

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Gas Tungsten Arc Welding

Course Abbreviation and Number: WLD 1370

Credit Hours: 3

Course Type: Lecture/Lab

Course Description: This course introduces the gas tungsten arc (GTAW) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.

No requisites.

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Demonstrate an ability to make multiple pass welds in all positions.
 2. List specific types of weld joins as well as their structural application.
 3. Explain how to prepare, test, and evaluate guided bend specimens.
 4. Demonstrate an ability to make code quality welds on plate.
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Topics Covered:

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