

**COURSE FAB1090: SHEET FABRICATION 1 (HAND PROCESSES)****Level:** Introductory**Theme:** Fabrication Processes**Prerequisite:** FAB1010 Fabrication Tools & Materials**Description:** Students use basic tools, materials and processes to fabricate sheet materials into finished products, models or prototypes.**Parameters:** Access to a materials work centre complete with basic hand tools.**Curriculum and Assessment Standards**

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe basic tools and processes used to fabricate sheet stock</li> <li>demonstrate basic measurement and layout skills and techniques</li> <li>apply basic sheet stock fabrication skills and techniques to produce a product</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>identification, description and use of a basic set of sheet fabrication tools to include one or more:               <ul style="list-style-type: none"> <li>– measurement and marking tools</li> <li>– layout and squaring tools</li> <li>– cutting and drilling tools</li> <li>– fastening and forming tools.</li> </ul> </li> </ul> <p><i>Standard</i> <i>Accurate identification and description of 10 tools used in sheet stock fabrication</i></p>	10
	<ul style="list-style-type: none"> <li>application of measurement and layout techniques to create a pattern or template that is <math>\pm 1</math> mm of the original plan</li> </ul>	30
	<ul style="list-style-type: none"> <li>successful completion of a sheet stock product that uses appropriate separating, combining and forming techniques associated with a given material.</li> </ul> <p><i>Assessment Tool</i> <i>Product Assessment: Working with Sheet Stock, FAB1090–1</i></p> <p><i>Standard</i> <i>The product should be structurally sound, free of surface defects and conform to the overall size and shape requirements</i> <i>Performance rating of 1 for each applicable task</i></p>	60

**COURSE FAB1090: SHEET FABRICATION 1 (HAND PROCESSES) (continued)**

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>demonstrate basic competencies.</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>observations of individual effort and interpersonal interaction during the learning process.</li> </ul> <p><i>Assessment Tool</i>  <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>Integrated throughout</p>

Concept	Specific Outcomes	Notes
<p>Orientation</p> <ul style="list-style-type: none"> <li>Sheet and Board Stock</li> <li>Layout and Marking Processes</li> <li>Cutting Sheet Stock</li> <li>Bending and Forming</li> </ul>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>identify the common types and sources of sheet and board stock; e.g.:               <ul style="list-style-type: none"> <li>card stock</li> <li>sheet metal</li> <li>acrylic plastic</li> <li>corrugated card and plastic</li> <li>foam board</li> <li>styrofoam</li> </ul> </li> <li>identify and demonstrate the appropriate transfer and marking processes for a variety of sheet and board materials</li> <li>describe the process of separating sheet stock by:               <ul style="list-style-type: none"> <li>shearing</li> <li>scoring and snapping</li> <li>sawing</li> <li>hot wire cutting</li> </ul> </li> <li>describe the process of forming sheet stock using a:               <ul style="list-style-type: none"> <li>strip heater</li> <li>box and pan brake</li> <li>slip roll</li> <li>vacuum former.</li> </ul> </li> </ul>	<p>By working with a variety of sheet materials, students can better understand the working properties.</p> <p>Students will require a lab demonstration of these processes.</p>

**COURSE FAB1090: SHEET FABRICATION 1 (HAND PROCESSES)** (continued)

Concept	Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>• Combining Sheet Stock</li> </ul>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• research typical joining and fastening techniques related to the use of:                             <ul style="list-style-type: none"> <li>– mechanical joints and fasteners</li> <li>– adhesive</li> <li>– cohesives.</li> </ul> </li> </ul>	
<p>Planning and Management</p> <ul style="list-style-type: none"> <li>• Operation Sequencing</li> </ul>	<ul style="list-style-type: none"> <li>• prepare a pattern or template to transfer folding and cutting lines</li> <li>• create a systematic sequence of operations to fabricate a product.</li> </ul>	
<p>Implementation</p> <ul style="list-style-type: none"> <li>• Material Processing and Fabrication</li> <li>• Finishing</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate basic skills related to the use of: layout and marking tools                             <ul style="list-style-type: none"> <li>– cutting tools</li> <li>– forming tools</li> <li>– bonding materials</li> <li>– fastening devices</li> </ul> </li> <li>• apply suitable finishes and surface details to a model, prototype or product.</li> </ul>	<p>Consider the use of sheet stock to make models of products</p>
<p>Assessment</p> <ul style="list-style-type: none"> <li>• Quality Control</li> <li>• Career Preparation</li> </ul>	<ul style="list-style-type: none"> <li>• analyze a product for the overall attention to:                             <ul style="list-style-type: none"> <li>– workmanship</li> <li>– accuracy</li> <li>– structural soundness</li> <li>– quality of finish</li> </ul> </li> <li>• prepare a record of completed activities within a portfolio.</li> </ul>	

