



Welding Technology/Welder Classification of Instructional Program (CIP) 48.0508

Units of Instruction and Task Grid Linked to Pennsylvania Core Standards

100 Occupational Orientation and Safety

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>101 Prepare and mark time or job sheet, reports or records.</p> <p>102 Perform housekeeping duties daily.</p> <p>103 Follow verbal instructions to complete work assignments and rules.</p> <p>104 Follow written instructions to complete work assignments and rules.</p> <p>105 Demonstrate proper use and inspection of Personal Protection Equipment (PPE).</p> <p>106 Demonstrate proper work area operation.</p> <p>107 Demonstrate proper use of ventilation equipment.</p> <p>108 Discuss proper Hot Zone operation.</p> <p>109 Understand proper work actions for working in confined spaces.</p> <p>110 Understand MSDS sheets and precautionary labeling.</p> <p>111 Demonstrate proper use and inspection of equipment used for each required welding and thermal cutting process.</p> <p>112 Display familiarity with industrial and OSHA safety standards.</p> <p>113 Demonstrate knowledge of oxyfuel safety procedures.</p> <p>114 Demonstrate knowledge of arc welding safety procedures.</p> <p>115 Demonstrate emergency action plan (all inclusive).</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D</p>	

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200 Principles of Welding

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<p>201 Identify major types of metals (ferrous and non-ferrous) used in welding.</p> <p>202 Describe the basic principles of heat, expansion and contraction as it relates to metals.</p> <p>203 Select appropriate welding technique, equipment and supplies for a given metal or process.</p> <p>204 Describe the industry accepted welding codes, standards and procedures and their use.</p> <p>205 Identify various joint designs (joint geometry).</p> <p>206 Clean and prepare materials for welding and/or cutting.</p> <p>207 Demonstrate proper use of hand tools and power equipment.</p> <p>208 Demonstrate proper use of standard measuring and layout tools.</p> <p>209 Demonstrate proper use of one power equipment.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc. TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products. PRODUCTION &</p>	

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300 Welding, Drawing, and Weld Symbol Interpretation

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<p>301 Interpret basic elements of a drawing or sketch.</p> <p>302 Interpret welding symbol information.</p> <p>303 Fabricate parts from a drawing or sketch (class project).</p> <p>304 Identify structural metals used in the Metal Fabrication field.</p> <p>305 Demonstrate knowledge of basic metric conversion.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	

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400 Visual Examination, Inspection, and Testing

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<p>401 Evaluate cut surfaces and edges of prepared base metal parts for testing.</p> <p>402 Identify and evaluate weld discontinuities as per accept/reject criteria.</p> <p>403 Demonstrate visual inspection and destructive and nondestructive techniques.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	<p>Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p>

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500 Shielded Metal Arc Welding (SMAW)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>501 Perform safety inspections of SMAW equipment and accessories.</p> <p>502 Make minor external repairs to SMAW equipment and accessories.</p> <p>503 Set up and operate SMAW equipment.</p> <p>504 Make fillet welds in all positions.</p> <p>505 Make groove welds in all positions.</p> <p>506 Pass performance test in all positions.</p> <p>507 Perform qualification test.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>and other domain specific words... Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text. Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure... INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc.... INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research. RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.11-</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research. RANGE OF WRITING GRADES 9-12 Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

600 Gas Metal Arc Welding (GMAW)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>601 Perform safety inspections of GMAW equipment and accessories.</p> <p>602 Make minor external repairs to GMAW equipment and accessories.</p> <p>603 Set up and operate GMAW equipment.</p> <p>604 Make fillet welds in all positions.</p> <p>605 Make groove welds in all positions.</p> <p>606 Pass performance test.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	<p>Standard 2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.</p> <p>Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p>

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).</p> <p>Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem.</p> <p>Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc....</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.</p> <p>Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p> <p>Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.11-</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-12</p> <p>Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

700 Flux Cored Arc Welding (FCAW)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>701 Perform safety inspections of Flux Cored Arc equipment and accessories.</p> <p>702 Make minor external repairs to Flux Cored Arc equipment and accessories.</p> <p>703 Set up and operate FCAW equipment.</p> <p>704 Make fillet welds in all positions.</p> <p>705 Pass performance test.</p> <p>706 Demonstrate a groove weld in all positions.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</p> <p>Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).</p> <p>Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem.</p> <p>Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc....</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</p> <p>Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.</p> <p>Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p> <p>Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12</p> <p>Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D</p> <p>Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10</p> <p>Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH GRADES 11-12</p> <p>Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.11-</p>	

