

Last updated: 11/99

San Bernardino Valley College

Course Outline for ELECTR 222
SPECIAL PROBLEMS IN ELECTRONICS I

I. CATALOG DESCRIPTION:

Department: Electricity/Electronics

ELECTR 222: Special Problems in Electronics I

3 hours laboratory = 1 unit

Course Description: Assigned problems involving laboratory work for selected students who are interested in furthering their knowledge of electronics on an independent study basis. Students are required to devote three hours per week to their project throughout the semester.

Schedule Description: Assigned problems involving laboratory work for selected students who are interested in furthering their knowledge of electronics on an independent study basis. Students are required to devote three hours per week to their project throughout the semester.

Prerequisite: ELECTR 116 or equivalent. Discuss project with an instructor prior to registration.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: One

III. EXPECTED OUTCOMES FOR STUDENTS:

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

- A. Gain confidence, self-esteem, knowledge, and organizational structure from doing an independent study.
- B. Explain a technical project.
- C. Draw a project plan, objective, schematic, purpose, etc.
- D. Construct the electronics project.
- E. Define the problems with the project.
- F. Identify the applications of the project.
- G. Record and summarize all of the above.

IV. CONTENT:

The course content of each independent study will vary according to the contract agreement between the student and the instructor.

V. METHODS OF INSTRUCTION:

Methods of instruction will vary from instructor to instructor but may include:

- A. Guidance
- B. Support
- C. Suggestion

VI. TYPICAL ASSIGNMENTS:

Typical assignments will vary from instructor to instructor but may include:

- A. Design and build an alarm system.
- B. Design and build computers from the mother board up.
- C. Develop a wiring diagram for a home or home addition and wire it.

VII. EVALUATION(S):

A. Methods of evaluation will vary from instructor to instructor but may include:

- 1. The integrity and neatness of their project
- 2. Professionalism
- 3. The number of hours logged
- 4. The summary report (graded on content and spelling)

B. Frequency of evaluation will vary from instructor to instructor but may include:

- 1. Minimum of one project
- 2. Minimum of one report

VIII. TYPICAL TEXT(S):

None

IX. OTHER SUPPLIES REQUIRED OF STUDENTS:

Each student must discuss their project with the instructor prior to registration to determine the course materials required.

**Content Review Form
PREREQUISITE COURSE**

Target Course: ELECTR 222: Special Problems in Electronics I

Prerequisite Course: ELECTR 116: Alternating Current Circuit Laboratory

Instructions:

1. List exit competencies (skills) from Prerequisite Course. These skills are listed in the “Student Outcomes” section of the Course Outline (“upon completion of the course, the student should be able to...”)
2. Indicate which of the listed exit competencies (skills) are necessary entry skills needed for success in the target course. Mark with an “X” each needed skill.
3. Indicate the degree of importance of each needed entry skill for course success, using the following rating scale:

1=Critical 2=Very Helpful 3=Desirable

Skills Analysis

Exit Skills in Prerequisite Course	Entry Skills Needed for Success in Target Course (Mark with an X if needed.)	Degree of Importance (Rate 1 – 3)
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1. Explain the oscilloscopes operation and controls and be able to use it to measure voltage and time.	X	1
2. Use the function generators operation and controls.	X	
3. Explain the layout of a QT board and be able to construct circuits on it.	X	1
4. Use a multimeter to measure voltage, check for continuity, and verify polarity.	X	1
5. Describe electrical safety procedures.	X	1
		1