

## MODULE CON1160: MANUFACTURED MATERIALS

**Level:** Introductory

**Theme:** Manufacturing Systems (Processes and Applications)

**Prerequisite:** CON1010 Basic Tools & Materials

**Module Description:** Students select and use the appropriate materials and tools to build a product or structure from a wood composite or other manufactured material.

**Module Parameters:** Access to a materials work centre, complete with basic hand and power tools, and to instruction from an individual with specialized training in the use of power tools.

**Supporting Module:** CON1120 Project Management

### Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe the characteristics of common manufactured materials</li> <li>demonstrate the safe use of a given hand and power tool</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>identification and description of a variety of common manufactured sheet materials.</li> </ul> <p><i>Assessment Tool</i>  <i>Response Assessment: Characteristics of Manufactured Materials, CON1160-1</i></p> <p><i>Standard</i>  <i>The accurate identification and description of four different manufactured sheet products</i>  <i>Response rating of 1</i></p>	15
	<ul style="list-style-type: none"> <li>safe set-up, use and shut-down procedures related to the safe use of one or more stationary/portable power tools.</li> </ul> <p><i>Assessment Tool</i>  <i>Use the appropriate power tools performance check list such as:</i>  <i>Equipment Checklist: Drill Press, CONEQUIP-1</i>  <i>Equipment Checklist: Bandsaw, CONEQUIP-2</i></p> <p><i>Standard</i>  <i>All procedures of operation are performed according to standard practice and specific recommendations of the equipment manufacturer</i></p>	15



**MODULE CON1160: MANUFACTURED MATERIALS (continued)**

Concept	Specific Learner Expectations	Notes
<ul style="list-style-type: none"> <li>• Construction Processes</li> <li>• Tool Safety</li> <li>• Finishing</li> </ul>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• describe typical methods of constructing a product from a manufactured material; e.g.:               <ul style="list-style-type: none"> <li>– types of joints</li> <li>– fastening systems</li> <li>– edge treatments</li> </ul> </li> <li>• identify the factors that determine the quality of a wood joint</li> <li>• describe the safe operation of hand and power tools to make dado, rabbet and miter joints in plywood and other manufactured materials</li> <li>• identify and describe common methods used to finish plywood and other wood substitutes.</li> </ul>	<p>Discuss how the type of joint affects the overall strength, usefulness and appearance of a product.</p> <p>Note the advantages of using KD (knock down) joints and hardware used in many of today's products.</p>
<p>Planning and Management</p>	<ul style="list-style-type: none"> <li>• select or modify a plan for a project that incorporates basic joinery and edge treatment techniques</li> <li>• create a bill of materials, cutting list and event sequence.</li> </ul>	<p>Have students consider a project such as a:</p> <ul style="list-style-type: none"> <li>• tool box</li> <li>• portable work bench</li> <li>• shelving unit</li> <li>• speaker enclosure</li> <li>• storage unit.</li> </ul>
<p>Implementation</p> <ul style="list-style-type: none"> <li>• Material Processing</li> </ul>	<ul style="list-style-type: none"> <li>• use the appropriate tools, materials and processes to:               <ul style="list-style-type: none"> <li>– measure and lay out the components</li> <li>– cut to size and surface all edges</li> <li>– edge bond all exposed surfaces as required</li> <li>– machine the appropriate joints</li> <li>– assemble and clamp</li> <li>– attach the appropriate hardware</li> <li>– prepare for finishing</li> <li>– apply a suitable finish.</li> </ul> </li> </ul>	<p>Discuss the importance of sizing all parts before laying out and cutting the joints.</p>

**MODULE CON1160: MANUFACTURED MATERIALS** (continued)

Concept	Specific Learner Expectations	Notes
Assessment <ul style="list-style-type: none"><li data-bbox="207 443 444 474">• Quality Control</li><li data-bbox="207 604 391 667">• Career Preparation</li></ul>	<i>The student should:</i> <ul style="list-style-type: none"><li data-bbox="487 449 1122 583">• conduct a visual inspection of components to see that the joints are tight fitting, surfaces are free of marks, edges are covered and finished appropriately</li><li data-bbox="487 604 1122 667">• maintain a record of completed activities within a portfolio.</li></ul>	