

**ELEC 70BL Course Outline as of Fall 2009****CATALOG INFORMATION**

Dept and Nbr: ELEC 70BL Title: ALT CURR/CONST LAB

Full Title: Alternating Current &amp; Electronic Construction Lab

Last Reviewed: 11/5/1997

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	2.00	17.5	Lab Scheduled	35.00
		Contact DHR	1.00		Contact DHR	17.50
		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:**

Measurement and analysis of AC circuits. Familiarization and operation of an oscilloscope chassis assembly including schematic reading and chassis wiring.

**Prerequisites/Corequisites:**

Course Completion of ELEC 70AL and Concurrent Enrollment in ELEC 70B

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

Description: Measurement & analysis of AC circuits. Familiarization & operation of an oscilloscope chassis assembly incl schematic reading & chassis wiring. (Grade Only)

Prerequisites/Corequisites: Course Completion of ELEC 70AL and Concurrent Enrollment in ELEC 70B

Recommended:

Limits on Enrollment:

Transfer Credit:

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

**ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

**COURSE CONTENT**

**Outcomes and Objectives:**

The student will be able to:

1. use an oscilloscope to measure AC and DC.
2. document lab results using data tables, schematics, and graphs as appropriate.
3. evaluate lab results through written observations.
4. assemble a chassis by installing components, hardware, and connectors.
5. wire a chassis according to written procedures and a schematic diagram.

**Topics and Scope:**

1. Oscilloscope fundamentals.
2. Comparison of theoretical versus measured results.
3. Lab report writing.
4. Chassis assembly.
5. Chassis wiring procedures.

**Assignment:**

Lab Reports:

1. Loaded and unloaded voltage dividers.
2. Capacitors & RC time constants.
3. Oscilloscope measurements.
4. Maximum AC power transfer.
5. Capacitor action in a series circuit.
6. Series RL circuits.
7. Series RLC circuits.
8. Series resonance.
9. Parallel resonance.

## Construction Lab Exercises

1. Common Electronic Hardware and Chassis Assembly.
2. Primary Circuit Wiring.
3. Latching Relay Wiring
4. Low Voltage AC Source and IC Regulator Wiring.
5. Rotary Switch and Edge Connector Wiring.
6. Wire Wrapping Test Card Wiring.

### 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 problem solving assessments 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.

Lab reports

Problem solving  
40 - 70%

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

Class performances

Skill Demonstrations  
30 - 60%

**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.

None

Other Category  
0 - 0%

### Representative Textbooks and Materials:

06.01.09 CRC approved inactivation 4/27/09. mpuha