

COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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Revised by: Joe Costion
Status: Permanent

Date: April 22, 1998
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A. Identification:

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|------------------------|---------------------------|
| 1. Subject Area: | Welding |
| 2. Course Number: | WLD 102 |
| 3. Course Title: | Basic Welding Fabrication |
| 4. Credit Hrs: | 3 |
| 5. Catalog Description | |

Fundamentals of basic arc welding procedures, equipment, and safety techniques.
Perform arc welding tasks in the flat, horizontal, vertical-up, and overhead positions.
Two lecture; two lab.

B. Course Goals:

This course is designed for students who are seeking the appropriate training required to become a qualified worker in trades that require Arc Welding skills. This course provides students with the necessary knowledge and hands-on experience in basic arc welding including the use and selection of the appropriate equipment, safety rules and procedures, and methods of arc welding in various positions.

C. Course Outcomes:

Students will:

1. Explain general safety rules and procedures, protective equipment, and reporting of hazardous situations.
2. Select the appropriate equipment for various welding tasks.
3. Calculate amperage settings and determine polarity from provided information, manuals, and charts.
4. Start, stop, and restart a bead, and remove slag from a weld.
5. Perform grinding operations and inspect welds.
6. Perform various welds in the flat position including: stringer bead on 1/4" plate, buildup padding, groove weld square butt joint on 3/16" plate, and fillet weld outside corner joint on 3/8" plate.
7. Perform various welds in the horizontal position including: T-joint 3 bead pass on 1/4" plate, T-joint break test on 1/4" plate, string beads and square groove butt.
8. Perform various welds in the vertical-up position including: lap joint on 1/4" plate, T-joint single pass on 1/4" plate, T-joint multi-pass on 1/4" plate, and square butt joint on 9/16" plate.
9. Perform various welds in the overhead position including: lap joint, T-joint 3 break, T-joint break test and square groove butt.

D. Course Content:

Will include:

1. Theory and practice of arc welding
2. Selection and use of equipment and materials
3. Safety rules and procedures
4. Arc welding methods in flat, horizontal, vertical-up, and overhead positions