ICS/SCADA Cybersecurity – EC-Council

Course Outline

Module 1: Introduction to ICS/SCADA Network Defense

- IT Security Model
- ICS/SCADA Security Model

Module 2: TCP/IP 101

- Introduction and Overview
- Introducing TCP/IP Networks
- Internet RFCs and STDs
- TCP/IP Protocol Architecture
- Protocol Layering Concepts
- TCP/IP Layering
- Components of TCP/IP Networks
- ICS/SCADA Protocols

Module 3: Introduction to Hacking

- Review of the Hacking Process
- Hacking Methodology
- Intelligence Gathering
- Footprinting
- Scanning
- Enumeration
- Identify Vulnerabilities
- Exploitation
- Covering Tracks

Module 4: Vulnerability Management

- Challenges of Vulnerability Assessment
- System Vulnerabilities
- Desktop Vulnerabilities
- ICS/SCADA Vulnerabilities
- Interpreting Advisory Notices
- CVE
- ICS/SCADA Vulnerability Sites
- Life Cycle of a Vulnerability and Exploit
- Challenges of Zero-Day Vulnerability
- Exploitation of a Vulnerability
- Vulnerability Scanners

- ICS/SCADA Vulnerability Uniqueness
- Challenges of Vulnerability Management Within ICS/SCADA

Module 5: Standards and Regulations for Cybersecurity

- ISO 27001
- ICS/SCADA
- NERC CIP
- CFATS
- ISA99
- IEC 62443
- NIST SP 800-82

Module 6: Securing the ICS network

- Physical Security
- Establishing Policy – ISO Roadmap
- Securing the Protocols Unique to the ICS
- Performing a Vulnerability Assessment
- Selecting and Applying Controls to Mitigate Risk
- Monitoring
- Mitigating the Risk of Legacy Machines

Module 7: Bridging the Air Gap

- Do You Really Want to Do This?
- Advantages and Disadvantages
- Guard
- Data Diode
- Next Generation Firewalls

Module 8: Introduction to Intrusion Detection Systems (IDS) and Intrusion Prevention Systems (IPS)

- What IDS Can and Cannot Do
- Types IDS
- Network
- Host
- Network Node
- Advantages of IDS
- Limitations of IDS
- Stealthing the IDS
- Detecting Intrusions