

MODULE CON2120: MULTIPLE MATERIALS

Level: Intermediate

Theme: Manufacturing Systems (Processes and Applications)

Prerequisite: CON1120 Project Management

Module Description: Students develop a product that incorporates two or more types of material in its construction.

Module Parameters: Access to a fully equipped materials facility and to instruction from an individual with specialized training in the use of common materials and tools.

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"> identify advantages of using different materials in a product 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> knowledge of the properties of common structural materials and formulation of criteria for using unlike materials for a given application. <p><i>Assessment Tool</i> <i>Project Assessment: Products from Multiple Materials, CON2120-1</i></p> <p><i>Standard</i> <i>Presentation should include the identification of relevant properties and choice based on appearance, serviceability and cost of materials</i> <i>Performance rating of 2 for each applicable task</i></p>	10	
	<ul style="list-style-type: none"> apply knowledge of structural materials, planning, and construction techniques to produce a product from different materials 	<ul style="list-style-type: none"> the demonstration of production skills to produce a product made from two or more different materials. <p><i>Assessment Tool</i> <i>Project Assessment: Products from Multiple Materials, CON2120-1</i></p> <p><i>Standard</i> <i>The project should be built using the appropriate materials, joinery and finishing techniques; all joints are to be tight fitting and square; finishes are to be smooth and free from production defects. Overall dimensions should be ± 2 mm</i> <i>Performance rating of 2 for each applicable task</i></p>	70
			20

MODULE CON2120: MULTIPLE MATERIALS (continued)

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

Concept	Specific Learner Expectations	Notes
<p>Orientation</p> <ul style="list-style-type: none"> Material Characteristics Fastening and Finishing Systems Health and Safety 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> describe the properties of common production materials research and state the reasons for using combinations of wood, metal, plastic, ceramic and other materials identify the methods by which different materials are fastened together identify the types of finishes that are compatible with wood, metal, plastic, ceramic and other surfaces identify health and safety concerns associated with a given material. 	<p>Base reasons on:</p> <ul style="list-style-type: none"> appearance serviceability ease of construction strength cost etc. <p>Consider mechanical means as well as bonding agents.</p> <p>Refer to WHMIS Material Safety data sheets for appropriate handling use and storage of materials.</p>

MODULE CON2120: MULTIPLE MATERIALS (continued)

Concept	Specific Learner Expectations	Notes
<p>Planning and Management</p> <ul style="list-style-type: none"> • Product Design • Work Scheduling 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • select, modify or design a product that incorporates two or more materials in its construction • select compatible finishes • create a cutting list and cost estimate • prepare a detailed sequence of operations that facilitates the safe and efficient use of materials and tools. 	
<p>Implementation</p> <ul style="list-style-type: none"> • Material Processing • Finishing 	<ul style="list-style-type: none"> • use the appropriate tools and supplies to safely: <ul style="list-style-type: none"> – measure and lay out components – cut and remove waste from materials – form components where required – fasten or bond components – align and clamp components – prepare for finishing • finish the product using appropriate finishes. 	
<p>Assessment</p> <ul style="list-style-type: none"> • Quality Control • Career Preparation 	<ul style="list-style-type: none"> • identify indicators of a quality product • maintain a record of completed activities within a portfolio. 	<p>Discuss issues related to appearance, serviceability, workmanship and cost-effectiveness.</p>

