University of Alaska Southeast
School of Career Education

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Tech Prep Articulation Agreement
Between
University of Alaska Southeast (UAS)
and
Craig City School District (CCSD)

Welding Technology
School Year 2015-2016

Purpose:

In addition to the general Tech Prep Agreement, the purpose of this articulation agreement is to outline the mutual understanding as we have agreed to the following process and criteria with respect to the program of Welding Technology.

Course:

The school district program will follow a curriculum coordinated with the administration and faculty of UAS pertaining to the following course:

> **Welding - Basic Welding**
> **WELD S120** A beginning level course covering the fundamentals of oxyacetylene welding, brazing and cutting, and electric arc welding. Emphasis in flat and horizontal welding positions on mild steel using a variety of welding rods and techniques. **3 Credits (1+4) No prerequisite.**

Although teaching methods may differ, this course will be subject to the instructional objectives and outcomes of the attached UAS syllabus.

Administration:

1. Students must have an overall 2.0 GPA to register for university credit.
2. It is recommended that course work be completed at a level of 3.0 GPA.
3. Students must successfully complete UAS – WELD 120 Basic Welding with a minimum course 2.0 GPA prior to registering for university credit in UAS – WELD 175 Advanced Topics in Welding.
4. Students will implement safety procedures as designated by AWS QC10 and ED2.0 2006.
5. A safety contract, completed and signed by the student and parent, will remain on file with the school district.
6. Students must pass a written safety test with a 90% accuracy which will remain on file with the school district.
7. UAS program chairs shall review and approve all course syllabi and related curriculum documents to ensure they replicate the UAS course. This includes standardized course syllabi, course objectives, textbooks, tools, equipment, and methods for evaluation.
8. To receive concurrent credit, the student will register for the Tech Prep course at the beginning of the term in which the competencies will be completed. Registration for yearlong courses will take place during the fall semester.
9. The UAS grade posted will be the UAS grade earned for the course and submitted by the district instructor.
10. Student grades will be submitted by 5:00 p.m. of the final day of the district semester at uaonline.alaska.edu.
11. Any change in instructor requires suspension of this addendum.

9-1-15
Allen Puckett, Program Head — Date
Welding Technology
University of Alaska Southeast

6-29-15
Earl Jeffreys, Instructor — Date
Construction Technology
Craig City School District

9/1/2015
~~Dr. Chris Gilmer~~ — Date
Sitka Campus
University of Alaska Southeast

6/21/15
Jack Walsh — Date
Superintendent
Craig City School District

UAS UNIVERSITY OF ALASKA SOUTHEAST

WELD 120 - BASIC WELDING

Glenn Ramsey - Instructor
glenn.ramsey@.uas.alaska.edu
Welding Lab/Message Ph. # 796-6130
Office Hours: 8am to 4pm M-F

Course web site can be accessed through,
UAS ONLINE: https://uascentral.uas.alaska.edu/online

Syllabus:

This course is designed to give you the skills and knowledge needed to perform basic welding operations using the Oxy-Acetylene Welding (OAW) and Shielded Metal Arc Welding (SMAW) processes. Oxy-Acetylene brazing and flame cutting will also be covered. General information on metals and other commonly used welding processes will be covered as lecture topics

Within each process we will cover; Safety, Welding Terminology, Welding Equipment, Heat Settings, Angles, Joint Types, Rod Selection, Metal Selection, Assembly/Fit-Up and Various Welding Techniques.

Grading in most cases will be a letter grade, based on the following:

1. Attendance 10% - This represents your effort to make it to class and participate.

2. Lab exercises and assignments 50% - This represents, a) ability to follow verbal and written instructions. b) comprehension of exercises. c) degree of improvement.
3. Two written exams 40%. There will be a mid-term exam covering the Oxy-Acetylene process and a final exam covering the Shielded Metal Arc Welding process.

Text books are available at the UAS Bookstore, located on the Auke Lake campus.
They are, 1) Oxy-Acetylene Welding, Cutting and Brazing.
2) Basic Shielded Metal Arc Welding.
These are published by the Hobart Welding Institute. You will also be given a "self study" guide to compliment these texts. The study guides will be reviewed prior to each of the written exams.

