

Industry 4.0 - Advanced Manufacturing Certification & Training

June 20 - July 15, 2022
8:00 am - 4:00 pm



Location:
Technical Employment Training, Inc.
194 N. Leland Norton Way
San Bernardino, CA 92408



APPLY NOW



- Free classes & training (valued at \$2,200)
- Open to adults (18 years and up)
- Networking with employers
- Resumé building & skill development
- Industry recognized certifications - Robotics Operator & Vision Sensors



Industry 4.0 in Manufacturing Jumpstart Program

Week 1: Introduction into Industry 4.0

- Basic knowledge of industry 4.0 definition, and history
- Technologies that drive industry 4.0 including challenges
- History of Quality assurance
- Supply Chain integration
- Internet and Ethernet history, definition, and functions
- The Internet of Things (IoT)
- Industrial Control Systems; Industrial Internet of Things; Big Data
- Automation And Software Technologies
- Virtual Reality, Augmented Reality, and Artificial Intelligence
- Maintenance 4.0
- Flexible Production
- Maturity Models for 4.0

Week 2: Fundamentals of Robotics with the MHJF

- Introduction to Computer-Aided Design (CAD) with SolidWorks
- Design using SolidWorks
- Identify several status symbols in the status display area
- Manually rotate all six axes of the robot
- Create a robot manipulation program (job) using the manual control in joint coordinate mode.
- Add steps to the job
- Modify the speed of the job steps
- Define and modify position variables
- Create a basic pick and place job by adding position variables
- Add input and output instruction to a job
- Manipulate the gripper
- Call a subroutine into your main job
- Add delays into the job
- Resolve the common movement alarm
- Modify the position level of motion instructions
- Apply precision level modifications to a job

Week 3: Machine Vision and Quality Control

- How Cameras work; Digitalization
- Analytical Tools
- Optics and Lighting Techniques
- Image Setup, Lighting, and Calibration
- Image Enhancements and Operations
- Filters and Noise Elimination
- Vision Systems and Manufacturing
- Deployment
- Setting Up an Emulator and Calibration
- Vision Tools and the Emulator
- Spreadsheet Logic
- Image Analysis with the Emulator
- Image Enhancements with the Emulator

Week 4: Testing for Certifications, Industry trip, Essential Skills

- Proctoring of the Yaskawa certification for Robotics Operator
- Proctoring of the Cognex certification for Vision Sensors
- In-person exposure to an advanced manufacturing machine shop
- Demonstrate effective verbal communication and conflict resolution skills
- Use the writing process to develop effective written communication skills