Iowa SENSE Aligned Welding Curriculum	
General Course Info	
Course Number:	275
Discipline:	WEL – Welding
Course Title:	Shielded Metal Arc Welding II: SENSE1
Short Title:	SMAW II: SENSE1
Course Description:	Focuses on safety, amperage settings, polarity and the proper selection of electrodes for the Shielded Metal Arc Welding (informally known as stick welding) process. Students perform American Welding Society complaint welds on carbon steel, in vertical up and overhead configurations, using visual and destructive methods for determining weld quality. This course aligns to SENSE Level 1 Module 4: Shielded Metal Arc Welding Key Indicators 1-7 for the flat and horizontal positions, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.
Credit Hours:	3 (Ratio of 1 / 2)
Pre/ Co- requisites:	WEL 228 is pre or co-requisite. WEL 274 is a pre or co-requisite.
Course Competencies	
Course Competencies:	1. Evaluate SMAW equipment, accessories and consumables to ensure proper safety and operations 2. Produce fillet welds in vertical and overhead positions on carbon steel 3. Produce groove welds in vertical and overhead positions on carbon steel 4. Evaluate welds to ensure AWS D.1.1 standards are met
Course Sub-Competencies:	1.1 Perform safety inspections 1.2 Complete minor external repairs to SMAW equipment 1.3 Set up SMAW equipment per WPS for welding on carbon steel 2.1 Complete single and multiple pass fillet weld in the vertical position using E6010 or E6011 electrodes on carbon steel 2.2 Complete single and multiple pass fillet weld in the overhead position using E6010 or E6011 electrodes on carbon steel 2.3 Complete single and multiple pass fillet weld in the vertical position using E7018 electrodes on carbon steel 2.4 Complete single and multiple pass fillet weld in the overhead position using E7018 electrodes on carbon steel 3.1 Complete single and multiple pass groove weld in the vertical position using E6010 or E6011 electrodes on carbon steel 3.2 Complete single and multiple pass groove weld in the overhead positon using E6010 or E6011 electrodes on carbon steel 3.3 Complete single and multiple pass groove weld in the vertical position using E7018 electrodes on carbon steel 3.4 Complete single and multiple pass groove weld in the overhead position using E7018 electrodes on carbon steel 4.1 Analyze completed welds 4.2 Adjust welding technique

Assessment of Student Learning	
SENSE Assessment:	1. Written Test Score 75% minimum 2. Visual Inspection Passed 3. Destructive Test Passed
Recommended Third Party Certification:	American Welding Society Welder Certification Test - D.1.1 (Structural Welding Code – Carbon Steel)

This workforce solution is funded by the I-AM Consortium which is 100% financed through a $12,951,165 grant from the Department of Labor's Employment & Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership