

Tech Engineering

Instructor: Andrea Covarrubias
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Objective: To develop a well-rounded understanding of the nature of electricity, electrical components, circuitry, and schematics, and to apply this knowledge to programming and cooperative engineering projects.

Syllabus:

Fall 2024

INTRODUCTION -

Week 1 (Aug 26-30) - **Introduction**. What is electricity? Demonstration of projects. Safety. Does it conduct?

Week 2 (Sep 2-6) - **Electricity**. Make an electromagnet. Make a generator. Make a battery. Anode and Cathode.

Week 3 (Sep 9-13) - **Circuits**. LEDs. Resisters. LED crafts. Circuit symbols.

Week 4 (Sep 16-20) - **Circuits**. Advanced Circuit Journals Intro.

Week 5 (Sep 23-27) - **Engineering**. Soldering safety and practice.

Week 6 (Sep 30- Oct 4) - **Engineering**. Soldering practice.

Week 7 (Oct 7-11) - **Engineering**. Soldering a simple flashlight.

Fall Break Oct 14-18

APPLICATION -

Week 8 (Oct 21-25) - **Circuits and Engineering**. Soldering Circuit Stickers. Advanced Circuit Journals.

Week 9 (Oct 28 - Nov 1) - **Circuits and Engineering**. Soldering Circuit Stickers. Advanced Circuit Journals.

Week 10 (Nov 4-8) - **Engineering**. Arduino. Ohm's Law.

Week 11 (Nov 11-15) - **Engineering**. Arduino. Programming a Traffic Light.

Week 12 (Nov 18-22) - **Engineering**. Arduino. Programming a Crosswalk.

Thanksgiving Break Nov 25-29

CHALLENGE -

Week 3 (Dec 2-6) - **Engineering**. Team Project - Make something that moves on its own using available parts.

Week 14 (Dec 9-11) - **Engineering**. Team Projects.

Week 15 (Dec 16-20) - **Engineering**. Team Projects.