

**COURSE CON2030: ALTERNATIVE FOUNDATIONS**

<b>Level:</b>	Intermediate
<b>Theme:</b>	Building Systems (Processes and Applications)
<b>Prerequisite:</b>	CON1010 Basic Tools & Materials
<b>Description:</b>	Students develop basic knowledge and skills related to the design and construction of an alternative foundation system.

**Parameters:** Access to a building site and/or construction facility and to instruction from an individual with specialized training in carpentry.

**Supporting Courses:** CON2020 Concrete Forming; CON1070 Building Construction

**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 the components of an alternative foundation system</li> <li>identify the health hazards and precautions related to the use of engineered materials</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>a written or oral presentation that correctly identifies the materials and design features of one or more alternative foundations systems</li> </ul> <p style="text-align: center;"><i>and</i></p> <ul style="list-style-type: none"> <li>knowledge of product labels for safe use and disposal of alternative foundations materials.</li> </ul> <p><i>Assessment Tool</i> <i>Presentations/Reports: Wood Foundations, CON2030-1</i></p> <p><i>Standard</i> <i>Performance rating of 2 for each applicable task</i></p>	25
<ul style="list-style-type: none"> <li>apply construction skills to assist in the design/ construction of an alternative foundation system</li> </ul>	<ul style="list-style-type: none"> <li>observation of the construction and placement of an alternative foundation or display model.</li> </ul> <p><i>Assessment Tool</i> <i>Activity Assessment: Wood Foundation Framing, CON2030-2</i></p> <p><i>Standard</i> <i>Foundation/display model is built according to local code requirements, components are assembled and appropriately braced. Walls are moisture proofed and correctly back filled. Overall dimensions are within ± 3 mm over 6 meters</i> <i>Performance rating of 2 for each applicable task</i></p>	75

**COURSE CON2030: ALTERNATE FOUNDATIONS (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>Alternative Systems and Materials</li> <li>Related Building Codes</li> <li>System Design</li> </ul>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>describe alternative foundation systems and materials such as:                             <ul style="list-style-type: none"> <li>concrete masonry block</li> <li>preserved wood</li> <li>foam form</li> </ul> </li> <li>identify local building codes that pertain to the design and construction of alternative foundation systems</li> <li>label and describe the parts of a typical preserved wood, masonry block and/or foam form foundation</li> <li>list and describe the factors that determine the design and construction of a footing and wall section for one or more alternative systems</li> <li>describe levelling and plumbing techniques that are used with a particular foundation system</li> <li>describe recommended methods that are used to control drainage and damp-proof an alternative foundation system</li> <li>describe the flooring options that can be used with an alternative foundation system.</li> </ul>	<p>Discuss the advantages and disadvantages of using an alternative foundation system.</p> <p>Explain why walls should be designed to take advantage of block/ sheet sizes.</p> <p>Discuss typical methods to attach a sill plate to a given wall system.</p>

**MODULE CON2030: ALTERNATIVE FOUNDATIONS** (continued)

Concept	Specific Learner Expectations	Notes
<p>Planning and Management</p> <ul style="list-style-type: none"> <li>• Structural Design</li> <li>• Health and Safety</li> </ul>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• prepare a sketch of an alternative foundation that identifies construction details, size and spacing of component, as well as sealing, drainage and damp-proofing features</li> <li>• identify suitable personal protective equipment and recommended procedures related to the use of alternative materials</li> <li>• describe suitable methods used to dispose of scrap materials.</li> </ul>	<p>Review the safe use of power tools common to construction activities.</p> <p>Refer to product labels and material safety data sheets for appropriate directions when using wood preservatives.</p> <p>Students should avoid prolonged inhalation of dust. Wood preservatives should not be allowed to come in contact with skin or food.</p> <p>Treated wood and foam scraps should not be burned in open fires or fireplaces.</p>
<p>Implementation</p>	<ul style="list-style-type: none"> <li>• use the appropriate tools, materials and processes to: <ul style="list-style-type: none"> <li>– level the footings and create the necessary drainage system</li> <li>– lay out and assemble the wall section</li> <li>– seal joints and apply a vapour seal/ damp-proofing</li> <li>– backfill without damaging the moisture barrier.</li> </ul> </li> </ul>	<p>Discuss the safe use of liquid preservatives.</p>
<p>Assessment</p> <ul style="list-style-type: none"> <li>• Career Information</li> <li>• Career Preparation</li> </ul>	<ul style="list-style-type: none"> <li>• identify opportunities for entrepreneurial ventures and further training associated with alternate foundation systems</li> <li>• maintain a record of completed activities within a portfolio.</li> </ul>	

