



EMPLOYABILITY PROFILE

Robotics Automation



Industry-Based Skill Standards

NA = Not Applicable

1 = Introduced

2 = Developing

3 = Proficient

4 = Mastery

	9th	10th	11th	12th
Workplace Safety				
Demonstrates the use and care of appropriate personal protective equipment, including safety glasses, face shields, respirators, and hard hats.				
Computation, Formulas, Metric Measurement				
Performs calculations involving metric units of measurement for area, volume, mass, and weight.				
Mechanical Concepts				
Designs, builds, and demonstrates the six simple machines (lever, inclined plane, wheel and axle, screw, wedge, and pulley) as their application to robotics.				
Electrical Concepts				
Calculates voltage, amperage, and resistance using Ohms Law.				
Computer Hardware				
Describes and demonstrates the use of computers to manipulate a robotic or automated system and describe the fundamentals of computer numeric control (CNC).				
Robotic Systems				
Uses a VEX Robotic system equipment to program and manipulate a robot, using a teach pendant and a PC host computer.				

	9th	10th	11th	12th
Robotic Systems				
Demonstrates FANUC Robotics System equipment to safely power up the robot from a complete shutdown and perform a function.				
Programming				
Writes programs formatted based on the conventions of a specific language to include Python and C++.				
Engineering Design				
Designs, tests, evaluates and refines a robotic or automated system to perform specified operations. ensuring quality, efficiency, and manufacturability of the final product.				
Digital Electronics				
Assembles, uses and troubleshoots all components of robotic and automated systems.				
2D and 3D Design				
Creates hand drawn designs and schematics. Translates a hand drawn design to a 2D and 3D CAD program to create designs.				
Career Development Portfolio				
Creates a career development portfolio using appropriate writing skills to create cover letter, resumes, samples of work, and career plan to be used in the job seeking process.				

Industry Certifications / Credential / Endorsement	yes	no

Articulated College Credit or Advanced Standing	credits
Total	

