

**Clackamas Community College**  
Online Course/Outline Submission System

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### Section #1 General Course Information

**Department:** Welding

**Submitter**

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**Course Prefix and Number:** WLD - 213

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**# Credits:** 4

**Contact hours**

Lecture (# of hours):

Lec/lab (# of hours): 88

Lab (# of hours):

Total course hours: 88

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

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**Course Title:** Advanced Gas Metal Arc Welding/Flux Core Arc Welding

**Course Description:**

This course provides the opportunity for students to acquire the knowledge and skills needed to perform quality fillet and groove welds in all positions using the Gas Metal Arc Welding (GMAW) and Flux Core Arc Welding (FCAW) processes. Advanced welding theory and procedures will also be included.

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**Type of Course:** Career Technical Preparatory

Is this class challengeable?

**Yes**

Can this course be repeated for credit in a degree?

**No**

Is general education certification being sought at this time?

**No**

Does this course map to any general education outcome(s)?

**No**

Is this course part of an AAS or related certificate of completion?

**Yes**

**Name of degree(s) and/or certificate(s):** Welding AAS

Are there prerequisites to this course?

**Yes**

**Pre-reqs:** Pass WLD-113 or pass WLD-113A and WLD-113B

**Have you consulted with the appropriate chair if the pre-req is in another program?**

**No**

Are there corequisites to this course?

**No**

Are there any requirements or recommendations for students taken this course?

**No**

Are there similar courses existing in other programs or disciplines at CCC?

**No**

Will this class use library resources?

**Yes**

**Have you talked with a librarian regarding that impact?**

**No**

Is there any other potential impact on another department?

**No**

Does this course belong on the Related Instruction list?

**No**

**GRADING METHOD:**

A-F or Pass/No Pass

**Audit: Yes**

When do you plan to offer this course?

✓ **Not every term**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

**No**

Will this course appear in the college catalog?

**Yes**

Will this course appear in the schedule?

**Yes**

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. demonstrate safety in a welding environment,
2. select personal protective equipment needed to perform welds safely,
3. perform quality fillet welds in all positions using the appropriate electrode for the assignment,
4. perform quality groove welds in all positions using the appropriate electrode for the assignment,
5. demonstrate proper machine set up, operation, and minor repairs to GMAW and FCAW equipment,
6. interpret codes, standards, and specifications and understand their uses;
7. locate and repair weld defects on assignments,
8. participate in maintaining a clean and orderly shop.

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***This course does not include assessable General Education outcomes.***

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Major Topic Outline:

1. Class orientation, safety, and shop practices.
2. Operate GMAW and FCAW equipment.
3. Operate oxy-fuel cutting using both manual and semi-automatic equipment.
4. Fillet and groove welds in all positions on steel.
5. Destructive and nondestructive testing.
6. Welding codes and standards.
7. Make minor external repairs to equipment and accessories.
8. Repair weld defects on student projects.
9. Compile portfolio documents.
10. Review GMAW and FCAW weld tests common to industry.

Does the content of this class relate to job skills in any of the following areas:

- |                                      |            |
|--------------------------------------|------------|
| 1. Increased energy efficiency       | <b>No</b>  |
| 2. Produce renewable energy          | <b>No</b>  |
| 3. Prevent environmental degradation | <b>Yes</b> |
| 4. Clean up natural environment      | <b>No</b>  |

5. Supports green services **No**

Percent of course: 5%

First term to be offered:

**Next available term after approval**

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