



Managing Industrial Networks with Cisco Networking Technologies (IMINS)

COURSE OVERVIEW

Managing Industrial Networks with Cisco Networking Technologies (IMINS) is a lab-based course which helps students with the foundational skills needed for the management and administration of networked industrial control systems. The IMINS course, developed in conjunction with Rockwell Automation, helps plant administrators, control system engineers and traditional network engineers understand networking technologies that are needed in today's connected plants and enterprises. This course also helps you prepare for the Cisco Industrial Networking Specialist Certification exam (exam ID200-401) and qualify for the Cisco Industrial Networking Specialist certification.

This course is job-role specific and enables you to achieve competency and skills to configure, maintain, and troubleshoot industrial network systems while helping to ensure network availability, reliability, and Internet security throughout your company. Students will be exposed to multiple industrial network technologies as well as products from Cisco and other industrial suppliers including Rockwell Automation.

WHO WILL BENEFIT FROM THIS COURSE?

The primary audience for this course is as follows:

- IT and OT professionals that will be involved with the implementation, operation and support of networked industrial products and solutions for the following industries.
- Manufacturing
- Process control
- Oil and gas industry
- As well as other industries

PREREQUISITES

The knowledge and skills that you must have before attending this course include a college degree or non-degreed qualified technician with 2-3 years experience in industrial networks. Because of the hands-on nature of the course, you should be familiar with command line and web-based interfaces. Also, you should have a solid understanding of networking and industrial protocols which you can achieve through any of the following courses:

Cisco Electronic Learning & Training (ELT) located on the Cisco Learning Network website:

- Networking Fundamentals for Industrial Control Systems (INICS)
- Industrial Control Systems Fundamentals for Network Engineers (ICINS)



Rockwell Automation located on the Training Services website:

- Essentials of Industrial Networks for an OT Professional (CCP182)
- Essentials of Industrial Automation for an IT Professional (CCP810)

COURSE OBJECTIVES

Upon completing this course, the learner will be able to meet these overall objectives:

- Identify Cisco industrial networking solutions
- Describe Cisco Industrial Ethernet switches, Rockwell Automation Stratix switches, and Cisco Connected Grid switches and routers
- Interpret design and drawings
- Recognize zone and cell topologies
- Install industrial network components
- Deploy industrial network components
- Perform basic maintenance tasks on the network
- Troubleshoot network and control issues

COURSE OUTLINE

Module 1: Industrial Networking Solutions and Products

- Lesson 1: Describing Cisco Industry-Specific Solutions
- Lesson 2: Describing Industrial Networking Features
- Lesson 3: Describing Industrial Switching Platforms
- Lesson 4: Describing Industrial Routing Platforms
- Lesson 5: Describing Configuration and Management Tools
- Lesson 6: Module Summary

Module 2: Industrial Network Documentation and Deployment Considerations

- Lesson 1: Interpreting Network and Control Designs and Drawings
- Lesson 2: Describing Industrial Networking Deployment Considerations
- Lesson 3: Module Summary

Module 3: Installing Industrial Network Switches, Routers, and Cabling

- Lesson 1: Understanding Cabling Installation and Testing for Industrial Networks
- Lesson 2: Installing the Switch or Router
- Lesson 3: Module Summary

Module 4: Deploying Industrial Ethernet Devices

- Lesson 1: Configuring Initial Switch or Router Parameters
- Lesson 2: Configuring Layer 2 Switch Parameters
- Lesson 3: Configuring Layer 3 Switch Parameters
- Lesson 4: Configuring Industrial Ethernet
- Lesson 5: Installing End-Point Devices
- Lesson 6: Cyber Security
- Lesson 7: Module Summary



Module 5: Maintaining Industrial Ethernet Networks

- Lesson 1: Maintenance Tasks for Industrial Infrastructure Devices
- Lesson 2: Monitoring End-Device Operations
- Lesson 3: Working with Cisco Configuration Files and Software Images
- Lesson 4: Module Summary

Module 6: Troubleshooting Industrial Ethernet Networks

- Lesson 1: Monitoring System Status
- Lesson 2: Troubleshooting Layer 1
- Lesson 3: Troubleshooting Layer 2
- Lesson 4: Troubleshooting Layer 3
- Lesson 5: Basic Troubleshooting for Industrial Endpoints Overview
- Lesson 6: Describe Troubleshooting with Vendor Support Overview
- Lesson 7: Module Summary

Labs:

- Hardware Lab 1: Platform Discovery of Industrial Network Switches and Routers
- Hardware Lab 2: Interpreting Network and Control Designs and Drawings
- Hardware Lab 3: Configuring Initial Switch Parameters
- Hardware Lab 4: Configuring Layer 2 Switch Parameters
- Hardware Lab 5: Configuring IP and DHCP
- Hardware Lab 6: Configuring PTP
- Hardware Lab 7: Configuring CIP
- Hardware Lab 8: Configuring MODBUS TCP
- Hardware Lab 9: Configuring Switch Security
- Hardware Lab 10: Configuring SSH and HTTPS
- Hardware Lab 11: Maintaining Industrial Ethernet Switches
- Hardware Lab 12: Troubleshooting Layer 2 Network Issues
- Hardware Lab 13: Troubleshooting Layer 3 Network Issues
- Hardware Lab 14: Troubleshooting Control Issues

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Sunset Learning Institute (SLI) has been an innovative leader in developing and delivering authorized technical training since 1996. Our goal is to help our customers optimize their technology Investments by providing convenient, high quality technical training that our customers can rely on. We empower students to master their desired technologies for their unique environments.

What sets SLI apart is not only our immense selection of trainings options, but our convenient and consistent delivery system. No matter how complex your environment is or where you are located, SLI is sure to have a training solution that you can count on!

Premiere World Class Instruction Team

- All SLI instructors have a four-year technical degree, instructor level certifications and field consulting work experience
- Sunset Learning has won numerous Instructor Excellence and Instructor Quality Distinction awards since 2012

Enhanced Learning Experience

- The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

Convenient and Reliable Training Experience

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- All Sunset Learning Institute classes are guaranteed to run – you can count on us to deliver the training you need when you need it!

Outstanding Customer Service

- You will work with a dedicated account manager to suggest the optimal learning path for you and/or your team
- An enthusiastic student services team is available to answer any questions and ensure a quality training experience

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