SME Course Outline Report

College: Lakeland Community College

Specific Course: WELD 1340 Basic FCAW (Flux Cored) and GMAW (MIG/MAG) Welding

Prepared By: Charles Cross, Consultant

Date Completed: 5/28/18

Submitted To: Lorain County Community College

Consultant Credentials: Charles Cross has a B.S. in Technology Education, M.Ed. in Technology Education, and is an American Welding Society (AWS) Certified Welding Inspector (CWI), Certified Welding Educator (CWE), and Certified Welding Supervisor (CWS). Mr. Cross gained tenure in public education as an Industrial Arts/Technology Education Instructor prior to his current employment earning a Golden Apple Award. Mr. Cross has been at his current employer, Lincoln Electric for over six years and is currently the Senior Customer Training Instructor at the Welding Technology Training Center. Current focus areas are industrial/educational training around welding and welding technologies.

Evaluation Method: The rubric below was used to evaluate that core curricula meets industry standards.

Review Scale Definitions:
0: Evident
1: Not Evident
N/A: Not Applicable

1. Program/Course Overview: *The overall design of this course is made clear to the student.*	Evident	Not Evident	N/A
1.1 The program/course outcomes are clearly stated.	X		
1.2 Prerequisites and/or any competencies are clearly stated.	X		
1.3 Learning outcomes are specific and appropriately designed for course.	X		
1.4 Course outcomes align to an occupational focus.	X		
Comments or recommendations: Course outcomes are clearly stated and reference the American Welding Society (AWS) as well as AWS D1.1 to support industry relevance. Other codes such as AWS D1.6 Structural Welding Stainless Steel and AWS D1.2 Structural Welding Aluminum may add value.			

2. Resources and Materials: *Instruction materials align with stated course outcomes.*	Evident	Not Evident	N/A
2.1 The course materials, activities, and outcomes are relevant/reflect industry workforce development needs.	X		
2.2 The instructional materials on course content provide quality options for different learning styles.	X		
2.3 The learning activities are designed at an appropriate level for the course.	X		
2.4 Equipment/technology support course learning outcomes and are relevant to industry.	X		
Comments or recommendations: It is nice to see steel and stainless steel included with FCAW and Steel, Stainless Steel and Aluminum for GMAW. It is also nice to see Pulse welding covered to show industry relevance.			

3. Learner Activities and Relevancy: *Course outcomes are relevant to students, industry and employers.*	Evident	Not Evident	N/A
3.1 Course outcomes provide content that is relevant to industry and employers.	X		
3.2 Instruction, activities, and assignments are relevant and engaging to students.	X		
3.3 Learning activities align to industry workforce development initiatives.	X		

Comments or recommendations:
It is nice to see the combination of FCAW and GMAW, with applications in the flat and horizontal position for students to build confidence.

4. Assessment and Measurement: *Assessment strategies use established ways to measure effective learning, evaluate student progress by reference, to stated learning outcomes, and are designed to be integral to the learning process.*	Evident	Not Evident	N/A
4.1 The course evaluation criteria/course grading policy is stated clearly on the outline.	X		
4.2 Course-level assessments measure the stated learning outcomes and are consistent with course activities and resources.	X		
4.3 Assessments are varied and appropriate to the content being assessed.	X		

Comments or recommendations:
Grading procedures consist of examinations and/or quizzes, class participation and discussion, lab work, individual projects, papers or reports and/or homework. This is a diverse blend of assessments for the student.

Overall Summary:

This course outline on Basic FCAW and GMAW is a model and aligns to industry standards; however the top is stated this is a work-in process version, not yet approved. This course combines both GMAW and FCAW, but keeping the welding positions in the flat and horizontal positions to build confidence and not overload student with information. Several references to the American Welding Society are present throughout the course outline supporting industry initiatives. As a recommendation, it may be valuable to add ANSI Z49.1 as topic in the course outline to cover other safety topics not mentioned. Another safety reference that may add value to use is the American Welding Society Safety & Health Fact Sheets. In the course outline, I would suggest adding "Advanced wire feeders" next to "Smart" in Section V, Part A and adding "conventional wire feeders" next to "Dumb feeders" in Section V, Part B. Another recommendation may be to modify performance indicators 6 and 7 by adding references to AWS D1.6 for Stainless Steel and AWS D1.2 for Aluminum.

Reviewers Signature: *Charles Cross*   **Date:** 5/28/18

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