

MODULE CON1010: BASIC TOOLS & MATERIALS

Level: Introductory

Theme: Building Systems (Processes and Applications)

Prerequisite: None

Module Description: Students develop basic hand tool and production skills to transform, safely, common building materials into useful products.

Module Parameters: Access to a materials work centre, complete with basic hand 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 and describe the safe use of basic hand tools 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> the identification and description of 20 basic hand tools used in construction and fabrication to include two or more: <ul style="list-style-type: none"> – measurement and layout tools – cutting and boring tools – assembly and dismantling tools – abrading and sharpening tools. <p><i>Assessment Tool</i> <i>Presentations/Reports: Hand Tools, CON1010–1</i> <i>Illustrative Example: Hand Tool Presentation, CON1010–2</i></p> <p><i>Standard</i> <i>Correct identification and description of 16 basic hand tools</i> <i>Performance rating of 1 for each applicable task</i></p>	15
<ul style="list-style-type: none"> identify and compare the properties of common materials used in construction and fabrication activities 	<ul style="list-style-type: none"> a written or oral presentation that compares the properties of four different materials in any two of the following material categories: <ul style="list-style-type: none"> – solid and manufactured wood products – ferrous and nonferrous metals – thermoforming and thermosetting plastics – clay and concrete products. <p><i>Assessment Tool</i> <i>Presentations/Reports: Material Identification, CON1010–3</i></p> <p><i>Standard</i> <i>Performance rating of 1 for each applicable task</i></p>	15

MODULE CON1010: BASIC TOOLS & MATERIALS (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • apply construction/fabrication processes and skills to produce a product • demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • demonstration of safe construction and fabrication skills to plan, construct/fabricate, assemble and finish a useful product. <p><i>Assessment Tool</i> <i>Assessment Framework: Project Assessment, CONPRO</i></p> <p><i>Standard</i> <i>The product is made according to the prepared drawing and event sequence, tools and materials are used according to accepted safe practice</i> <i>Performance rating of 1 for each applicable task</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 style="text-align: center;">70</p> <p style="text-align: center;">Integrated Throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Orientation</p> <ul style="list-style-type: none"> • Tools and Equipment • Materials 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify and describe basic hand tools that are used to measure, mark, hold, cut, form, fasten and finish materials • identify and compare the properties of a variety of common materials used to make artifacts and structures • identify common shapes, sizes and forms of construction and fabrication materials 	<p>Introduce students to the safe use of manually operated and power assisted hand tools.</p> <p>Discuss reasons for choosing one material over another for a given application.</p>

MODULE CON1010: BASIC TOOLS & MATERIALS (continued)

Concept	Specific Learner Expectations	Notes
<ul style="list-style-type: none"> • Health and Safety • Production Systems 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • describe appropriate methods to handle, recycle, store and dispose materials • identify and demonstrate the appropriate use of personal protective equipment • identify steps to be taken in the event of an accident • outline the typical phases in a production system; e.g.: <ul style="list-style-type: none"> – planning – constructing/fabricating – assembling – finishing – evaluating. 	<p>Help students evaluate the short- and long-term impact of the choice of a material on the health of individuals and the environment.</p> <p>Compare those activities to the input, process, output and feedback mechanisms described in other technological systems.</p>
<p>Planning and Management</p> <ul style="list-style-type: none"> • Product Development 	<ul style="list-style-type: none"> • select or modify a plan for a simple product that will meet a defined need • identify and select the appropriate tools, materials and processes required to make the product • list the steps that are required to make a product in a safe and logical order. 	<p>Students are more highly motivated if they can choose and personalize a project.</p>
<p>Implementation</p> <ul style="list-style-type: none"> • Material Processing 	<ul style="list-style-type: none"> • develop basic construction/fabrication skills by building, assembling and finishing a variety of products. 	<p>In addition to woods and metals, students should gain experience using a variety of materials such as plastic and earths.</p>
<p>Assessment</p> <ul style="list-style-type: none"> • Product Quality • Career Preparation 	<ul style="list-style-type: none"> • describe ways to improve product quality and productivity • create a record of completed activities within a portfolio. 	<p>Students should be encouraged to make reflective notes and keep a record of their completed work.</p>

