

Blueprint for Instruction and Assessment

Automation and Robotics

14.4201.00



Domain	Related Standards	Instructional Time
Domain 1 Industrial Applications	STANDARD 3.0 USE SCHEMATICS, TECHNICAL DRAWINGS, MATHEMATICAL PROCESSES, AND MEASUREMENT TECHNIQUES STANDARD 11.0 PERFORM DRAFTING TASKS USING COMPUTER-AIDED DRAFTING (CAD) STANDARD 12.0 EXAMINE TYPES AND TASKS PERFORMED BY ROBOTIC SYSTEMS STANDARD 15.0 EXAMINE COMMON MANUFACTURING PROCESSES IN AUTOMATION STANDARD 16.0 DESIGN AN AUTOMATION SYSTEM	25 - 35%
Domain 2 Electrical Applications	STANDARD 4.0 ANALYZE AND APPLY FOUNDATIONAL CONCEPTS OR ELECTRICAL AND ELECTRONIC CIRCUITS STANDARD 5.0 IMPLEMENT AND TEST CONTROL CIRCUITS USING DIODES AND SEMICONDUCTOR COMPONENTS STANDARD 6.0 BUILD, MEASURE, AND TEST ELECTRICAL AND ELECTRONIC CIRCUITS	25 - 30%
Domain 3 Mechanical Properties	STANDARD 7.0 ANALYZE FLUID POWER SYSTEMS INCLUDING HYDRAULICS AND PNEUMATICS STANDARD 9.0 DESCRIBE THE OPERATION AND USE OF VARIOUS ELECTRICAL MOTORS STANDARD 10.0 PERFORM MECHANICAL SYSTEMS LINKAGES TASKS	20 - 25%
Domain 4 Automation & Programming	STANDARD 8.0 PROGRAM AND TEST PLC (PROGRAMMABLE LOGIC CONTROLLER) SYSTEMS STANDARD 13.0 EXAMINE DATA COMMUNICATIONS METHODOLOGIES STANDARD 14.0 UTILIZE SENSOR SOLUTIONS	10 - 15%
Domain 5 Knowledge and Safety	STANDARD 1.0 EXAMINE THE INTERCONNECTION OF AUTOMATION AND ROBOTICS AND THE IMPACT OF NEW TECHNOLOGIES ON BOTH STANDARD 2.0 MAINTAIN A SAFE WORK ENVIRONMENT	5 - 10%

Content domains are knowledge, skills, and abilities to be taught and assessed. They illustrate the relationship among technical standards, instructional time, and student success on the Technical Skills Assessment. This blueprint corresponds with the Technical Standards reviewed on July 13, 2025.