



WLDG 101 Intro to the Welding Processes

ILD2

2024FL

Instructor Information

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Course Description and Requirements

A beginning course in Shielded Metal Arc Welding and Gas Metal Arc Welding which emphasizes safety, fundamentals of the processes, equipment, and techniques involved with welding mild steel. The Oxy-Acetylene processes of cutting, welding, and brazing with plasma arc cutting are included. ~

Credit and Contact Hours

Lecture Hours: 2 | Lab Hours: 2 | Credit Hours: 3.00

Mode of Delivery

The mode of delivery for this course is DCCTE

Methods of Instruction

Students will receive hands-on training in the basic fundamentals of Arc Welding Technology. This includes exposure to: Shielded Metal Arc Welding (SMAW) & Gas Metal Arc Welding (GMAW). Additional training will cover Plasma Arc & Oxy-Fuel Cutting processes (PAC & OFC), as well as the use of shop equipment, tools and techniques involved with welding mild steel.

Classwork will be split between classroom lecture, direct instruction and lab/shop exercises involving individual and group tasks.

As a Dual Credit program, coursework is aligned to the JJC Welding Program standard, making this class college level coursework. Students will be expected to maintain the level of study skills and participation expected of a JJC student.

Course Level Objectives

- Weld a pad of beads in the flat position.
- Weld a lap joint in the flat position.
- Weld a tee joint in the flat position.
- Cut mild steel using the oxy-acetylene process.
- Cut mild steel using the plasma arc process.
- Weld in the horizontal position using the oxy-acetylene process.
- Braze in the horizontal position using the oxy-acetylene process.

General Education Objectives

- Oral Communication: Students will demonstrate organized and coherent oral communication.
- Written Communication: Students will demonstrate organized and coherent written communication.

- Applied Knowledge: Students draw from learning experiences/concepts to solve a variety of problems or challenges.

Topical Outline

Students will participate in classroom and lab assessments to gauge Technical Understanding and Shop Task proficiency. Lab assessments will be based on SMAW welds performed with 3/32" & 1/8" E6010 & E7018 electrodes. GMAW welds performed with .023" & .035" diameter ER70S-[*] wires in the Short Circuit or Globular transfer method. Proficiency will be demonstrated on A36 Carbon Steel, ranging in thickness at 22ga, 16ga, 1/8", 1/4", and up to 3/8" for SMAW & GMAW. WLD-1 students shall develop proficiency in the 1G and 2F welding positions. Students will develop a working understanding of Welding documents, blueprints, shop drawings and welding symbols used throughout the Industry

In order to receive full credit for the course, students are required to meet minimum degrees of proficiency & demonstrate competency in a variety of assigned tasks per JJC guidelines.

WLD-I includes the following areas of study and associated Competency Tasks:

Semester 1:

Shop and Arc Welding Safety (Academic Test: must pass to be authorized for Lab activity)

Career Expectations & Demands, Workplace Skills Development, Roles & Responsibilities

Industry Orientation: The American Welding Society (AWS) & related Regulatory Agencies

Career Pathways: Apprenticeships, Entry-Level positions, and Military/Civic Pathways

Job Skills: E-mail use, Resumes, Interviews, Job Search, and Performance Evaluations

Welding Positions & Joint Configurations, Terms & Definitions, Procedures, Codes, Standards

Process Fundamentals: Arc Welding Technology, Welding Processes, Circuits & Diagrams, Arc Theory, Welding Variables, Testing Methods

(CAC-G) Carbon Arc Gouging

(PAC) Plasma Arc Cutting: Manual Cuts: Flat Position: 22 gauge to 1/4" thicknesses

SMAW: Surfacing Welds, Flat & Horizontal Positions 1G, 2G

SMAW: Square Butt-Joint, 1G

SMAW: Corner Joint, Flat/horizontal Position 1F, 2F

SMAW: T-Joint, single & multiple pass, Horizontal 2F

Midterm Exams & Lab Proficiency Testing

Semester 2:

Orientation: Terms, Definitions, Blueprints & Welding Symbols

Career & Educational Planning (Guest Lectures & Presentations)

Ongoing Education: Trade Schools & College Education Options

Industry Orientation: Manufacturing Shop Exercise (Lab Activity)

Process Fundamentals, Shop Tools & GMAW (Lab Activity)

OFC: Oxy-Fuel Cut w/guide: 3/8" thickness

GMAW: T-joint, single & multi-pass, Horizontal (2F) Position

GMAW: Lap Joint, Vertical & Overhead Position (sheet metal)

