Fundamentals of PLC—Siemens

FESTO

Level 1

To work efficiently with a PLC, it's essential to be well-versed in the specific programming environment and languages. This certification is designed to meet that need. Students will gain hands-on experience with high-end products from Siemens, allowing them to work directly with industrial control equipment. Realistic examples are used to motivate students and help them develop the skills necessary to operate PLC-controlled systems, which are prevalent in our daily lives. This certification is derived from extensive industry based content to reflect the key topics and competencies building a foundation of PLC understanding.

Industry Recognized Certification Topics

- Control relays
- Communication Protocols
- Programming techniques
- HMI Integration
- Networks
- Basic design and operation
- PLC sections: input, logic and output
- Input types: discrete, analog and digital
- Memory types: ROM and RAM
- Logic processing: addressing and scanning
- Output types: discrete, analog and digital
- Numbering systems: decimal, binary, octal, hex and ASCII
- Boolean functions: identity, AND/OR/NOT circuits
- Basic troubleshooting: using a PLC as a troubleshooting tool

Industry Recognized Certification Competencies

- Explain the operation and design of various relays
- State/explain the three PLC sections
- State/explain the three types of input devices
- State/explain the types of memory in a PLC
- Explain different types of PLC addressing
- State/explain the three types of output devices
- Convert different numbering systems used in a PLC
- Explain various Boolean gates/truth tables
- Demonstrate how to use a PLC for troubleshooting to resolve problems quicker
- Understand and apply communication protocols
- Integrate and configure HMI's
- Understand PLC Networks

Units - 6 / Labs - 5 / Projects - 1