

Vocational Welding Curriculum Design

Power Standards

Students will be able to:

1. Utilize hand tools in their proper application in a safe manner.
2. Set up and troubleshoot welding parameters.
3. Complete welds in the major processes: SMAW, GMAW, GTAW.
4. Operate efficiently in a full functioning manufacturing environment

Power Benchmarks

Students will be able to:

1. Apply shop and equipment safety rules in accordance with Occupational Safety and Health Association guidelines.
2. Evaluate a weld for imperfections and code specifications.
3. Demonstrate the ability to properly dial in a machine to the proper welding parameters.
4. Demonstrate the ability to successfully complete SMAW welds in the flat, horizontal, and vertical positions.
5. Demonstrate the ability to successfully complete GMAW welds in the flat, horizontal, and vertical positions.
6. Demonstrate the ability to successfully complete GTAW welds in the flat, horizontal, and vertical positions.
7. Demonstrate the ability to safely set up and utilize a cutting torch operation.
8. Properly use a plasma cutting machine to part an piece of raw material.
9. Demonstrate the ability to properly troubleshoot a GMAW wire feeding mechanism.
10. Demonstrate the ability to properly don personal protective gear during the completion of out of position welding operations.

Vocational Welding Curriculum Design

Students will be able to:

1. Utilize hand tools in their proper application in a safe manner.
 - Demonstrate the ability to safely set up and utilize a cutting torch operation. (7)
 - Properly use a plasma cutting machine to part an piece of raw material. (8)

2. Set up and troubleshoot welding parameters.
 - Demonstrate the ability to properly dial in a machine to the proper welding parameters. (3)
 - Demonstrate the ability to properly troubleshoot a GMAW wire feeding mechanism. (9)

3. Complete welds in the major processes: SMAW, GMAW, GTAW.
 - Evaluate a weld for imperfections and code specifications. (2)
 - Demonstrate the ability to successfully complete SMAW welds in the flat, horizontal, and vertical positions. (4)
 - Demonstrate the ability to successfully complete GMAW welds in the flat, horizontal, and vertical positions. (5)
 - Demonstrate the ability to successfully complete GTAW welds in the flat, horizontal, and vertical positions. (6)

4. Operate efficiently in a full functioning manufacturing environment.
 - Apply shop and equipment safety rules in accordance with Occupational Safety and Health Association guidelines. (1)
 - Demonstrate the ability to properly don personal protective gear during the completion of out of position welding operations. (10)

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

Power Standard 4: Operate efficiently in a full functioning manufacturing environment.

Power Benchmark/Competency #1:

Demonstrate the ability to draft training welds into various drafting software.

Estimated Timeline: Self-paced throughout entire year.

Place 'X' in square if goal addresses Essential/Content Standard(s).

Career	Technology	Critical Thinking	Global	Personal Responsibility
X	X	X		X
Math	Science	Language Arts	Social Studies	Fine/Visual Arts

Understandings (Standards & Benchmarks):

Students will understand that...

- Realize the career of welding encompasses more than just the hands on skill of welding.

Essential Questions:

- What steps lead up to the actual welding process?

Students will know:

- How to work at self-teaching the skill of computer aided drafting.
- Formulate an opinion on a possible career pathway.

Students will be able to (i.e. do)...

- Convey to teammates through the use of a computer aided drafting blueprint a component part to fabricate.

Stage 2 – Assessment Evidence

Performance Tasks: (i.e. Assessment used to determine proficiency on competency)

- Use a computer to generate on a variety of software programs the projects to be completed as a part of the class.

Key Criteria: (Rubric)

- Blueprints graded on a 10 point scale with nothing less than a 7 being considered acceptable.

Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrate the ability to draft training welds into various drafting software.

Power Benchmark/Competency: # 1

Learning Activities:	Resources:
➤ Lecture.	
➤ Demonstrations.	
➤ Tutorials.	