INSTRUCTORS POLICIES:

1. You are required to provide suitable welding gloves and safety glasses for lab work.
2. You are responsible for cleaning up after yourself at the end of class.
3. Do not eat, drink, or smoke at the welding stations.

4. Do not waste metal or welding rod. Ask if you're not sure what to do with it!
5. No personal projects.

Objectives of WELD 120 / Basic Welding

- Identify hazards involved in welding and what precautions to take.
- Identify and describe the basic theory of the O.A.W. (Oxy Acetylene Welding) process.
- Identify and describe the basic theory of the S.M.A.W. (Shielded Metal Arc Welding) process.
- Identify and describe the use of all major components of O.A.W. equipment.
- Identify and describe the use of all the major components of S.M.A.W. equipment.
- Identify the most common filler metals used in each process.
- Identify the most common groups of metals that readily weldable, i.e. Steel, Aluminum.
- Identify the basic joint configurations and weld types.
- Demonstrate set up and shut down of a O.A.W. system.
- Demonstrate set up and shut sown of a S.M.A.W. system.
- Demonstrate an understanding of welding parameters, i.e. heat settings, welding angles, travel speed, ect...
- Demonstrate a basic understanding of common welding mistakes and corrective measures.
- Demonstrate basic joint construction techniques and procedures
- Demonstrate a understanding of basic welding terminology.
- Demonstrate the proper use of the most common electrodes used in the S.M.A.W. process.
- Demonstrate the ability to consistently produce a sound weld with either process.

COURSE SCHEDULE
WELD 120 SEC. J01 - SPRING SEMESTER 2014

CLASS DATES: January 14 to March 4
CLASS TIMES: TUESDAY and THURSDAY - 6:00 P.M. to 10:45 P.M.

~~Jan. 14 . . . . . Introductions, Course Outline, Text Book and Study Guide.~~
LECTURE: General Safety and Welding overview.
LAB: O.A.W. Equipment and Setup, Puddles, Welding without, and, with Filler Metals.

Jan. 16 . . . . . LECTURE/LAB: Joint Design and Weld Types / Lap, Butt and Tee Joints.

Jan. 21 . . . . . .LECTURE/LAB. Oxy-Acetylene Cutting / Cutting and Welding Practice.

Jan. 23 . . . . . .LECTURE/LAB: Brazing and Braze Welding.

Jan. 28 . . . . . .LECTURE/LAB: Study Guide Review/ Welding Practice.

Jan. 30 . . . . . OXY-ACETYLENE WRITTEN EXAM / Welding Practice,

Feb. 4 . . . . . .LECTURE: The Arc Welding Process: Safety, Arc Welding Overview & Power Sources, LAB: Equipment Setup, Striking the Arc and Welded Pads.

Feb. 6 . . . . . LECTURE/LAB: Electrodes Demystified / Lap Joints using SMAW.

Feb. 11 . . . . . .LECTURE/LAB: Print Reading and Weld Symbols / Lap/Tee Coupon.

Feb. 13 . . . . . .LECTURE/LAB: Multi-Pass Fillet Welds

Feb. 18 . . . . . .LECTURE/LAB: Sheet Metal Welding.

Feb. 20 . . . . . .LECTURE/LAB. Sheet Metal Welding/Advance Techniques.

Feb. 25 . . . . . LECTURE/LAB: Study Guide Review and Metals / Welding Practice.

Feb. 27 . . . . . LAB: Final Welding Assignment

March 4 . . . . . .FINAL EXAM and Last Chance To Turn In Assignments.

IMPORTANT DATES TO REMEMBER !!!!

Jan. 28 . . . .OXY ACETYLENE STUDY GUIDE REVIEW
Jan. 30 . . . . OXY ACETYLENE WRITTEN TEST
Feb. 4 . . . . .BEGINNING OF THE ARC WELDING SECTION
Feb. 25 . . . .ARC WELDING STUDY GUIDE REVIEW
Mar. 4 . . . . FINAL EXAM AND LAST DAY OF CLASS