

## ROBOTICS 2

### ***Course Description***

*The second in a sequence of courses that prepares individuals with the lab based, hands-on curriculum combining electrical, mechanical and engineering principles. Students will learn to design, build, program, and control robotic devices. A rigorous study and application of electrical concepts will include: sources of energy; electrical safety; and the use and identification of basic electronic components, sensors and actuators. Engineering concepts will include: chemical design, prototype development, design testing, programming, and proper engineering documentation.*

### **Strands**

1. Students will follow safety practices.
2. Students will identify the ethical and social impacts of robotics and automation.
3. Students will report on educational pathways and career opportunities in robotics and automation.
4. Students will identify, understand, and utilize mechanical advantage and efficiency to perform robotic tasks.
5. Students will create program code for robots and automated systems.
6. Students will practice basic robot operations using a teach pendant.
7. Students will be familiar with and use preventive maintenance practices.

