

Welding Technology Year 1

Scope & Sequence

Semester 1		Semester 2	
District Pre-Assessment Unit 1 (Week1) Basic Safety Shop Safety procedures (Standards: 1.0) Unit 2 & 3 (Week 2) Construction Math & Welding Safety Basic math skills Shop Safety procedures (Standards: 1.0, 7.0) Units 4 & 5 (Weeks 3-7) Oxy-Fuel & Plasma Arc Cutting OFC equipment & projects PAC equipment & projects (Standards: 1.0, 2.0, 7.2, 7.3) Unit 6 & 7 (Week 8) SMAW Equipment, Setup &	Welding Thunder Unit 8 (Weeks 9-16) SMAW Beads & Fillet Welds 1F Pad Welds using 6010 & 7018 2F, 3F, 4F Tee-joints using 6010 & 7018 (Standards: 1.0, 2.4, 3.4, 3.5, 8.3, 9.0) Units 9 & 10 (Week 17) Hand Tools & Weld Quality Identify hand tools Identify weld defects (Standards: 9.7) Units 11 & 12 (Week 18) Base Metal Prep, Joint Fit-up & Alignment Prepping of materials Fit-up/Alignment of plate & pipe (Standards: 8.0)	SkillsUSA Regional Conference Unit 13 (Weeks 22-31) SMAW Groove welds with Backing 3G, 4G groove welds with backing (AWS Weld Certification) (Standards: 1.0, 2.2, 2.4, 3.5, 7.5, 8.2, 8.3, 9.0) Unit 14 (Week 28) Power Tools Identify power tools (Standards: 9.0)	Unit 15 (Weeks 32-37) SMAW Open Groove Welds 2G, 3G, 4G open groove welds (Standards: 1.0, 2.2, 2.4, 3.5, 7.5, 8.1, 8.3, 9.0) SkillsUSA State Conference Cochise College Welding Competition Best in the West Competition Unit 16 (Weeks 34-39) Carbon Arc Gouging & Cutting Remove weld from joint and cut a u-groove (Standards: 7.4) Unit 17 (Week 37) Construction Drawings
Electrodes ● SMAW Equipment	ctrodes SMAW Equipment Identify electrode classification & storage SMAW Groove welds with Packing	ed over the course of the year	Identify parts on a construction drawing (Standards: 2.0) District Post-Assessment SkillsUSA National Conference National Center for Construction Education & Research (NCCER) Level 1 Certification

Workplace Employability Skills & Leadership Development - SkillsUSA



Welding Technology Year 2

Scope & Sequence

Semester 1		Semester 2	
Unit 1 (Week 1) Reading Welding Detail Drawings Identify parts of blueprint (Standards: 2.0) Unit 2 (Week 1-2) Welding Symbols Identify weld symbols (Standards: 2.0) Unit 3 (Week 2-5) SMAW Open Groove Welds 3G, 4G open groove welds (Standards: 1.1, 2.2, 2.4, 3.5, 7.5, 8.1, 8.3, 9.0)	Welding Thunder Unit 6 (Week 11-21) GMAW/FCAW: Plate 3F, 4F FCAW tee-joints 2G, 3G, 4G FCAW v-groove with backing (AWS Weld Certification) 2F, 3F GMAW spray transfer (Standards: 1.1, 2.4, 4.5, 7.5, 8.1, 8.3, 9.0) SkillsUSA Fall Conference Unit 7 (Week 17) Basic Rigging	SkillsUSA Regional Conference Unit 9 (Week 22-23) GMAW/FCAW: Plate 4F GMAW spray transfer 2G GMAW open groove weld (Standards: 1.1, 2.4, 4.5, 7.5, 8.3, 9.7) Unit 10 & 11 (Week 24) Physical & Mechanical Properties of Metal Identify mechanical properties of metal (Standards: 8.1) Unit 11 (Week 24) GTAW Equipment & Filler Metals Identify GTAW equipment	Unit 14 (Week 31-39) GTAW: Plate 3G, 4G open v-groove welds on carbon steel 1G aluminum butt-joint 2F aluminum tee-joint 2F aluminum lap-joint 2F stainless steel tee-joint (Standards: 1.1, 2.4, 6.2, 6.5, 6.6, 7.5, 8.3, 9.7) SkillsUSA State Conference Cochise Welding Comp
Unit 4 (Week 6) GMAW/FCAW Equipment & Filler Metals Identify GMAW/FCAW Equip Identify filler metals (Standards: 4.1, 4.2, 4.3, 4.4, 4.7, 5.1, 5.2, 5.3) Unit 5 (Week 610) GMAW/FCAW: Plate	 Rigging hand signals Lifting loads Unit 8 (Week 17) Intro to Material Handling Proper lifting techniques Semester Exam	 Identify GTAW equipment Identify gases & filler metal (Standards: 6.1, 6.2, 6.3, 6.4) Unit 12 (Week 24-31) GTAW: Plate 1F Pad weld on carbon steel 2F, 3F, 4F t-joints on carbon steel 2G, 3G open v-groove weld on carbon steel (Standards: 1.1, 2.4, 6.7, 8.3, 9.7) 	Best In The West Comp ADE Skill Standards Assessment Unit 15 (Week 37) Basic Employability Skills Identify keys to good & bad employability skills SkillsUSA National Conference
 2F, 3F, 4F GMAW short-circuit transfer 2F FCAW tee-joint (Standards: 1.1, 2.4, 4.5, 8.1, 8.3, 9.0) 		Unit 13 (Week 28) Basic Communication Skills Identify keys to good & bad communication skills	NCCER Core & Level 2 Certification

Learning experiences provided over the course of the year Workplace Employability Skills & Leadership Development – SkillsUSA

(Standards: WES Standard IC)