CTE Academy

Engineering & Robotics

Introduction to Robotics – CTE-3120 – 1 Credit

Students will study robotics as they use feedback from sensors, applied mathematics and measurement to code their robot to navigate in its environment. Students will complete multiple challenges involving guided research, problem solving, teamwork and an Engineer's Notebook.

Introduction to Engineering Design – CTE-3010 – 1 Credit

Students use an engineering design process to improve existing products and invent new products that will eventually be manufactured or produced. Using real world, sophisticated three-dimensional modeling software, students communicate the details of the products and will have the opportunity to create prototypes using our 3-D printer.

Principles of Engineering – CTE-3020 – 1 Credit

Strongly Recommended: Completed Geometry

Students will learn about major engineering concepts encountered in a college engineering curriculum and apply their knowledge of engineering concepts as they tackle real-world engineering design problems. Students will conduct destructive testing while learning about material properties, design and build truss systems and design automated systems with VEX Robotics.

Digital Electronics – CTE-3030 – 1 Credit

Prerequisite: Principles of Engineering

Digital electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras, and high-definition televisions. Students design circuits to solve problems, export their designs to a printed circuit auto-routing program that generates printed circuit boards, and use appropriate components to build their designs.

Computer Integrated Manufacturing – CTE-3070 – 1 Credit

Prerequisite: Principles of Engineering

Students will design and implement complex automation solutions with robotics. Students will design automated systems for manufacturing large scale quantities. Integrating and coding computer and robotic systems will lead students to design solutions in an automated manufacturing setting.