

Iowa SENSE Aligned Welding Curriculum

General Course Info

Course Number:	253
Discipline:	WEL – Welding
Course Title:	Gas Tungsten Arc Welding (GTAW) for Austenitic Stainless Steel: SENSE1
Short Title:	GTAW Stainless: SENSE1
Course Description:	Focuses on proper weld safety, machine setup and welding techniques for Gas Tungsten Arc Welding. Students perform American Welding Society compliant welds on austenitic stainless steel in flat, horizontal, and vertical positions. This course will prepare students to take an AWS welder certification test, which is recommended for successful completion of this course. This course aligns to SENSE Level I, Module 7 Key Indicators 1, 2 and 8-12 as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.
Credit Hours:	1
Pre/ Co-requisites:	WEL 228 is pre or co-requisite. WEL 251 and 252 are co-requisites.

Course Competencies

Course Competencies:	<ol style="list-style-type: none"> 1. Evaluate GTAW equipment, accessories and consumables to ensure proper safety and operations 2. Produce fillet welds in all positions on austenitic stainless steel 3. Produce groove welds in all positions on austenitic stainless steel 4. Evaluate welds to ensure AWS D.1.6 standards are met
Course Sub-Competencies:	<ol style="list-style-type: none"> 1.1 Perform safety inspections 1.2 Complete minor external repairs to GTAW equipment 1.3 Set up GTAW equipment per WPS for welding on austenitic stainless 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

Assessment of Student Learning

SENSE Assessment:	<ol style="list-style-type: none"> 1. Minimum score of 100% on the written safety test for SENSE I, Module 2: Safety and Health of Welders, based on ANSI Z49.1: <i>Safety in Welding, Cutting, and Allied Processes</i>. 2. Minimum score of 75% on the written GTAW test, based on relevant sections of AWS C5.5/C5.5M. 3. Passes instructor’s visual inspection of welding tests.
Recommended 3rd Party Certification:	American Welding Society Welder Certification Test - D.1.6 (Structural Welding Code – Austenitic Stainless Steel)

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