

## Iowa SENSE Aligned Welding Curriculum

### General Course Info

<b>Course Number:</b>	WEL 281
<b>Discipline:</b>	WEL – Welding
<b>Course Title:</b>	Flux Cored Arc Welding (Gas Shielded): SENSE 1
<b>Short Title:</b>	FCAW (Gas Shielded): SENSE 1
<b>Course Description:</b>	Focuses on proper weld safety, machine setup and welding techniques for Flux Cored Arc Welding (Gas Shielded). Students perform American Welding Society compliant welds on carbon steel in flat, horizontal, vertical and overhead positions. This course will prepare students to take an AWS welder certification test, which is recommended for its successful completion. It aligns to SENSE Level 1, Module 6 - Key Indicators 1-7, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.
<b>Credit Hours:</b>	2 (Ratio of 1/1)
<b>Pre/ Co-requisites:</b>	WEL 228 is a pre or co-requisite. WEL 244 or 245 is a pre-requisite.

### Course Competencies

<b>Course Competencies:</b>	<ol style="list-style-type: none"> <li>1. Evaluate FCAW-Gas Shielded equipment, accessories and consumables to ensure proper safety and operations</li> <li>2. Produce fillet welds in all positions on carbon steel</li> <li>3. Produce groove welds in all positions on carbon steel</li> <li>4. Evaluate welds to ensure AWS D.1.1 standards are met</li> </ol>
<b>Course Sub-Competencies:</b>	<ol style="list-style-type: none"> <li>1.1 Perform safety inspections</li> <li>1.2 Complete minor external repairs to FCAW – Gas Shielded equipment</li> <li>1.3 Set up FCAW-Gas Shielded equipment per WPS for welding on carbon steel</li> <li>2.1 Complete a fillet weld in the flat position</li> <li>2.2 Complete a fillet weld in the horizontal position</li> <li>2.3 Complete a fillet weld in the vertical position</li> <li>2.4 Complete a fillet weld in the overhead position</li> <li>3.1 Complete a groove weld in the flat position</li> <li>3.2 Complete a groove weld in the horizontal position</li> <li>3.3 Complete a groove weld in the vertical position</li> <li>3.4 Complete a groove weld in the overhead position</li> <li>4.1 Analyze completed welds</li> <li>4.2 Adjust welding technique</li> </ol>

### Assessment of Student Learning

<b>SENSE Assessment:</b>	<ol style="list-style-type: none"> <li>1. Written Test Score 75% minimum</li> <li>2. Visual Inspection Passed</li> </ol>
<b>Recommended Third Party Certification:</b>	American Welding Society Welder FCAW G/GM Certification Test - D.1.1 – Obtain 1G and 2G with backing strip certification

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