

**Los Angeles Valley College
Course Level Student Learning Outcomes (SLO)**

Course Name and Number: Mathematics of Electronics I: EL-10

Course Objectives: (List the course objectives as they appear in the course outline of record.)

Use of algebra, scientific notation, electrical units, equations, graphs, and vectors in solving electronic circuit problems.

Explain common techniques of algebraic operations in order to meet the graduation requirements in analytical thinking.

Explain the elements of mathematical language and the fundamentals, abstractions, and generalizations necessary as groundwork for continued progress in mathematics.

Explain the use of mathematics as a tool in the solution of electronic and technology related problems.

Establish 1–2 course level student learning outcomes and indicate how each SLO will be assessed.

Course Level Student Learning Outcome	Assessment Measure
Use basic algebra and similar mathematical principles in the analysis of simple, series, parallel and complex DC electronic circuits.	Using standard test procedures, the student will demonstrate the ability to use algebra and related mathematical principles to analyze the following types of DC electronic circuits: <ul style="list-style-type: none"> • Simple circuits with one voltage source, one path for current flow, and one load. • Series circuits that act to divide the source voltage. • Parallel circuits that act to divide the source current. • Complex circuits that both divide the source voltage and the source current.
Use basic algebra and related mathematical principles in the analysis of complex AC electronic circuits composed of resistors capacitors, inductors diodes, and transistors.	Using standard test procedures, the student will demonstrate the ability to use algebra and related mathematical principles to analyze the following types of AC electronic circuits: <ul style="list-style-type: none"> • AC circuits with RMS, average, and peak values.

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| | <ul style="list-style-type: none">• AC circuits with frequency, cycle, and period values.• AC circuits with low- and high-pass filters.• AC circuits with band-pass and band-stop filters.• RC circuits.• RL circuits.• RLC circuits.• RL and RC integrator circuits.• RL and RC differentiator circuits.• Polyphase power circuits. |
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