LAUNCH

APPRENTICESHIP PROGRAM OUTLINE

INDUSTRIAL AUTOMATION & MECHATRONICS TECHNICIAN
WORK PROCESSES & SKILLS

The term of the apprenticeship will be based on the apprentice's completion and on-the-job demonstration of the professional competencies outlined in the work processes. Apprentices must demonstrate competency in a minimum of **87.5%** of the listed competencies prior to completing the program. If training employers identify specific competencies that cannot be tested on the job, the apprenticeship committee will approve and provide instruction and testing that ensures the competencies have been met. Registered Apprentices will perform work and are required to demonstrate competencies in the following skills:

Work Processes & Skills

- Study blueprints, schematics, manuals, or other specifications to determine installation procedures.
- Repair or adjust equipment, machines, or defective components, replacing worn parts, such as gaskets or seals in watertight electrical equipment.
- Maintain equipment logs that record performance problems, repairs, calibrations, or tests.
- Inspect components of industrial equipment for accurate assembly and installation or for defects, such as loose connections or frayed wires.
- Perform scheduled preventive maintenance tasks, such as checking, cleaning, or repairing equipment, to detect and prevent problems.
- Calibrate testing instruments and installed or repaired equipment to prescribed specifications.
- Examine work orders and converse with equipment operators to detect equipment problems and to ascertain whether mechanical or human errors contributed to the problems.
- Set up and test industrial equipment to ensure that it functions properly.
- Operate equipment to demonstrate proper use or to analyze malfunctions.
- Maintain inventory of spare parts.

- Consult with customers, supervisors, or engineers to plan layout of equipment or to resolve problems in system operation or maintenance.
- Enter information into computer to copy program or to draw, modify, or store schematics, applying knowledge of software package used.
- Install repaired equipment in various settings, such as industrial or military establishments.
- Develop or modify industrial electronic devices, circuits, or equipment, according to available specifications.
- Send defective units to the manufacturer or to a specialized repair shop for repair.
- Determine feasibility of using standardized equipment or develop specifications for equipment required to perform additional functions.
- Advise management regarding customer satisfaction, product performance, or suggestions for product improvements.
- Test faulty equipment to diagnose malfunctions, using test equipment or software, and applying knowledge of the functional operation of electronic units and systems.
- Coordinate efforts with other workers involved in installing or maintaining equipment or components.

REGISTERED WITH:

DIVISION OF
APPRENTICESHIP STANDARDS
DAS
STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS

DEPARTMENT OF LABOR
UNITED STATES OF AMERICA

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Apprentices must Complete Coursework Aligned with Manufacturing and/or Machining Technology, Production Technician, and/or Engineering Technology pathways. Through consultation with the Apprenticeship Committee, the Local Education Agency, and the indenturing employer, apprentices will select an applicable program of study/course track and complete a minimum of **144 hours** of related instruction per year of apprenticeship. Prior applicable education and training will be credited towards completion of related education requirements and apprentices will be offered tracks advancing their technical aptitude in the profession.

Related Instruction Content May Include

TECHNICAL COMMUNICATIONS	54 HOURS
BLUEPRINT READING	54 HOURS
SURVEY OF ELECTRONICS	90 HOURS
OSHA STANDARDS FOR GENERAL INDUSTRY	18 HOURS
INDUSTRIAL WIRING AND CONTROLS	108 HOURS
PROGRAMMABLE LOGIC CONTROLLERS USING ALLEN BRADLEY PLC	90 HOURS
HYDRAULIC AND PNEUMATICS SYSTEMS	108 HOURS
MATH FOR AUTOMATION	54 HOURS
COOPERATIVE WORK EXPERIENCE (1-16 UNITS)	