Kentucky CTE

Advanced Manufacturing: Welding Technology: Gas Metal Arc Welding and Lab 480522 (2026–2027)

Practice and perform safe shop procedures at all times. 1	1 Practice and perform safe shop procedures at all times. 1
Apply the technical math required for employment opportunities in welding. 2	2 Apply the technical math required for employment opportunities in welding. 2
Perform all duties with integrity, responsibility, quality, discipline and teamwork. 3	3 Perform all duties with integrity, responsibility, quality, discipline and teamwork. 3
Use lab equipment and tools. 4	4 Use lab equipment and tools. 4
Apply principles of GMAW to weld metals, including FCAW and SMAW. 5	5 Apply principles of GMAW to weld metals, including FCAW and SMAW. 5
Apply knowledge of the effects of variables of GMAW to weld plate and pipe. 6	6 Apply knowledge of the effects of variables of GMAW to weld plate and pipe. 6
Apply knowledge of ba co ph	7 Apply knowledge of basic metallurgy to control chemical, physical, and nechanical properties of alloy steels. 7

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mechanical properties of alloy steels. 7	
Identify and select filler materials for GMAW processes. 8	8 Identify and select filler materials for GMAW processes. 8
Weld fillet welds in all positions using various transfer modes on steel, stainless steel, and aluminum. 9	9 Weld fillet welds in all positions using various transfer modes on steel, stainless steel, and aluminum. 9
Additional content is optional for all pathways but must be taught for students in Welding TRACK CIP 48.0508.99	1 Interpret and apply tolerances. 1 2 Interpret and apply American Welding Society welding symbols. 2 3 Draw shop sketches. 3 4 Read and interpret blueprints. 4 5 Interpret lines. 5 6 Interpret views to include AWS (ISO symbols optional). 6 7 Interpret conventional and datum line dimensions. 7 8 Interpret and apply tolerances. 8 9 Interpret sectioning and section lines. 9 10 Apply principles of oxy-fuel systems to cut, weld, braze, and braze-weld with oxy-fuel. 10 11 Apply principles of controlling distortion. 11 12 Set up components of oxy-fuel equipment and set up procedures. 12 13 Apply oxyfuel-cutting applications and procedures. 13 14 Apply oxy-fuel welding applications and procedures. 14 15 Apply brazing and braze welding principles and applications. 15