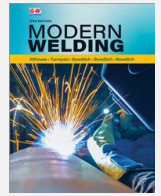
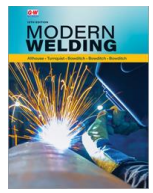


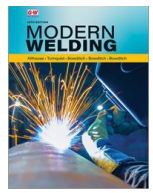
**Goodheart-Willcox**  
**Correlation of Modern Welding ©2024**  
**To Georgia Department of Education**  
**Architecture and Construction Career Cluster**  
**Welding I (ACCT-WI)**  
**Course Number 48.55100**



Course Task/Competency Lists		Correlating Textbook Pages
<b>AC-WI-1</b> <b>Demonstrate employability skills required by business and industry.</b> <b>The following elements should be integrated throughout the content of this course.</b>		
1.1	Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.	855-856
1.2	Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.	855-856
1.3	Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.	855-856
1.4	Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.	855-856
1.5	Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.	855-856
1.6	Present a professional image through appearance, behavior and language.	855-856
<b>AC-WI-2</b> <b>Demonstrate proficiency in Arc Welding &amp; Oxyfuel Safety.</b>		
2.1	Explain some common hazards in arc welding and oxyfuel cutting.	19-24
2.2	Demonstrate proficiency in use of proper personal protection equipment.	6-9, 19-24, 136-138
2.3	Demonstrate proficiency in the proper use of safety data sheets.	10, 875 - 876
2.4	Demonstrate proficiency in the proper material handling methods	14-15, 840
<b>AC-WI-3</b> <b>Identify and use oxyfuel cutting equipment with acetylene and alternate fuels (propane).</b>		
3.1	Explain and demonstrate proper oxyfuel cutting safety.	16 - 18
3.2	Demonstrate setting up and disassembling oxyfuel equipment.	81-82, 421-442
3.3	Demonstrate lighting, adjusting, and making cuts with acetylene gas.	81-82,421-442



Course Task/Competency Lists		Correlating Textbook Pages
3.4	Demonstrate lighting, adjusting, and making cuts with propane gas (alternate fuel).	81-82, 421-442
3.5	Demonstrate setting up and operating a motorized cutting machine.	683-684
<b>AC-WI-4</b>		
<b>Identify and use welding symbols and read detailed drawings.</b>		
4.1	Identify and use the parts of welding symbols.	48-66
4.2	Identify and use of basic welding symbols for fillet welds, groove welds, and other basic welds.	39-46, 158-159
4.3	Identify and demonstrate the use of elements of a detailed drawing.	27-35
4.4	Interpret welding symbols from a detailed drawing.	48-66
4.5	Identify and use the basic weld types, weld joints, and weld positions.	39-48
<b>AC-WI-5</b>		
<b>Identify and explain welding procedures and testing.</b>		
5.1	Identify and explain common destructive and nondestructive weld test methods.	783 - 800
5.2	Identify and explain the American Welding Society (AWS) codes for welding.	809 - 813
5.3	Identify and explain the elements of Welding Procedure Specification (WPS).	132, 813-816
5.4	Identify and explain the requirements for a Welding Performance Qualification Record (WPQR).	817 - 819
<b>AC-WI-6</b>		
<b>Demonstrate knowledge of basic shielded metal arc welding (SMAW).</b>		
6.1	Demonstrate setting up equipment for basic shield metal arc welding (SMAW).	73 – 75, 105, 171 - 174 , 200-201
6.2	Demonstrate the preparation of base metal for welding.	39
6.3	Identify and explain the American Welding Society (AWS) classification of electrodes.	508 - 510
6.4	Identify and explain the proper AWS codes for fillet weld quality.	44, 158-159
6.5	Demonstrate performing of fillet welds using E7018 and E6010 electrodes in the flat, horizontal, vertical, and overhead positions to AWS code.	44, 158-159
<b>AC-WI-7</b>		
<b>Demonstrate knowledge of basic shielded metal arc welding (SMAW).</b>		
7.1	Demonstrate setting up of equipment for gas metal arc welding (GMAW).	73-75, 105, 171-174, 200-201
7.2	Demonstrate preparation of base metal for welding.	39
7.3	Identify and explain the American Welding Society (AWS) classification of wire.	75, 176-177
7.4	Identify and explain the proper AWS codes for fillet weld quality.	44, 158-159



Course Task/Competency Lists		Correlating Textbook Pages
7.5	Demonstrate performing fillet welds in the flat, horizontal, vertical, and overhead positions to AWS code.	44, 158-159
<b>AC-WI-8</b>		
<b>Demonstrate knowledge of plasma arc cutting.</b>		
8.1	Identify and explain the proper safety procedures and fume extraction for plasma arc cutting.	311-312, 319-329
8.2	Identify and explain the use of plasma arc cutting processes.	311 -312, 319-329
8.3	Identify and describe setting up plasma arc cutting equipment.	311-312 , 319-329
8.4	Demonstrate the knowledge required to perform various cuts with plasma arc on various materials, including steel, aluminum, and stainless steel.	311-329
<b>AC-WI-9</b>		
<b>Examine how SkillsUSA is a co-curricular part of career and technical education through leadership development, school and community service projects, and competitive events.</b>		
9.1	Explain the purpose, mission, objectives, motto, colors, official dress and other distinguishing characteristics of SkillsUSA.	852
9.2	Explain how participation in SkillsUSA can promote lifelong responsibility for community service, professional growth and development.	852
9.3	Explore the impact and opportunities that SkillsUSA can develop to bring business and industry together with education in a positive working relationship through innovative leadership and career development programs.	852
9.4	Explore the local, state, and national opportunities available to students through participation in SkillsUSA, including but not limited to conferences, competitions, community service, philanthropy, and other SkillsUSA activities.	852