

**WLDG 1323**  
**Welding Safety, Tools, and Equipment (3-2-4)**

**Western Texas College**

- I. Basic Course Information
  1. Course Description: An introduction to welding careers, equipment and safety practices, including OSHA standards for industry
  2. Any required prerequisites: None, Introductory
  3. Required Grade for Enrolling in the Next Course in this Sequence: Satisfactory Completion
- II. Student Learning Outcomes
  - A. List welding careers
  - B. Explain welding safety practices, OSHA and the Hazardous Communications Act
  - C. MSDS
  - D. List hazards associated with welding equipment and processes
  - E. Use and maintain tools and equipment
  - F. Practice shop welding safety
  - G. Identify hazards associated with gases, fluxes, electrodes and equipment
  - H. Interpret an MSDS
  - I. Name different welding processes and explain their operation
- III. Testing Requirements
  - . The final exam will take place in the welding classroom.
  - A. Students are NOT allowed to use their book or notes of any kind while taking their tests and exams.
  - B. Students are allowed to use a calculator.
- IV. Major Course Requirements
  - . Attendance 10%
  - A. Homework/Quizzes 40%
  - B. Final Exam 50%
- V. Information on Books and Other Course Materials
  - . Required Book: Modern Welding Book ISBN: 1-56637-987-3
  - A. Required Access Code: None
  - B. Calculators: Students must have a calculator that provides them with the trig function keys. A TI-30XA or its equivalent is strongly recommended.
- VI. Other Policies, Procedures and important dates. Please refer to the WTC [Catalog](#) for the following:
  - . Campus Calendar
  - A. Final exam schedule
  - B. How to drop a class
  - C. Withdrawal information
  - D. Student Conduct/Academic Integrity
  - E. Class Attendance
  - F. Students with disabilities
- VII. Course Content

Part 1 – Chapters 1 -4	<ul style="list-style-type: none"> <li>• Safety in the Welding Shop</li> <li>• Print Reading</li> <li>• Reading Welding Symbols</li> <li>• Welding and Cutting Process</li> </ul>
Part 2 – Chapters 5 - 6	<ul style="list-style-type: none"> <li>• Shielded Arc Welding Equipment and Supplies</li> <li>• Shielded Metal Arc Welding</li> </ul>
Part 3 – Chapters 7 – 9	<ul style="list-style-type: none"> <li>• GTAW and GMAW Equipment and Supplies</li> <li>• Gas Tungsten Arc Welding</li> <li>• Gas Metal Arc Welding</li> </ul>
Part 4 – Chapters 10 - 11	<ul style="list-style-type: none"> <li>• Plasma Arc Cutter</li> <li>• Arc and Oxygen Arc Cutting Equipment and Processes</li> </ul>
Part 5 – Chapters 12 - 17	<ul style="list-style-type: none"> <li>• Oxy Fuel Gas Welding Equipment and Supplies</li> <li>• Oxy Fuel gas Welding</li> <li>• Oxy Fuel Gas Cutting Equipment and Supplies</li> <li>• Qxy Fuel Gas Cutting</li> <li>• Soldering</li> <li>• Brazing and Braze Welding</li> </ul>
Part 6 – Chapters 18 - 19	<ul style="list-style-type: none"> <li>• Resistance Welding Equipment and Suppliers</li> <li>• Resistance Welding</li> </ul>
Part 7 – Chapters 20 - 26	<ul style="list-style-type: none"> <li>• Special Welding Processes</li> <li>• Special Ferrous Welding Applications</li> <li>• Special Non-Ferrous Welding Applications</li> <li>• Pipe and Tube Welding</li> <li>• Special Cutting Processes</li> <li>• Automatic and Robotic Welding</li> <li>• Metal Surfacing</li> </ul>
Part 8 – Chapter 27 - 29	<ul style="list-style-type: none"> <li>• Production of Metals</li> <li>• Metal Properties and Identification</li> <li>• Heat Treatment of Metals</li> </ul>
Part 9 – Chapter 30 - 34	<ul style="list-style-type: none"> <li>• Inspecting and Testing Welds</li> <li>• Procedures and Welder Qualifications</li> <li>• The Welding Shop</li> </ul>

	<ul style="list-style-type: none"><li>• Getting and Holding a Job in the Welding Industry</li><li>• Technical Data</li></ul>
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Last Modified: September 20, 2016