

Iowa SENSE Aligned Welding Curriculum

General Course Info

Course Number	WEL 244
Discipline:	WEL – Welding
Course Title:	Gas Metal Arc Welding Short Circuit Transfer : SENSE 1
Short Title:	GMAW Short Circuit Transfer: SENSE 1
Course Description:	Focuses on proper weld safety, machine setup and welding techniques of Gas Metal Arc Welding Short-Circuiting Transfer. 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. This course aligns with SENSE Level 1 Module 5 - Key Indicators 1-7, as well as Module 2 - Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.
State Category:	C- CTE
Iowa Gen Ed:	N/A
Credit Type:	Technical
Course Type:	Technical


Credit Hours

Credit Hours:	2
Pre/Co-requisites:	WEL 228 is a pre or co-requisite.

Course Competencies

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

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Assessment of Student Learning

SENSE Assessment:	<ol style="list-style-type: none">1. Written Test Score 75% minimum2. Visual Inspection Passed
Recommended Third Party Certification:	American Welding Society Welder Certification Test - D.1.1 – Obtain 1G and 2G with backing strip certification

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