilloscope measurements.
11. Series RC (AC).
12. Series RL (AC).
13. Series RLC (AC).

Hands-on Tests

1. Series circuits and parallel circuits.
2. Kirchhoff's Law.

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.

Lab reports

Writing
10 - 15%

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

Lab reports

Problem solving
70 - 80%

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

None

Skill Demonstrations
0 - 0%

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

None

Exams
0 - 0%

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

HANDS-ON (MANIPULATIVE) TESTS.

Other Category
5 - 15%

Representative Textbooks and Materials:

Experiments in Basic Electronics, 5th ed., Glencoe-McGraw Hill, 2001.