Stage 3
Work in Progress

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 3: Complete welds in the major processes: SMAW, GMAW, GTAW.</p> <p>Power Benchmark/Competency #2: Successfully complete the American Red Cross First Aid and CPR Course</p> <p>Estimated Timeline: 2 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <td style="padding: 5px;">Math</td> <td style="padding: 5px;">Science</td> <td style="padding: 5px;">Language Arts</td> <td style="padding: 5px;">Social Studies</td> <td style="padding: 5px;">Fine/Visual Arts</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts		X			
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X		X		X																	
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	X																				
<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ First aid and CPR plays a vital role in industrial safety. ➤ These certifications will aid in resume credentials. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ Why is CPR and First Aid an important skill to learn for working in industry? ➤ How might I apply the First aid and CPR skills in my chosen career field? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to apply these skills in an emergency setting. ➤ How attaining these skills may someday save the life of fellow worker, relative, or family member. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate through practical and written examination the skills needed to properly administer CPR and First Aid. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Practical American Red Cross CPR and First Aid Examination. ➤ Written American Red Cross First Aid and CPR Certification Examination. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Attendance of 100% during lecture and practical demonstrations. ➤ Completion to American Red Cross standards the practical and written examination administered at the end of the training session.
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Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Successfully complete the American Red Cross First Aid and CPR Course

Power Benchmark/Competency: # 2

Learning Activities:	Resources:
Lecture	
Practical demonstration using dummies	

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 2: Set up and troubleshoot welding parameters.</p> <p>Power Benchmark/Competency #3: Demonstrate proficiency to AWS D1.1 standards a guided bend test using the GMAW process in all four positions.</p> <p>Estimated Timeline: 4 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <td style="padding: 5px;">Math</td> <td style="padding: 5px;">Science</td> <td style="padding: 5px;">Language Arts</td> <td style="padding: 5px;">Social Studies</td> <td style="padding: 5px;">Fine/Visual Arts</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Career welders weld to a code and are required to be certified prior to being allowed to weld on the job. ➤ The skills attained in GMAW training will provide them the basics to completing the guided bend test. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ Why is it important to successfully complete the guided bend test in all positions? ➤ What is the logic behind the guided bend test. ➤ How will completing the guided bend test benefit me in the future? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to weld to a standard. ➤ The importance of job certifications in relation to welder liability. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate the ability to complete the guided bend test in all positions and analyze the completed welds for adherence to the AWS D1.1 code. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Follow a blueprint and code to complete the AWS D1.1 guided bend test in all four positions. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Pass or fail based on guided bend test scoring criteria.
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Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrate proficiency to AWS D1.1 standards a guided bend test using the GMAW process in all four positions.

Power Benchmark/Competency: #3

Learning Activities:	Resources:
Daily welding activities. All welds to be completed utilizing GMAW process in flat, horizontal, vertical, and overhead positions.	

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 3: Complete welds in the major processes: SMAW, GMAW, GTAW.</p> <p>Power Benchmark/Competency #4: Demonstrate proficiency to AWS D1.1 standards a guided bend test using the GTAW process in all four positions.</p> <p>Estimated Timeline: 4 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <td style="padding: 5px;">Math</td> <td style="padding: 5px;">Science</td> <td style="padding: 5px;">Language Arts</td> <td style="padding: 5px;">Social Studies</td> <td style="padding: 5px;">Fine/Visual Arts</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Career welders weld to a code and are required to be certified prior to being allowed to weld on the job. ➤ The skills attained in GTAW training will provide them the basics to completing the guided bend test. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ Why is it important to successfully complete the guided bend test in all positions? ➤ What is the logic behind the guided bend test. ➤ How will completing the guided bend test benefit me in the future? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to weld to a standard. ➤ The importance of job certifications in relation to welder liability. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate the ability to complete the guided bend test in all positions and analyze the completed welds for adherence to the AWS D1.1 code. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Follow a blueprint and code to complete the AWS D1.1 guided bend test in all four positions. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Pass or fail based on guided bend test scoring criteria.
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Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrate proficiency to AWS D1.1 standards a guided bend test using the GTAW process in all four positions.

Power Benchmark/Competency: #4

Learning Activities:	Resources:
Daily welding activities. All welds to be completed utilizing GTAW process in flat, horizontal, vertical, and overhead positions.	

