

# IMINS (MANAGING INDUSTRIAL NETWORKS WITH CISCO NETWORKING TECHNOLOGIES) 1.3

---

## Objetivo

Upon completion of this course, you will be able to: Identify Cisco and Rockwell Automation industrial networking solutions Describe Cisco Industrial Ethernet switches, Allen-Bradley Stratix switches from Rockwell Automation, 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

## P blico Alvo

Control system engineers and Traditional network engineers

## Pr -Requisitos

It is recommended, but not required, to have the following skills and knowledge before attending this course: College degree or non-degreed qualified technician with two to three years' experience or equivalent industry experience Basic understanding of networking and industrial fundamentals or attend ELT to achieve that level: Networking Fundamentals for Industrial Control Systems (INICS) Control Systems Fundamentals for Industrial Networking (ICINS)

## Carga Hor ria

40 horas (5 dias).

## Conte do Program tico

### **Module 1: Industrial Networking Solutions and Products**

Lesson 1-1: Describing Cisco Industry-Specific Solutions  
Lesson 1-2: Describing Industrial Networking Features  
Lesson 1-3: Describing Industrial Switching Platforms  
Lesson 1-4: Describing Industrial Routing Platforms  
Lesson 1-5: Describing Configuration and Management Tools  
Lesson 1-6: Module Summary  
Lesson 1-7: Module Self-Check

### **Module 2: Industrial Network Documentation and Deployment Considerations**

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

Lesson 2-4: Module Self-Check

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

Lesson 3-1: Understanding Cabling Installation and Testing for Industrial Ethernet Networks

Lesson 3-2: Installing the Industrial Ethernet Switch or Router

Lesson 3-3: Module Summary

Lesson 3-4: Module Self-Check

### **Module 4: Deploying Industrial Ethernet Devices**

Lesson 4-1: Configuring Initial Industrial Ethernet Switch or Router Parameters

Lesson 4-2: Configuring Layer 2 Industrial Ethernet Switch Parameters

Lesson 4-3: Configuring Layer 3 Switch Parameters

Lesson 4-4: Configuring Industrial Ethernet

Lesson 4-5: Installing End-Point Devices

Lesson 4-6: Cyber Security for Networks

Lesson 4-7: Module Summary

Lesson 4-8: Module Self-Check

### **Module 5: Maintaining Industrial Ethernet Networks**

Lesson 5-1: Maintenance Tasks for Industrial Infrastructure Devices

Lesson 5-2: Monitoring End-Device Operations

Lesson 5-3: Working with Switch Configuration Files and Software Images

Lesson 5-4: Module Summary

Lesson 5-5: Module Self-Check

### **Module 6: Troubleshooting Industrial Ethernet Networks**

Lesson 6-1: Monitoring System Status

Lesson 6-2: Troubleshooting Layer 1

Lesson 6-3: Troubleshooting Layer 2

Lesson 6-4: Troubleshooting Layer 3

Lesson 6-5: Basic Troubleshooting for IACS Endpoints Overview

Lesson 6-6: Describe Troubleshooting with Vendor Support Overview

Lesson 6-7: Module Summary

Lesson 6-8: Module Self-Check

### **Lab Details:**

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