GMAW: Surfacing Welds, Horizontal Position (plate thickness)

GMAW: Butt Joint Horizontal, Vertical & Overhead Position (sheet metal)

Final Exams: Academic Testing & Practical/Hands-on Evaluation for full course competency

Graded Assignments

Due Date	Event Name	Type	Points

Grading Policies

Assessment Type	Frequency	Value	Total Points
Quiz	15	20	300
Discussion Board	10	25	250
Writing Assignment	5	50	250
Final Exam	1	200	200
Grand Total			1000

Final Course Grading Scale

Grade	Percentage	Points
A	90 - 100%	900 - 1000
B	80 - 89%	800 - 899
C	70 - 79%	700 - 799
D	60 - 69%	600 - 699
F	Lower than 60%	0 - 599

Faculty Commitment

Required for online; optional for in-person/hybrid

Student Commitment

For every credit hour of lecture a student is enrolled in, they should expect to spend at least 2 hours outside of class studying, working on assignments, and preparing for class each week of a 16-week semester.

For courses with Lab or Clinical hours, students should expect to spend at least one hour of outside study time for each two lab or clinical contact hours.

Academic Honor Code

The objective of the [JJC academic honor code](#) is to sustain a learning-centered environment in which all students are expected to demonstrate integrity, honor, and responsibility, and recognize

the importance of being accountable for one's academic behavior.

Wilco Area Career Center is an educational extension of the home school. As an extension, Wilco maintains the policies of each school in combination with the policies developed by the Wilco Board of Control. The combined policies represent the discipline procedures that will be followed by the Wilco Staff, Faculty and Administration. The home school will be consulted/contacted on all discipline incidents. Disciplinary consequences will be the result of communication between the home school and Wilco's administration.

Three principles govern all discipline and regulations at Wilco Area Career Center:

1. Conduct that is disruptive to the educational environment is prohibited.
2. Conduct that infringes on the rights of others is prohibited.
3. Conduct that is unsafe is prohibited

Student Conduct expectations in the Welding Program are aligned to industry standards and students are expected to behave as if "they are on the job". This means that basic workplace decorum and professional conduct is to be maintained while in class. Students are expected to be, at minimum, polite & courteous when interacting with staff, peers and visitors and respectful of the learning environment.

Students shall NOT:

Violate procedures outlined in the Student Handbook

Bring in weapons or fabricate dangerous objects from shop materials

Leave class/work areas without approval

Remove PPE in Shop areas

Modify, damage, remove or improperly use materials, tools or equipment

Exit/enter through unapproved doors, prop open doors or allow unauthorized persons access to the building.

Violate school driving policies (authorized transportation to & from Wilco only)

Carry flammables, valuables or electronic devices in pockets into the Shop Areas

*The Welding Program has a Zero Tolerance policy on fighting, wrestling and/or "Horseplay". As an Industrial Worksite, safety hazards must be considered at all times, and any risky or violent behavior is extremely dangerous, and therefore STRICTLY prohibited at all times.

**Use of cellular equipment (i.e. telephones) is not permitted in the lab areas, and classroom use is based on instructor approval and supervision. Students may be encouraged to use cellphones in class for research, job or technical reasons, but this is based on Instructor authorization. Earbuds & Headphones are strictly prohibited at all times.

This list is not exhaustive and additional Policies & Procedures will be detailed in class and posted in work areas. Students are responsible for becoming familiar with all Policies & Procedures, and they shall make an effort to abide by them. Students in violation of Program policy or procedure will receive corrective instruction. Repeat violations may result in ongoing Disciplinary intervention

Privacy and Accessibility Policies

Canvas	Accessibility	Privacy
Cengage	Accessibility	Privacy
Pearson	Accessibility	Privacy
McGraw Hill	Accessibility	Privacy
Macmillan	Accessibility	Privacy
Adobe Reader	Accessibility	Privacy
Microsoft Office	Accessibility	Privacy
Examity		Privacy

Campus Policies and Resources

Religious Observance Policy

Illinois law requires the college to reasonably accommodate its students' religious beliefs, observances, and practices in regard to admissions, class attendance, and the scheduling of examinations and work requirements. You should examine this syllabus at the beginning of the semester for potential conflicts between course deadlines and any of your religious observances. If a conflict exists, you should notify your instructor of the conflict and request appropriate accommodations. This should be done in the first two weeks of classes.

