



WELDING 101

COURSE SYLLABUS AND LESSON PLAN

22 Instruction Hours ♦ 55 Study Hours ♦ Self-paced—completed within 1 to 12 Months

No Prerequisites ♦ Certificate in Welding Theory ♦ Distance Education only; Online only

COURSE DESCRIPTION: This comprehensive course in welding includes every type of welding from gas welding to ARC and TIG welding. Students will learn from a licensed professional currently working in the field welding safety, tank set up, how to do every type of weld and welding in 2G, 3G and 4G positions. Students will learn the A-Z of welding through demonstration, with up close views of the instruction so they can quickly learn the fine detail of such precision work as how to hold the welding equipment, puddling and cutting in every type of welding operation. Students study and complete the course at a pace they control, with sufficient retention of the knowledge to pass their exams with a score of 80% or higher.

COURSE OBJECTIVE: Completion of this Welding Course prepares an individual for entry-level employment in the welding trade in positions classified under Welder (*SOC 51-4121 Idaho Department of Labor*). Additionally, this course prepares individuals for employment in positions involving entry-level welding work classified as “maintenance” under General Maintenance and Repair (*SOC 49-9042 Idaho Department of Labor*) in position titles such as Maintenance, Maintenance Mechanic, and Facilities Maintenance Technician.

- *Certificates of this School do not qualify an individual to work as a registered or licensed, independent Contractor, nor do they qualify as welding certification. Individuals who complete the Welding course are NOT certified welders.*
- *Unless required by an employer, no license, certification, or registration is required for employees working in the welding trade in the state of Idaho. Some states may require welders to be certified in the welds they are performing.*
- *All independent contractors are required by Idaho law to be registered with the Idaho Contractors Board, which is a division of the State of Idaho, Bureau of Occupational Licenses (<http://ibol.idaho.gov/IBOL/Home.aspx>). Public works will require an additional Contractor’s License. For more information, go to <http://dbs.idaho.gov>.*
- *After theoretical training and sufficient practical and/or apprenticeship experiences to competently perform a weld type, welders can seek to become certified. There are several types of certification for welders. An individual should determine which type of welding position they would like to pursue, then meet the certification requirements (if any) of that position. Typically, certification through the American Welding Society involves a welding test and a written exam taken every six months to a year, depending on regional requirements, to keep an individual’s*



certification up to date. Certification allows a welder to take the title "Certified Welder," opening up a variety of job opportunities. For more information, see <http://www.aws.org/certification/>.

Welding Course Syllabus (continued)

VIDEO INSTRUCTION: *Professional Welding Course*. Director Gene Kelly, Producer Keith Hezmalhalch, Instructor Robert Rizzetto. Accelerated Training Institute (ATI), 2011.

INSTRUCTIONAL MODE: Distance education not in real time. All instruction is provided via pre-recorded video lessons.

FREQUENCY OF LESSONS: Lessons occur at a time and location determined by the student.

METHOD OF INSTRUCTION: This course is taught in pre-recorded video instruction; however, the students can access Student Support Specialists whenever they have technical questions or need assistance with completing the coursework. Students submit their questions by email to faculty@atitradeschools.com, after which they will receive an email reply and/or a telephone call from a Student Support Specialist.

TESTING AND CERTIFICATE REQUIREMENTS: When you complete the video instruction in the Welding Course, you will take an online examination to test your knowledge. Also, for each of the assigned chapters in your Welding textbook, you may optionally complete an end-of-chapter quiz. Quizzes are optional study tools to support passing your final exam. Exams are online, not timed, and are open book, open video. Once started, an online exam may be suspended but must be completed within 60 days. When you pass your final exam with a score of 80% or higher, you will receive a Welding Theory Certificate.

GRADING SYSTEM: Students are graded on a pass/fail basis.

Passing Grade: A passing grade is given to a student who achieves a score of 80% or higher on all examinations in the Welding Course.

Failing Grade: A failing grade is given to a student who has failed to achieve a score of 80% or higher on all examinations in the Welding Course.

Welding Course Lesson Plan

Watch all video instruction for the following segments:	✓ In Progress	✓ Completed
Chapter 1: Introduction Introduction		
Chapter 2: History		



History		
Chapter 3: Safety Safety Safety – Protection – Part 1 Safety – Protection – Part 2 Color Code of Mental Awareness		
Chapter 4: Gas Welding Gas Welding Basics – Part 1 Gas Welding Basics – Part 2 Tank Setup Gas Welding – Part 1 Gas Welding – Part 2 Gas Welding – Part 3 Gas Welding Joints – Part 1 Gas Welding Joints – Part 2 Gas Welding Joints – Part 3 Gas Welding Joints – Part 4 Gas Welding Out of Position Making the Cut – Part 1 Making the Cut – Part 2 Advanced Cutting Scarfing – Part 1 Scarfing – Part 2 Alternative Cutting Methods		
Chapter 5: Arc Welding - MIG ARC Welding – Basics and Safety MIG Welding Basics – Part 1 MIG Welding Basics – Part 2 MIG Setup and Welding – Part 1 MIG Setup and Welding – Part 2 Flux-Core Setup and Welding – Part 1 Flux-Core Setup and Welding – Part 2		



Welding Course Lesson Plan (continued)

Watch all video instruction for the following segments:	✓ In Progress	✓ Completed
Chapter 6: Arc Welding - Stick Stick Welding Stick Welding – Welding Rods Stick Welding – Equipment Setup and Weld Demo Stick Welding – Controlling the Puddle Stick Welding – Student Practice Stick Welding – Stick Welding Joints – Part 1 Stick Welding – Stick Welding Joints – Part 2 Stick Welding – Stick Welding Joints – Part 3 Stick Welding – Stick Welding Joints – Part 4 Stick Welding – Stick Welding Joints – Part 5		
Chapter 7: Arc Welding - TIG TIG Welding Basics TIG Welding Steel Grinding a Tungsten TIG Welding Aluminum		
Chapter 8: TIG Welding – Small Parts TIG Welding – Welding Small Parts TIG Welding – Building Up Material TIG Welding – Modifying and Repairing Parts		
Chapter 9: Welding Symbols Welding Symbols – Part 1 Welding Symbols – Part 2 Welding Symbols – Looking at an Actual Job		
Chapter 10: Projects Welding Projects Overview Welding Project – Building the Bench – Part 1 Welding Project – Building the Bench – Part 2 Welding Project – Building the Bench – Part 3 Welding Project – Building the Bench – Part 4 Welding Project – Building the Bench – Part 5 Welding Project – Building the Bench – Part 6		



Welding Project – Building the Bench – Part 7 Welding Project – Building the Bench – Part 8 Welding Project – The Vise Mount Welding Project – The Cutting Table		
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Welding Course Lesson Plan (continued)

Watch all video instruction for the following segments:	✓ In Progress	✓ Completed
Chapter 11: Final Thoughts Course Review and Final Thoughts		