

Program Information & Skill Alignment Chart for:

Metal Fabrication – CIP Code 48.0506

Mount Joy Campus

Form to be submitted to IU 13 with PIF

Program Description	<ul style="list-style-type: none"> • Create and fabricate custom metalwork. • Build and troubleshoot advanced sheet metasystems. • Operate state-of-the-art metal-shaping equipment.
Program Information (costs, certification s, uniform)	<p><u>Textbooks-</u> (Provided to Students):</p> <p><u>Uniforms- Approximately \$200-\$400 Depending on the number of uniforms purchased, brand of pants and brand of boots.</u></p> <p><u>-Leather work boots, steel toe is required, red LCCTC uniform T-shirts and dark blue work pants (Dickies, Carhart)</u></p> <p>Students need to purchase more than 2 Shirt/Pants to comply with uniform cleanliness standards. The school will provide all tools required for the completion of each technical program. Some programs may require students who choose to participate in Cooperative Education to purchase their own tools prior to employment.</p> <p><u>Program Opportunities/Certifications</u></p> <ul style="list-style-type: none"> • ABC Registration • Ladder Safety Certification • OSHA 10 • Forklift • Sheet Metal Level 1 • Core Curriculum
Program Outline & Pathways	<p><u>Program Task Outline</u></p> <ul style="list-style-type: none"> • Orientation • Safety • Hand Tools • Handheld Power Tools • Machines & Equipment • Sheet Metal Mathematics • Blueprints • Sheet Metal Pattern Drafting • Project Layout & Fabrication • Welding Applications • Installation of Mechanical Systems • Professional Development <p><u>Careers Pathways:</u></p> <ul style="list-style-type: none"> • CAD Layout/Detailer/Draftsman, OJT • Custom Metal Worker, OJT • Heavy Shear/Brake Operator, OJT • HVAC Residential & Commercial Installer, OJT • Layout Worker, OJT • Mechanic & Assembler, OJT • Metal Fabricator & Roofer, OJT • Millwright, OJT Sheet Metal Installer, OJT • Sheet Metal Production Worker, OJT • Siding/Spouting Installer, OJT • Structural Steel Worker, OJT • Welder, OJT • ** OJT- On-the-Job Training <p><u>Post-Secondary and Continuing Education Options:</u></p> <ul style="list-style-type: none"> • Stevens Tech- 2-4-year degree • Penn Tech-2-4-year degree • HACC- 2-4-year degree <p><u>Millwright</u></p> <ul style="list-style-type: none"> • Sheet Metal Workers-Apprenticeship

		<ul style="list-style-type: none"> • Iron Workers -Apprenticeship • ABC -Apprenticeship
Other Information <i>Include Articulation Agreements</i>	<ul style="list-style-type: none"> • Student to teacher ratio is 25:1 	

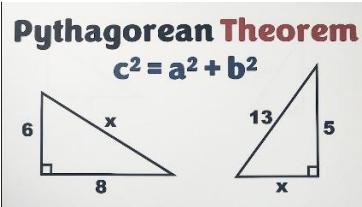
Student Name: _____ **District:** _____

Skill Alignment Chart for:
Metal Fabrication – CIP Code: 48.0506

Educational and Physical Attributes	Program Expectations	Present Education Level and Current Supports
Program Safety / Physical Considerations	<ul style="list-style-type: none"> • Sitting, standing, walking, and repetitive tasks • Climb ladders, work at heights • Ability to lift 50 lbs. • Hand-Eye coordination • Ability to work independently • Excellent self-discipline to focus for extended periods • Visual acuity • Depth perception • Fine Motor dexterity 	
Action/Need:		
Program Environment Indoor/outdoor Dust/dirt/fume/noise etc. Layout of room – theory/lab	These industries are typically hot, heavy, dirty, dangerous and have flashing lights. For this reason, they are positions that pay well. Noise is above 100dB and requires ear protection	
Action/Need:		
Typical level of support	At CTC, we have itinerant IU13 support teachers and paraeducators. In the itinerant model, the support teachers have multiple programs and	

	<p>provide check-ins during the day. The itinerant model does not include co-taught classes where teachers are in classes for extended periods of time. IU13 paraeducators also support several teachers, spreading out their day between multiple programs.</p> <p>The learning center is available at scheduled times for testing accommodations, study/instructional groups, and work completion support. Since time there takes away from lab time, students are encouraged to use it strategically.</p>	
Action/Need:		
Reading / ELA Levels: <i>Examples:</i>	<ul style="list-style-type: none"> • Technical Reading Skills • 10th grade reading level 	
Action/Need:		
Writing Levels: <i>Examples</i>	<ul style="list-style-type: none"> • Technical Reading Skills • 10th grade reading level 	
Action/Need:		
Math Levels: <u>Example:</u> The company that you work for produces metal alloys. The alloy you are working on requires a make-up of 20% iron and 80% nickel, by weight. How many grams of iron should be added to 40 grams of nickel?	<ul style="list-style-type: none"> • 10th grade math • Conversions • Fractions • Decimals • Algebra • Right angle Trigonometry • This program requires a significant amount of measurement including the measurement of angles in degrees when fabricating irregularly shaped items 	

A piece of tapered, circular duct must be 25 inches long. At one end the opening must be 5 inches in diameter. The opposite end must be 8 inches in diameter. Including a $\frac{3}{4}$ inch overlap at the joint, what will the size of the material be? The piece will be shaped by making eight equally spaced bends along the length of the piece. What will the distance between bends be at each end of the material?



$$1 \frac{3}{4} - \frac{9}{16} = ?$$

Action/Need:

Theory time

- 20%

Action/Need:

Homework

Amount per night

- An average of two hours per week will need to be spent outside of class. This will vary from one student to another and also depends on the level of productivity during the school day.

Action/Need:

Lab Time

Guided vs Independent Work

- 80% (10% guided, 70% independent)

Action/Need:		
Tests <i>NOCTI testing – Y/N</i> <i>Frequency of tests/quizzes</i>	<ul style="list-style-type: none"> • No NOCTI • Weekly Tests and/or Quizzes 	
Action/Need:		
Behavioral Expectations <i>Executive Function</i> <i>Organizational skills</i>	<ul style="list-style-type: none"> • MUST be able to follow all school and classroom rules for safety reasons • Demonstrate initiative, responsibility, time management and critical thinking skills • Good attendance • Good physical health • Ability to groom well and maintain a neat appearance with a uniform • Ability to work in small groups • Good problem-solving skills • Good self-control • Ability to follow oral and written directions • Good time management skills • Good critical thinking skills 	
Action/Need:		
Other <i>Technology skills specific to the program.</i> <i>Additional skills that are valuable for program success.</i>	<ul style="list-style-type: none"> • Basic computer and keyboarding skills • Organization of materials and time • Ability to prioritize • Attention to detail • Mechanical ability • Ability to pass a drug test for employment 	

Action/Need:		

District Representative Signature _____ *Date* _____