C-211 Industry 4.0 Total Productive Maintenance Management Course Credential

About this course

This SACA certified C-211 Industry 4.0 Total Productive Maintenance Management course prepares students for a career in an industrial automated 4.0 industry environment. Participants are taught to perform maintenance in a production environment where Industry 4.0 technology is used.

Modules to be covered

1. Standard 211.1 Identify elements of a Total Productive Maintenance (TPM)
   - Performance Indicators:
     - Identify elements of Total Productive Maintenance
   - Knowledge Indicators:
     - Define Total Productive Maintenance (TPM) and explain its benefits
     - Define autonomous maintenance and explain its benefits

2. Standard 211.2 Optimize overall equipment effectiveness (OEE)
   - Performance Indicators:
     - Calculate Overall Equipment Effectiveness (OEE)
     - Optimize OEE to meet production requirements
   - Knowledge Indicators:
     - Define Overall Equipment Effectiveness (OEE)
     - Describe methods of eliminating downtime

3. Standard 211.3 Perform planned and unplanned maintenance operations
   - Performance Indicators:
     - Perform planned maintenance operation

- o Perform unplanned maintenance operation
- o Record information in maintenance records
- o Interpret a maintenance work order
- o Use approved procedures to notify production personnel of maintenance pending and completed
- Knowledge Indicators:
  - o Describe the steps of planned and unplanned maintenance
  - o Describe types and criticality of planned and unplanned maintenance
  - o Define a maintenance work order and explain its use

4. Standard 211.4 Perform preventive maintenance operations
  - Performance Indicators:
    - o Perform preventive maintenance operations
    - o Record information in preventive maintenance records
    - o Clean a machine
    - o Identify sources and eliminate contamination
  - Knowledge Indicators:
    - o Define preventive maintenance
    - o Describe how contamination is quantified
    - o Describe the requirements for safe machine cleaning

5. Standard 211.5 Identify types of predictive maintenance operations
  - Performance Indicators:
    - o Identify types of predictive maintenance operations
  - Knowledge Indicators:
    - o Describe types of predictive maintenance and their applications
    - o Describe applications of predictive analytics

6. Standard 211.6 Configure and use a cloud-based maintenance management system
  - Performance Indicators:

- - o Configure and use a cloud-based maintenance management system
    - o Configure teams in a cloud-based maintenance management system
    - o Configure escalation in a cloud-based maintenance management system
    - o Analyze computer-based maintenance records
    - o Initiate and respond to cloud-based maintenance notifications
  - Knowledge Indicators:
    - o Describe the operation of a cloud-based maintenance management system
    - o Describe the advantages of features of a cloud-based maintenance management system

7. Standard 211.7 Use systems troubleshooting techniques to locate root cause
   - Performance Indicators:
     - o Use 5 senses, observation, and interview techniques to collect information about a machine malfunction
     - o Use 5 whys to identify root causes of a machine malfunction
     - o Use maintenance records and other machine documentation to analyze a machine malfunction
     - o Use troubleshooting flow charts to isolate a malfunction cause
     - o Isolate machine malfunctions to a sub system
     - o Use systems troubleshooting methodologies to locate sources of a malfunction
   - Knowledge Indicators:
     - o Describe types of systems troubleshooting methodologies
     - o Describe how maintenance records can be used to troubleshoot machine problems