|  |
| --- |
| **Iowa SENSE Aligned Welding Curriculum** |
| **General Course Info** |
| **Course Number:** | WEL 262 |
| **Discipline:** | WEL – Welding |
| **Course Title:**  | Thermal Cutting Processes I – Manual and Mechanized OxyFuel Cutting: SENSE 1 |
| **Short Title:** | OFC-I Manual & Mech: SENSE 1 |
| **Course Description:** | Focuses on proper safety, equipment setup and cutting techniques for manual and mechanized OxyFuel cutting on carbon steel. Students perform American Welding Society compliant cutting operations in the flat position. The student will also perform scarfing and gouging operations to remove base and weld metal in flat and horizontal positions on carbon steel. This course aligns to SENSE Level 1 Module 8 - Units 1 and 2, as well as Module 2 - Key Indicator 7 and Module 9 – Key Indicator 1.  |
| **Credit Hours:** | 2  |
| **Pre/ Co-requisites:** | WEL 228 is a pre or co-requisite.  |
| **Course Competencies** |
| **Course Competencies:** | 1. Evaluate cutting equipment, accessories and consumables to ensure proper safety and operations
2. Produce manual oxyfuel cuts on carbon steel
3. Produce mechanized oxyfuel cuts on carbon steel
4. Perform scarfing and gouging operations to remove base and weld metal on carbon steel
5. Evaluate cuts to ensure AWS D.1.1 standards are met
 |
| **Course Sub-Competencies:** | 1.1 Perform safety inspections1.2 Complete minor external repairs to oxyfuel cutting equipment1.3 Set up manual oxyfuel equipment for cutting carbon steel 1.4 Set up mechanized oxyfuel equipment for cutting carbon steel2.1 Complete straight, square edge cutting operations in the flat position with manual oxyfuel equipment2.2 Complete shape, square edge cutting operations in the flat position with manual oxyfuel equipment2.3 Complete straight, bevel edge cutting operations in the flat position with manual oxyfuel equipment3.1 Complete straight, square edge cutting operations in the flat position with mechanized oxyfuel equipment3.2 Complete straight, bevel edge cutting operations in the flat position with mechanized oxyfuel equipment4.1 Remove base metal in the flat position with manual oxyfuel equipment4.2 Remove base metal in the horizontal position with manual oxyfuel equipment4.3 Remove weld metal in the flat position with manual oxyfuel equipment4.4. Remove weld metal in the horizontal position with manual oxyfuel equipment5.1 Analyze completed cuts5.2 Adjust cutting technique5.3 Analyze completed scarfing and gouging results5.4 Adjust scarfing and gouging technique |
| **Assessment of Student Learning** |
| **SENSE Assessment:** | 1. Written Test Score 75% minimum
2. Visual Inspection Passed
 |
| **Recommended 3rd Party Certification:** | N/A |