

Level 3: Industry 4.0

Cyber Security

Since the introduction of the internet, more and more data is being transmitted and stored in “the cloud”. Industry 4.0 facilitates data exchange between people, machines, and companies. This means that critical and private data is being shared at all levels of industry. The protection of this data is one of the most critical factors for people and organizations. This course will give students the knowledge and skills needed to be able to ensure the protection of vital data.

Course Topics

- High Availability of Industrial Networks
- Data Corruption: Understanding the Risks & Consequences
- Preventing Cyber-Attacks
- Reset of Components, Switches, and Routers
- Managing Consequences: Data Analysis & Quality Control
- Human Factors: Passwords, Human Error, Sabotage

Core Competencies

- Ability to define secure network topologies
- Utilize code methods
- Define MAC and IP addresses and manage Ethernet-IP-communication
- Test connections of programming PC with controller and define address assignments
- Analyze data transfer to identify and minimize security risks
- Ability to handle the time synchronization of PLC

Equipment

Learning Factories and Labs Solutions

Festo's Cyber Physical Systems allow a wealth of cloud activity. This gives students a real-world environment to study data exchange and learn to protect this data. The CP Systems include the exchange of data for:

- Customer Orders
- Material and Production Costs
- Business Intelligence
- Cycle times
- Smart sensor data
- Leadtimes