Student Code of Conduct

Each student is responsible for reading and adhering to the [Student Code of Conduct](#) as stated in the college catalog.

Responsible Use Policy

Students are responsible for knowing and following the terms and conditions of JJC's policy for "Responsible Use of Information Technology." This policy may be found [online on the JJC website](#).

Copyright

This course may contain copyright-protected materials such as audio or video clips, images, text materials, etc. These items are being used with regard to the Fair Use doctrine and [TEACH Act](#) in order to enhance the learning environment. Please do not copy, duplicate, download or distribute these items. The use of these materials is strictly reserved for this online classroom environment and your use only. All copyright materials are credited to the copyright holder.

Intellectual Property

Students own and hold the copyright to the original work they produce in class. It is a widely accepted practice to use student work as part of the college's internal self-evaluation, assessment procedures, or other efforts to improve teaching and learning and in promoting programs and recruiting new students. If you do not wish your work to be used in this manner, please inform your instructor.

Communication Policy

Proper spelling, grammar, and etiquette are expected in all forms of course communication. Writing should be in complete sentences and formatted at a level consistent with college expectations. Furthermore, all interactions for the course should be mindful of tone and should reflect how messages may be interpreted by others. Seeking clarification is encouraged, but it must be done in a polite and civil manner.

Others with Access

Individuals such as guest speakers, course evaluators, and technical support staff may access the online course site when necessary and appropriate.

College statement about F-grades and withdrawal policies

Students may withdraw from a course by processing an add/drop form during regular office hours through the [Registration and Records Office](#) at Main Campus or Romeoville Campus, or by phone at 815-744-2200. Please note the withdrawal dates listed on your bill or student schedule. Every course has its own withdrawal date. Failure to withdraw properly may result in a failing grade of 'F' in the course. At any time prior to the deadline dates established, an instructor may

withdraw a student from class because of poor attendance, poor academic performance or inappropriate academic behavior, such as, but not limited to, cheating or plagiarism.

Third-Party Software and FERPA

During this course you might have the opportunity to use public online services and/or software applications sometimes called third-party software such as Facebook, a blog, or wiki. While some of these are required assignments, you need not make any personally identifying information on a public site. Do not post or provide any private information about yourself or your classmates. Where appropriate you may use a pseudonym or nickname. Some written assignments posted publicly may require personal reflection/comments, but the assignments will not require you to disclose any personally identifiable/sensitive information. If you have any concerns about this, please contact your instructor.

Turn-It-In Notice

Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (through submission within the Canvas Learning Management System or otherwise) for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference databases solely for the purpose of detecting plagiarism of such papers. Use of Turnitin.com service is subject to the [Usage Policy](#) posted on the Turnitin.com site. Our very own [JJC Library](#) offers some excellent guidance on how to properly cite sources.

Sexual Harassment

Joliet Junior College seeks to foster a community environment in which all members respect and trust each other. In a community in which persons respect and trust each other, there is no place for sexual harassment. JJC has a [strong policy prohibiting](#) the sexual harassment of one member of the college community by another. See Catalog or Student Handbook.

Supportive Resources and Student Support

- [IT Support](#): Visit the Student Technology Resources page where you can learn about free access to Office 365 products. For technical support with your computer, email, software, and login support, visit the 24/7 Student Support. For technical assistance with Stream videos, please contact media@jjc.edu.
- [iCampus Support](#): Contact the 24/7 iCampus Student Support Line at 224-208-2545 or by submitting a support request. Assistance is also available in the iCampus Center in Room J-4019 on the main campus, by calling 815-280-2481, or through email iCampussupport@jjc.edu.

- [Disability Services](#): Joliet Junior College values diversity and inclusion; we are committed to a climate of mutual respect and full participation by providing an accessible learning experience for all students. If you are a student with a disability, you are encouraged to contact Disability Services at the office location, phone, or e-mail address provided below to establish accommodations under the Americans with Disabilities Act, Rehabilitation Act Section 504, and 508. If you are a student with a disability and anticipate or experience physical or academic barriers, please let your instructor know immediately so that options for accessibility can be discussed.

Office: A-1125 Phone: (815) 280-2613 Email: disabilityservices@jjc.edu

- [Tutoring and Learning Center](#): JJC offers a number of free tutoring services on campus and online (Brainfuse). Many of these services are conveniently located in the Tutoring and Learning Center (TLC). Tutoring services are also available at City Center Campus and Romeoville Campus. Call to schedule an appointment. A link for Brainfuse, our free online tutoring service, is also available on this course's homepage.

