

CCC Program Outcomes

Welding Technology

Upon successful completion of the technical education requirements and the suggested program requirements for a Certificate the student shall:

Program Outcomes

- 1 Develop knowledge of safe work practices in the field of welding.
- 2 Set up welding equipment using proper polarity, amperage setting, voltage setting (if applicable), and electrode for welding process being performed.
- 3 Properly set up and use oxyfuel cutting and welding equipment.
- 4 Produce welds able to meet visual acceptance criteria of power and process piping codes.
- 5 Demonstrate knowledge of dimensioning, piping symbols and template development.
- 6 Successfully calculate take offs, find angles and use squares and levels for fitting and tacking.
- 7 Layout, cut, and prepare specimens for guided bend test.

| Course # | Course Title | PO - 1 | PO - 2 | PO - 3 | PO - 4 | PO - 5 | PO - 6 | PO - 7 |
|-----------------|-----------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| WELD-110 | Safety Orientation (OSHA 10) | | | | | | | |
| | Identify and describe OSHA safety standards. | X | | | | | | |
| WELD-111 | Oxy Acetylene and Safety | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to oxyacetylene gas welding | X | | | | | | |
| | Identify oxyacetylene gas welding procedures and performance | | | X | X | | | |
| | Identify oxy acetylene gas cutting procedures and performance | | | X | | | | |
| WELD-120 | Shielded Metal Arc Welding I | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to shielded metal arc welding | X | X | | | | | |

| Course # | Course Title | PO - 1 | PO - 2 | PO - 3 | PO - 4 | PO - 5 | PO - 6 | PO - 7 |
|-----------------|------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Identify and perform acceptable shielded metal arc welds and welding procedures in 2G position | | X | | X | | | |
| WELD-140 | Shielded Metal Arc Welding II | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to shielded metal arc welding | X | X | | | | | |
| | Identify and perform acceptable shielded metal arc welds and welding procedures in 5G position | | X | | X | | | |
| WELD-160 | Shielded Metal Arc Welding III | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to shielded metal arc welding. | X | X | | | | | |
| | Identify shielded metal arc welding procedures and performance in 6G position | | X | | X | | | X |
| WELD-181 | Gas Metal Arc Welding I | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to gas metal arc welding | X | X | | | | | |
| | Identify gas metal arc welding procedures and performance in 1G, 2G and 5G positions. | | X | | X | | | |
| WELD-231 | Gas Metal Arc Welding II | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to gas metal arc welding | X | X | | | | | |
| | Identify gas metal arc welding procedures and performance in 6G position. | | X | | X | | | X |
| WELD-222 | Fluxed Cored Arc Welding I | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to Flux Cored Arc Welding | X | X | | | | | |

| Course # | Course Title | PO - 1 | PO - 2 | PO - 3 | PO - 4 | PO - 5 | PO - 6 | PO - 7 |
|-----------------|----------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Identify Flux Cored Arc Welding procedures and performance in 1G, 2G and 5G positions. | | X | | X | | | |
| WELD-232 | Flux Cored Arc Welding II | | | | | | | |
| | Identify safety issues, equipment, and supplies pertinent to Fluxed Cored Arc Welding | X | X | | | | | |
| | Identify Fluxed Cored Arc Welding procedures and performance in 6G position. | | X | | X | | | X |
| WELD-190 | Gas Tungsten Arc Welding I | | | | | | | |
| | Safely use gas tungsten arc welding equipment | X | X | | | | | |
| | Perform GTAW welding procedures and performance in 2G position. | | X | | X | | | |
| WELD 210 | Gas Tungsten Arc Welding II | | | | | | | |
| | Safely use gas tungsten arc welding equipment | X | X | | | | | |
| | Perform GTAW welding procedures in 5G position. | | X | | X | | | |
| WELD 220 | Gas Tungsten Arc Welding III | | | | | | | |
| | Safely use gas tungsten arc welding equipment | X | X | | | | | |
| | Perform GTAW welding procedures in 6G position. | | X | | X | | | X |
| WELD 242 | Pipe Layout & Blueprint Reading | | | | | | | |
| | Identify, explain and interpret print reading and layout for pipe welding | | | | | X | | |
| | Demonstrate ability in welding fabrication in piping projects | | X | | X | | X | |