

# Electronics -- Anderson

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## **Electronics I**

**Grades:** 10, 11, 12

**Prerequisite:** Algebra I

**Duration:** 1 year

This course explores the fields of electronics and computers. It includes circuit components, Ohm's Law, basic DC and AC circuits, an introduction to power supplies, transistor and integrated circuit amplifiers, how to read schematics, and how to interpret circuits. Laboratory experiments cover these topics and verify lecture theory. The laboratory also introduces measurement techniques using a multimeter, function generator, oscilloscope, and computer operation using circuit analysis software.

## **Electronics 2**

**Grades:** 10, 11, 12

**Prerequisite:** Algebra I, Electronics I

**Duration:** 1 year

This course reinforces electrical principles gained in Electronics I. Students understand basic electrical and electronic terminology. Analyze simple circuitry using basic laws as Ohm's and Kirchhoff's laws of electricity. Identify basic electronics components and use them to construct simple projects. Distinguish between electrical energy and power. Predict the behavior of simple transient circuits and filters. Use computers in order to build and analyze virtual electronic circuits. Construct circuits to breadboard and prototype stages.

## **Electronics 3**

**Grades:** 11, 12

**Prerequisite:** Algebra I, Electronics 2

**Duration:** 1 year

In Electronics 3 students demonstrate their advanced knowledge of electrical and computer principles. Students expand on Fundamentals of Electronics and Electronics 1 with an emphasis on repair of electronic devices. Students also create a final product beyond the breadboard and prototype stage, creating a realized circuit board and functional electronic device.

## **Electronics Internship**

**Grades:** 12

**Prerequisite:** Electronics 1, 2 and 3, Passing score on the Arizona Electronics Technologies Test

**Duration:** 1 year

In Electronics Internship students demonstrate their advanced knowledge of electrical and computer principles. Students expand on Electronics with an emphasis on repair of electronic devices. Students also will work with computer services and the instructor to repair a myriad of electrical and computer problems in real time as needed.