Office Location: C-2010 Phone: (815) 280-2730 or (815) 280-CUBE (2823) Email: tutoring@jjc.edu

- [Testing Services](#): Testing Services is a student support service that provides test administration for all JJC students at the Main, Romeoville, and City Center campuses. Students needing to take an iCampus, make-up, or accommodated test will need to make an appointment with Testing Services. Schedule your appointment through Testing Services via RegisterBlast under your iCampus Course Navigation Menu. Please note, all students will need a physical photo ID to test and will not be allowed to bring in their cell phone or any other electronics.

Testing Services also administers testing for Placement, CLEP, ASE Prometric, TEAS, and CNA. Anyone who wishes to review or prepare for these tests can visit the Tutoring & Learning Center for test preparation information. Check our website at jjc.edu/testing for hours of operation and a list of our testing guidelines. For more information, please email us at testingservices@jjc.edu or call us at 815-280-2261.

- [Student Advising Center](#): Advisors help you make decisions for your future career and educational goals and guide you when you may find yourself stuck. Additional information about academic advising at JJC can be found at jjc.edu/advising. The Student Advising Center assists with making academic decisions, goals, and plans and provide additional support including new student transitions and first-semester registration, academic and career coaching to help students make the right educational choices, and transfer exploration. Once you have a solid academic plan, Faculty Advisors help map out all the academic requirements needed to complete a program. Faculty Advisors are experts in

specific career and major areas and are available for most JJC programs. They provide assistance with major-specific educational planning transfer advising and specific career-related guidance.

Office Location: A-1155 Phone: (815) 280-2647 Email: academicadvising@jjc.edu

- [Student Wellness Program – Mental Health](#): As a student, you may carry several responsibilities outside the classroom along with the responsibility of being a JJC student. This can sometimes lead to high levels of stress, anxiety, strained relationships, and much more. Other times, we may just unexpectedly experience symptoms of feeling down, loss of motivation, difficulty concentrating, and/or experience difficult events in our lives. All these things can impact your emotional well-being and can impact your ability to perform academically. Please know that mental health services are available through the Student Wellness Program. [Learn more about confidential mental health services available](#) to you. You can also visit the [Office of Student Rights and Responsibilities](#) in office A-1100 or call 815-280-2936. Support and help are available for you!
- [Student Resources](#): information on Testing Services, Academic Standards of Progress, Bookstore, Career Services, Disability Services, Library, Multicultural Student Affairs, Project Achieve, Records & Transcripts, Student Rights, Student Accounts & Payments, Tutoring & Learning Center, Veterans Resource Center, Wellness Advocates, and more.
- [MyJJC](#): JJC portal provides access to many JJC services.
- [LGBTQIA+ Supportive Resources](#): Joliet Junior College (JJC) works to ensure that all students have the opportunity to learn in a safe and supportive environment. JJC acknowledges that many students wish to indicate their pronouns and that some may use first names other than their legal first name to identify themselves. To initiate the process of sharing your chosen name and your pronouns, please visit the office of Student Rights and Responsibilities website [here](#).
 - MyJJC Portal - [Safe Zone](#)
 - MyJJC Portal - [LGBTQ+ Student Resources](#)
 - [Preferred Name Change Form](#)
 - [Supportive Tips for Faculty and Staff](#)
 - [Library LibGuide for Lesbian, Gay, Bisexual, Transgender, and Queer Resources](#)

My Degree Progress

My Degree Progress is a computerized system to track a student's progress toward graduation. The report indicates and places courses into their appropriate category as a General Education, Major Course, or Elective according to the degree requirements. This tool is useful for preparing

before an advising appointment, for planning, for registering, and for checking that the student is on track for graduation. Visit My Degree Progress on [eResources](#).

Student Planning Tool

The Student Planning Tool combines degree audit information and upcoming schedule of classes so students can easily plan and register for courses that fulfill degree or certificate requirements. Student Planning builds on My Degree Progress and allows JJC students to chart a clear path to graduation in partnership with their Advisor to create an educational plan mapping out their path to completion. Student planning is a web-based self-service tool that makes it easy to know what classes are needed for your degree or certificate and in which semester to take them. For questions about Student Planning visit the [Student Advising Center](#) at the Main, Romeoville, or City Center campuses or call 815-280-2673.