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 3: Complete welds in the major processes: SMAW, GMAW, GTAW.</p> <p>Power Benchmark/Competency #5: Demonstrate the ability to weld different materials both ferrous and nonferrous in composition.</p> <p>Estimated Timeline: 2 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffff00;"> <th style="padding: 2px;">Career</th> <th style="padding: 2px;">Technology</th> <th style="padding: 2px;">Critical Thinking</th> <th style="padding: 2px;">Global</th> <th style="padding: 2px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr style="background-color: #ffff00;"> <th style="padding: 2px;">Math</th> <th style="padding: 2px;">Science</th> <th style="padding: 2px;">Language Arts</th> <th style="padding: 2px;">Social Studies</th> <th style="padding: 2px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts		X			
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	X																				
<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ There is a difference between ferrous and nonferrous metals. ➤ The welding processes necessary to fuse different base metals are somewhat varied. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What is the difference between ferrous and nonferrous metals. ➤ What processes are utilized to join ferrous and nonferrous base materials. 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to tell the difference between a ferrous and nonferrous material. ➤ What welding processes are required for various ferrous and nonferrous metals. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Successfully weld aluminum and stainless steel in various joint configurations and various positions. Standards are to be set by the Hobart Training Series Specifications. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Series of Hobart training welds. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Scored on 10 point scale with nothing less than a score of 7 being acceptable.
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Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrate the ability to weld different materials both ferrous and nonferrous in composition.

Power Benchmark/Competency: #5

Learning Activities:	Resources:
Lecture materials on processes applicable to ferrous and nonferrous materials.	
Demonstrations.	

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 3: Complete welds in the major processes: SMAW, GMAW, GTAW.</p> <p>Power Benchmark/Competency #6: Demonstrate proficiency to AWS D1.1 standards a guided bend test using the OFW process in all four positions.</p> <p>Estimated Timeline: 4 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr style="background-color: #ffff00;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffff00;"> <th style="padding: 5px;">Math</th> <th style="padding: 5px;">Science</th> <th style="padding: 5px;">Language Arts</th> <th style="padding: 5px;">Social Studies</th> <th style="padding: 5px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Career welders weld to a code and are required to be certified prior to being allowed to weld on the job. ➤ The skills attained in OFW training will provide them the basics to completing the guided bend test. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ Why is it important to successfully complete the guided bend test in all positions? ➤ What is the logic behind the guided bend test? ➤ How will completing the guided bend test benefit me in the future? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to weld to a standard. ➤ The importance of job certifications in relation to welder liability. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate the ability to complete the guided bend test in all positions and analyze the completed welds for adherence to the AWS D1.1 code. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Follow a blueprint and code to complete the AWS D1.1 guided bend test in all four positions. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Pass or fail based on guided bend test scoring criteria.
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Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrate proficiency to AWS D1.1 standards a guided bend test using the OFW process in all four positions.

Power Benchmark/Competency: # 6

Learning Activities:	Resources:
Daily welding activities. All welds to be completed utilizing OFW process in flat, horizontal, vertical, and overhead positions.	

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 1: Utilize hand tools in their proper application in a safe manner.</p> <p>Power Benchmark/Competency #7: Demonstrate correct automated plasma cutting equipment set-up and execution in the manufacture of a mass production unit.</p> <p>Estimated Timeline: 3 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;">X</td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <td style="padding: 5px;">Math</td> <td style="padding: 5px;">Science</td> <td style="padding: 5px;">Language Arts</td> <td style="padding: 5px;">Social Studies</td> <td style="padding: 5px;">Fine/Visual Arts</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X	X	X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Automated systems are a cost effective and efficient way to mass produce saleable product. ➤ Automated plasma cutting is a major process found in industry today. ➤ Automated plasma cutting leads to an increased awareness of the processes currently used to increase production in industry. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What is an automated process? ➤ How does automation affect the bottom line of a product? ➤ What careers are available in the automated process field of industry?
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<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to operate a computer aided drafting software. ➤ How to transfer a computer generated cutting template to a robotic plasma cutter. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate through the use of an individual mass production unit the proper way to maximize efficiency on a computer aided manufacturing process. ➤ Design and draft into a computer aided plasma cutting system a project to be cut using an automated system.
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Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Design and manufacture in bulk a mass production project. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Rubric will be designed to allot point totals to various aspects of the production.
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Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrate correct automated plasma cutting equipment set-up and execution in the manufacture of a mass production unit.

Power Benchmark/Competency: # 7

Learning Activities:	Resources:
Mass production lecture.	
Efficiency lecture and exercise.	

