RoboVoTech

120-Hour Robotics & Automation Technician Syllabus

Hands-on AI, robotics, automation, and workforce training for Santa Rosa Beach, Walton County, 30A, and Northwest Florida.

Program

RoboVoTech 120-Hour AI-Augmented Robotics & Automation Technician Certificate

Primary outcome

Students build technician-ready evidence in safety discipline, robot operation, ROS 2 and simulation, hardware and controls, AI perception and navigation, edge deployment, troubleshooting, documentation, and capstone handoff.

Audience

Students, career changers, AI and robotics beginners, workers, local workforce partners, employers, parents, schools, sponsors, and community organizations.

Prerequisites

No prior robotics or coding experience required.

Format

120 total hours. Recommended delivery combines online preparation, hands-on labs, project work, coaching, and capstone review.

Modules

1. Foundations & Safety Orientation: 20 hours over Weeks 1-2 covering program orientation, diagnostic baseline, technician math, electronics concepts, programming logic, and technician notebook habits.
2. Industrial Safety Certification: 16 hours over Weeks 3-4 covering OSHA 10 General Industry, PPE, robot-specific risk assessment, ISO 10218 awareness, and LOTO practical demonstration.
3. Robot Fundamentals & ROS 2 Operations: 20 hours over Weeks 5-6 covering robot subsystems, ROS 2 nodes, topics, services, actions, parameters, launch files, TF frames, and Gazebo simulation troubleshooting.
4. Hardware Integration & PLCs: 16 hours over Weeks 7-8 covering sensor wiring, Arduino and Raspberry Pi basics, industrial communication, Modbus, PLC ladder logic, and robot-PLC

handshakes.

5. Computer Vision & Navigation: 16 hours over Weeks 9-10 covering camera calibration, OpenCV image processing, YOLO11 object detection, SLAM mapping, and Nav2 waypoint navigation.

6. Edge Deployment & MLOps: 8 hours in Week 11 covering Docker packaging, Jetson or edge deployment, fleet and OTA update awareness, and robotics model lifecycle management.

7. Capstone - Industry 4.0 Project: 24 hours including distributed prep for project selection, prototyping, integration, testing, documentation, demonstration, and final presentation.

Projects

- Sensor-driven robot activity
- Computer vision inspection demo
- Automation workflow
- AI dashboard or reporting prototype
- Robot control exercise
- Capstone prototype and presentation

Cohort dates

September 8 - November 30, 2026.

Tuition

Founding cohort tuition: $2,950 USD.

Location

Hands-on labs will be hosted in Santa Rosa Beach / Walton County, Florida. Accepted students receive the confirmed lab address before orientation.

Apply

Apply at https://robovotech.com/apply.