Automation and Robotics

Rationale

The student will find their natural curiosity and imagination engaged in creative problem solving. The Gateway To Technology program is a strong foundation for further STEM learning in high school and beyond, challenging the student to solve real-world problems. Using the same advanced software and tools as the world's leading companies, the student applies principles of math, science, technology, and engineering to their everyday lives.

Course Description

The student in Automation and Robotics trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. The student uses the VEX Robotics platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms.

Course Objectives

1. The student will define automation and robotics and describe their purposes.

2. The student will research the history and future of automation and robotics and summarize their impact on society.

3. The student will use equations to solve real-world problems.

4. The student will understand and apply mechanics to solve real-world problems.

5. The student will understand and design a variety of systems.

6. The student will make predictions and problem solve potential malfunctions.

7. The student will research careers related to the automation and robotics fields.

8. The student will read and write robot control software to automate their mechanical designs.

BOE June 14, 2018