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		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-12</p> <p>Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

800 Gas Tungsten Arc Welding (GTAW)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>801 Perform safety inspections of GTAW equipment and accessories.</p> <p>802 Make minor external repairs to GTAW equipment and accessories.</p> <p>803 Set up and operate GTAW equipment.</p> <p>804 Make fillet welds, in all positions, on ferrous materials.</p> <p>805 Pass performance test on ferrous materials.</p> <p>806 Set up and operate GTAW on nonferrous materials.</p> <p>807 Make fillet welds on nonferrous materials.</p> <p>808 Pass performance test on nonferrous materials.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	<p>Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p>

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		<p>and other domain specific words... Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text. Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure... INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc.... INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research. RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.11-</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research. RANGE OF WRITING GRADES 9-12 Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

900 Manual Oxyfuel Gas Cutting (OFC)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>901 Perform safety inspections of OFC equipment and accessories.</p> <p>902 Make minor external repairs to OFC equipment and accessories.</p> <p>903 Set up for manual OFC operations on steel.</p> <p>904 Operate manual OFC equipment.</p> <p>905 Perform straight cutting operations on steel.</p> <p>906 Perform shape cutting operations on steel.</p> <p>907 Perform bevel cutting operations on steel.</p> <p>908 Perform piercing operations on steel.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	<p>Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p>

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>and other domain specific words... Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text. Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure... INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc.... INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research. RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.11-</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research. RANGE OF WRITING GRADES 9-12 Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1000 Mechanized Oxyfuel Gas Cutting (OFC)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1001 Perform safety inspections of mechanized OFC equipment and accessories.</p> <p>1002 Make minor external repairs to mechanized OFC equipment and accessories.</p> <p>1003 Set up and operate OFC equipment on steel.</p> <p>1004 Perform straight cutting operations on steel.</p> <p>1005 Perform bevel cutting operations on steel.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc....</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>and other domain specific words... Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text. Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure... INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc.... INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding. RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research. RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.11-</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research. RANGE OF WRITING GRADES 9-12 Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1100 Manual Plasma Arc Cutting (PAC)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1101 Perform safety inspections of PAC equipment and accessories.</p> <p>1102 Make minor external repairs to PAC equipment and accessories.</p> <p>1103 Set up and operate manual PAC operations on ferrous and nonferrous materials.</p> <p>1104 Perform shape cutting operations on ferrous and nonferrous materials.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</p> <p>Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).</p> <p>Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem.</p> <p>Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc....</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</p> <p>Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.</p> <p>Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p> <p>Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12</p> <p>Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D</p> <p>Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10</p> <p>Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH GRADES 11-12</p> <p>Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.11-</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-12</p> <p>Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1200 Manual Air Carbon Arc Cutting (CAC-A)

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1201 Perform safety inspections of CAC-A equipment and accessories.</p> <p>1202 Make minor external repairs to CAC-A equipment and accessories.</p> <p>1203 Set up and operate manual CAC-A gouging and cutting operations on steel.</p> <p>1204 Perform gouging and scarfing operations, to remove base and weld metal, on steel.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc....</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc.... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc....</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms,</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION &</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</p> <p>Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).</p> <p>Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem.</p> <p>Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc....</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</p> <p>Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.</p> <p>Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p> <p>Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10 and 11-12</p>	<p>DISTRIBUTION OF WRITING GRADES 11-12</p> <p>Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D</p> <p>Standard CC.3.6.11-12.D.Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10</p> <p>Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.9-10.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH GRADES 11-12</p> <p>Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.11-</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-12</p> <p>Standard CC.3.5.9-10.I AND Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1300 Brazing and Soldering

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1301 Set up and operate silver oxyfuel brazing and silver soldering equipment.</p> <p>1302 Perform brazing and silver soldering operations.</p>	<p>CLUSTER: Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAY(S) INCLUDE Production Career Pathway (Select Standards) 1-2-3-4-5</p>			