Tech Engineering Syllabus
Geek Cred at HEC 25/26

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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 programing and cooperative engineering projects.*

Note: *The following is a detailed outline of the complete course. Activities are subject to change based on the needs of individual classes. E.g. Some classes will struggle with a subject, so we will take an extra week to achieve mastery.*

FALL SEMESTER

Week 1 (Aug 25-29) - What is electricity? *Demonstration of projects. Safety. Will it conduct?*
Week 2 (Sep 1-5) - What is a Magnet? *Metals, electromagnets, generators*
Week 3 (Sep 8-12) - Make an electromagnet
Week 4 (Sep 15-19) -Circuit Journals
Week 5 (Sep 22-26) - Circuit Journals
Week 6 (Sep 29-Oct 3) - Circuit Journals
Week 7 (Oct 6-10) - Circuit Journals
Fall Break Oct 13-17
Week 8 (Oct 20-24) - LED Spiders; Introduction to soldering
Week 9 (Oct 27-31) - Soldering: wire repair
Week 10 (Nov 3-7) - Soldering: joint practice
Week 11 (Nov 10-14) - Soldering: bugs
Week 12 (Nov 17-21) - Soldering: bugs
Thanksgiving Break Nov 24-28
Week 3 (Dec 1-5) - Breadboards Speedrun
Week 14 (Dec 8-12) - Advanced Breadboards
Week 15 (Dec 15-19) - Advanced Breadboards

SPRING SEMESTER

Week 1 (Jan 12-16) - Review and Experiments: Make a battery
Week 2 (Jan 19-21) - Review and Experiments: Electromagnetic spectrum
Week 3 (Jan 26-30) - Advanced Circuit Journals
Week 4 (Feb 2-6) - Advanced Circuit Journals
Week 5 (Feb 9-13) - Advanced Circuit Journals
Winter Break Feb 16-20
Week 6 (Feb 23-27) - Soldering review: wire repair
Week 7 (Mar 2-6) - Soldering: joint practice
Week 8 (Mar 9-13) - Soldering kits
Week 9 (Mar 16-20) - Soldering kits
Week 10 (Mar 23-27) - Soldering kits
Spring Break Mar 30-Apr 10
Week 11 (Apr 13-17) - Soldering kits
Week 12 (Apr 20-24) - Soldering kits
Week 3 (Apr 27-May1) - Breadboards Review
Week 14 (May 4-8) - Arduino traffic light
Week 15 (May 11-15) - Arduino traffic light
Week 16 (May 18-22) - Arduino traffic light