Industrial Networking Essentials

Course Overview

Introduce foundational networking concepts essential for modern industrial infrastructures, focusing on IT and OT integration. Prepare learners for entry-level careers in operational technology (OT), with practice using Cisco Packet Tracer 9.0.0, to simulate real-world scenarios with industrial devices.

Benefits

Equip your students with the confidence and skills needed to get started in connecting industrial devices. This curriculum, co-designed with industry experts, ensures learners gain relevant skills that meet current industry demands.

- ✓ Discover the benefits and key considerations of IT and OT integration.
- ✓ Teach fundamental networking concepts tailored for industrial environments.
- ✓ Understand Ethernet network communication and IP addressing.
- ✓ Explore key industrial protocols including, Ethernet/IP, PROFINET, and GOOSE.
- ✓ Build a simple, simulated Industrial Automation Control Systems (IACS) network using Cisco devices.

Course Details

Target Audience: High school, secondary, and post-secondary institutions (especially those with programs in industrial automation or the energy sector) and a general audience.

Estimated Time to Completion: 35 hours

Prerequisites: Basic computer skills, familiarity with operating systems, and Internet usage.

Course Delivery: Self-paced (exclusively through a participating academy) and Instructor-led

Learning Component Highlights:
- 16 learning modules
- 20 Cisco Packet Tracer activities
- 3 interactive labs
- 1 per-module Glossary of Terms
- 1 final exam

Course Recognitions: Digital badge

Recommended Next Course: Industrial IoT and Control Systems in Energy, Industrial IoT and Control Systems in Manufacturing

Requirements

- ASC Alignment: Recommended
- Instructor Training: Optional
- Physical Equipment: Not Required

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