

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Alternate Processes

Course Abbreviation and Number: WLD 2360

Credit Hours: 3

Course Type: Lecture/Lab

Course Description: Machine setup and techniques for nonferrous metals, including aluminum and stainless steel, will be practiced. Welding applications of special metals such as copper, nickel, cobalt, and titanium will be discussed. Non-traditional or advanced welding and processing procedures such as resistance welding, automated plasma cutting, robotic welding and submerged arc welding are demonstrated. Laser and electron beam welding techniques are also reviewed.

Prerequisites: WLD 2250, WLD 2260, and WLD 2270.

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Perform aluminum welding using multiple processes as well as multiple joint designs.
 2. Explain non-traditional welding processes and their application in the field.
 3. Analyze different processes through the use of tensile strengths.
 4. Apply tech skills that are appropriate to the discipline of welding.
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Topics Covered:

1.) Welding of different materials.

- Aluminum
 - TIG
 - MIG
- Stainless steel
 - TIG
 - MIG
- Titanium
 - TIG

2.) Processes

- Resistance welding
 - Explosion welding
 - Thermit welding
 - LASER welding and cutting
 - Electron Beam welding
 - Mechanical fasteners
 - Soldering and Brazing
 - Thermal Spraying
 - Material Removal Processes
 - Ultrasonic welding
 - Friction welding
 - Robotic welding
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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