Syllabus : ***Robotics, Engineering & Electronics*** 2024-25

Wednesdays 2:00pm - Library

Week	Description
1	In Class: Introductions to Robotics.. In Class Demo. Blindfold Robotics Challenge. Homework: none
2	In Class: Introduction to Engineering: vocabulary definitions, in class quiz. Teach about fasteners & joint connectors… Homework: none
3	In Class: Review Engineering vocabulary & fasteners. Introduction to building robots. In class exercise – build a robot wheel and support joints. Homework: none
4	In Class: Overview about Nanorobots & Artificial Intelligence. Begin teaching the basics of Electronics: Electrons, energy & electricity, electrons, volts & voltage & current, resistance, Ohms Law + equation & short video. In class circuits fun Kahoot quiz. Homework: none
5	In Class: Review Circuits with class questions. Introduce DC Electric Motors (with short video), Learn about Bread Board & building circuits, importance of resistors! Also learn about L.E.D.(s)… Experiment Time: Electrons flowing through motors… Homework: none
6	In Class: Review Circuits & Electronics with class questions (LED & resistors). Expand electronics knowledge with Capacitors & power supplies. Homework: none
7	In Class: Review Capacitors, Resistors & LED's… Introduce soldering (watch short video), Expand our bread board & Circuits knowledge. Homework: none
8	In Class: Review… Introduce fundamentals of computers as machines, and basic syntax. Flow Chart example… (time permitting) -> build circuit(s) on bread board. Expand wiring knowledge beyond series circuit to parallel circuits. Homework: none

Students are invited on a field trip to the USF Engineering Expo – 02/2025 (TBD)

Welcome Robotics Electronics & Engineering Students

Trinity is a great school, and we are glad you have selected our Robotics Electronics & Engineering class for your schedule. We have seen the many benefits of Technology help students to succeed. **Learning builds confidence!**

Our class will introduce you to the wonderful world of robotics. We will begin learning circuits and electronics, followed by a segment of engineering where we will learn about forces and build a truss bridge. Later we will expand our knowledge building robotic parts and more through wiring circuits, software. Every class will have a hands on exercise where learning is fun. Occasionally we will have a fun kahoot and other special events.

Our goal is to spark a love for technology!

Instructor: Coach Arthur Alton brings 30+ years of both Software Engineering experience and church youth leadership. Leading Children's Church, Missions trips, VBS, Summer Camps, soccer, and more. **He has a passion to encourage our next generation of leaders** and Trinity technology instructor since 2017.

Our class meets Wednesdays 2:00pm in the Library.

Every class will have a short lecture & demonstration, hands on exercise(s) & downloads, sometimes fun Kahoot, & more. If you miss a week or would like to review the lecture notes, downloads are available:

https://www.alton4chess.com/trinity-robotics.html

You & your student is invited to join us on a field trip to the USF Engineering EXPO in February 2025, specific Saturday date to be determined.

If you have any questions, please email me at:
Arthur@safecs.com