

**JAMESTOWN COMMUNITY COLLEGE**  
**State University of New York**

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**INSTITUTIONAL COURSE SYLLABUS**

**Course Title:** Gas Metal Arc Welding

**Course Abbreviation and Number:** WLD 1360

**Credit Hours:** 3

**Course Type:** Lecture/Lab

**Course Description:** This course introduces gas metal arc (GMAW) welding and flux core arc welding processes (FCAW). Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel in the flat, horizontal, and overhead positions.

No prerequisites.

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**Student Learning Outcomes:**

Students who demonstrate understanding can:

1. Properly use and care for MIG welding equipment.
2. Demonstrate knowledge of welding methods and techniques.

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**Topics Covered:**

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| 1.) Gas Metal Arc Welding Equipment, Setup, and operation | - Positioning of the welder                     |
| - Welding Current   |   |
| - Arc Blow  |   |
| - Operating Voltage                                       |   |
| - Types of power sources                                  |   |
| - Generators and Alternators                              |   |
| - Duty Cycle  |   |
| - Welding Cables, electrode holders, and work clamps      |   |
| - Setup   |   |
|   | 3.) Welding positions required fillet           |
|   | - 1F  |
|   | - 2F  |
|   | - 3F  |
|   | - 4F  |
|   | 4.) Welding positions required open root groove |
|   | - 1G  |
|   | - 2G  |
|   | - 3G  |
|   | - 4G  |
| 2.) Gas Metal Arc Welding of Plate                        |   |
| - Effect of current too high or low                       |   |
| - Arc Length  |   |
| - Electrode Angle   |   |
| - Electrode Manipulation                                  |   |

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**Information for Students**

- Expectations of Students
  - [Civility Statement](#)
  - [Student Responsibility Statement](#)
  - [Academic Integrity Statement](#)
- [Accessibility Services](#)  
Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
- [Get Help: JCC & Community Resources](#)
- [Emergency Closing Procedures](#)
- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

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**Effective Date:** Fall 2021