Vocational Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 1: Utilize hand tools in their proper application in a safe manner.</p> <p>Power Benchmark/Competency #8: Compose a professional resume complete with cover letter.</p> <p>Estimated Timeline: 1 week</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffff00;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffff00;"> <td style="padding: 5px;">Math</td> <td style="padding: 5px;">Science</td> <td style="padding: 5px;">Language Arts</td> <td style="padding: 5px;">Social Studies</td> <td style="padding: 5px;">Fine/Visual Arts</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts			X		
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<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Properly composing a resume may lead to increased probabilities of future employment. in today’s industrial environment. ➤ Cover letters are an important aspect of the application process. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What is the proper way to organize a professional resume? ➤ What is the purpose of a cover letter? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ The proper information to include in a resume. ➤ The professional way to compose a cover letter for inclusion in the resume process. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Write a professional resume complete with cover letter. The resume will be saved in a computer format for easy reference post high school. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Write a resume. ➤ Write a cover letter to go along with the resume. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Elements of a properly composed resume and business letter assigned a point value. Percentage scoring based on point total receive out of point total.
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Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Compose a professional resume complete with cover letter.

Power Benchmark/Competency: #8

Learning Activities:	Resources:
Resume writing lecture and template.	
Cover letter writing lecture and template.	

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Stage 1 – Desired Results:

Power Standard 2: Set up and troubleshoot welding parameters.

Power Benchmark/Competency #9:

Demonstrate proficiency to AWS D1.1 standards a guided bend test using the SMAW process in all four positions.

Estimated Timeline: 4 weeks

Place 'X' in square if goal addresses Essential/Content Standard(s).

Career	Technology	Critical Thinking	Global	Personal Responsibility
X		X		X
Math	Science	Language Arts	Social Studies	Fine/Visual Arts

Understandings (Standards & Benchmarks):

Students will understand that...

- Career welders weld to a code and are required to be certified prior to being allowed to weld on the job.
- The skills attained in SMAW training will provide them the basics to completing the guided bend test.

Essential Questions:

- Why is it important to successfully complete the guided bend test in all positions?
- What is the logic behind the guided bend test.
- How will completing the guided bend test benefit me in the future?

Students will know...

- How to weld to a standard.
- The importance of job certifications in relation to welder liability.

Students will be able to (i.e. do)...

- Demonstrate the ability to complete the guided bend test in all positions and analyze the completed welds for adherence to the AWS D1.1 code.

Stage 2 – Assessment Evidence

Performance Tasks: (i.e. Assessment used to determine proficiency on competency)

- Follow a blueprint and code to complete the AWS D1.1 guided bend test in all four positions.

Key Criteria: (Rubric)

- Pass or fail based on guided bend test scoring criteria.

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Stage 3 – Learning Plan:

Demonstrate proficiency to AWS D1.1 standards a guided bend test using the SMAW process in all four positions.

Power Benchmark/Competency: #9

Learning Activities:	Resources:
Daily welding activities. All welds to be completed utilizing SMAW process in flat, horizontal, vertical, and overhead positions.	

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Stage 1 – Desired Results:

Power Standard 4: Operate efficiently in a full functioning manufacturing environment.

Power Benchmark/Competency #10:

Interpret welding symbols from a blueprint and use this information to fabricate the given part.

Estimated Timeline: 2 weeks

Place 'X' in square if goal addresses Essential/Content Standard(s).

Career	Technology	Critical Thinking	Global	Personal Responsibility
X		X		X
Math	Science	Language Arts	Social Studies	Fine/Visual Arts

Understandings (Standards & Benchmarks):

Students will understand that...

- Not being able to read from a blueprint renders the skill of welding basically useless in today's industrial environment.
- Fabricators use blueprint reading in everyday life.

Essential Questions:

- How will welding symbols be used in my welding career.
- How will the lack of blueprint reading skills prohibit my future advancement in the welding career?

Students will know...

- How different weld symbols call-out different types of welded joints.
- The location around the weld symbol of various parameters and specifications required for a particular weld.

Students will be able to (i.e. do)...

- Read a blueprint complete with welding symbols and fabricate the blueprinted product within tolerance.

Stage 2 – Assessment Evidence

Performance Tasks: (i.e. Assessment used to determine proficiency on competency)

- Weld symbol identification exercises.
- Weld symbol identification in daily weld completions.

Key Criteria: (Rubric)

- Percentage scoring based on number of exercises Pass or fail based on guided bend test scoring criteria.

Vocational Welding Curriculum Design

Stage 3 – Learning Plan:

Interpret welding symbols from a blueprint and use this information to fabricate the given part.

Power Benchmark/Competency: #10

Learning Activities:	Resources:
Welding symbol lecture.	
Welding symbol problem solving exercises.	