

**Sheet Metal Fabricator Certificate**  
**Course Descriptions**  
**2009 - 2010**

<b>REQUIRED COURSES</b>
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<b>MATH1000 Math I</b>	<b>60 Hours</b>
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This course offers an introduction to basic mathematics, including operations with whole numbers, fractions, and decimals, as well as averages and percentages.

<b>SHML1100 Metal Working I</b>	<b>210 Hours</b>
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Students learn shop safety and proper use of hand and power tools. Students use measuring instruments such as micrometers, calipers, circumferences rules, and surface plate instruments, read technical drawings and blueprints, build quality seams and joints used in sheet metal fabrication, practice riveting and soldering, and use flat pattern and precision layout techniques to fabricate various items. Items made in this course include: a dustpan, letterbox, toolbox and several other precision sheet metal parts.

<b>SHML1200 Metal Working II</b>	<b>150 Hours</b>
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Students use advance layout techniques, including triangulation and radial line development, lay out and construct all basic fittings for heating and air conditioning systems, use architectural sheet metal work, lay out and fabricate sheet metal items to a close degree of tolerance, practice precision measuring techniques using a variety of tools, and program computerized sheet metal fabrication equipment from blueprint specifications.

<b>SHML2200 HVAC Blueprint Reading</b>	<b>60 Hours</b>
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In this blueprint reading course, students study inch rules, fractional and decimal divisions, architectural scale, protractors, orthographic projection, architectural symbols, plumbing symbols, electrical symbols, welding symbols, and sheet metal symbols. Skills learned are applied to reading architectural and sheet metal drawings, as well as warm air heating, ventilation, and air conditioning plans. Students also learn about materials, gutters, downspouts, and ventilation systems.

<b>SHML1010 Sheet Metal Math</b>	<b>240 Hours</b>
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This math course covers U.S. and Metric measuring units and how to convert between them, formulas in finding tolerances, areas, perimeters, and circumferences of various objects, real numbers, including integers and rational numbers, applying concepts of ratios and proportions, algebra, geometry, trigonometry, and solving problems mathematically.

<b>SHML2500 Sheet Metal Welding</b>	<b>90 Hours</b>
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This course teaches the principles of gas metal arc welding (GMAW). Students weld fillets and grooves in all positions. In order to pass the course, certain welds must be completed within predetermined specifications.

<b>BTEC1110 Computer Literacy</b>	<b>90 Hours</b>
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This course provides a fundamental understanding of computing including knowledge and use of computer hardware, software, and operating systems, and use of word processing, spreadsheet, database, Internet and e-mail applications.