

MODULE CON3100: COMMERCIAL STRUCTURES

Level: Advanced

Theme: Building Systems (Processes and Applications)

Prerequisite: CON1070 Building Construction

Module Description: Students investigate structural designs, construction techniques and work-site practices related to commercial construction.

Module Parameters: Access to a commercial construction site and/or construction facility and to instruction from an individual with formal, specialized training in carpentry.

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"> compare the differences between residential, institutional and commercial construction 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> presentation of a written report that compares residential, institutional and commercial construction on the basis of: <ul style="list-style-type: none"> the intended use the nature of specifications and codes types of foundations and superstructures job site organization specialized skills and trade requirements. <p><i>Assessment Tool</i> <i>Assessment Framework: Presentations/Reports, CTSPRE</i></p> <p><i>Standard</i> <i>Performance rating of 3 for each applicable task</i></p>	20
<ul style="list-style-type: none"> describe common types of materials and construction techniques used in commercial construction 	<ul style="list-style-type: none"> incorporation of common materials and construction techniques used in a model or in photographs and diagrams of a commercial/institutional construction project. <p><i>Assessment Tool</i> <i>Assessment Framework: Activity Assessment, CONACT</i></p> <p><i>Standard</i> <i>The model should be as realistic as possible and should maintain a set scale throughout. Photographs should show essential design features and structural materials and components</i> <i>Performance rating of 3 for each applicable task</i></p>	40

MODULE CON3100: COMMERCIAL STRUCTURES (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate commercial construction job site expectations and skill requirements • demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • correct usage of appropriate rigging techniques and personal protective equipment. <p><i>Standard</i> <i>All procedures are performed according to accepted practices</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;">40</p> <p>Integrated throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Orientation</p> <ul style="list-style-type: none"> • Foundations and Structural Systems • Walls and Surfaces 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify the major differences between a residential and commercial/institutional construction project • describe the techniques used to build a shallow and deep foundation for commercial/institutional buildings • describe the various floor systems and components that are used in commercial/institutional construction • compare structural steel framing techniques with those of reinforced concrete framing • explain the advantage of using curtain walls in highrise buildings • describe typical methods of installing utilities in commercial buildings • identify common methods of finishing exterior and interior surfaces 	<p>Highlight different uses, construction techniques, building codes and working conditions.</p> <p>Students should be encouraged to visit a construction site and interview the workers.</p>

MODULE CON3100: COMMERCIAL STRUCTURES (continued)

Concept	Specific Learner Expectations	Notes
<ul style="list-style-type: none"> • Worker Safety 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify the personal protective equipment that is required on the job site • demonstrate the basic lift signals used on the construction site • identify typical rigging techniques that are used to transport materials • define the term safe working load • describe correct methods of installing and securing scaffolding • describe the role of a safety supervisor on a job site. 	<p>Demonstrate the proper use of ropes, chains and cables as well as shackles, hooks and knots.</p>
<p>Planning and Management</p>	<ul style="list-style-type: none"> • describe worker expectations on a typical job site • list and describe the personal protective equipment required on a job site. 	
<p>Implementation</p>	<ul style="list-style-type: none"> • demonstrate the proper use of: <ul style="list-style-type: none"> – slings and hitches – knots – hand signals • produce a scale model or illustrated log that features common materials and techniques used in commercial/residential construction. 	
<p>Assessment</p> <ul style="list-style-type: none"> • Career Information • Career Preparation 	<ul style="list-style-type: none"> • identify the working conditions, employment and training opportunities related to heavy construction • maintain a record of completed activities within a portfolio. 	

