Apprenticeship Manitoba

Manitoba

Carpenter
Level 3

Rev. September 2017

Apprenticeship Manitoba

Carpenter

Unit: C4 Pre-Cast Concrete

Level: Three

Duration: 9 hours

Theory: 9 hours

Practical: 0 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of pre-cast concrete components and of the procedures used to cast and install pre-cast concrete components.

Objectives and Content:		**Percent of Unit Mark (%)**
1.	**Define terminology associated with pre-cast concrete.**	**10%**
2.	**Identify hazards and describe safe work practices pertaining to pre-cast concrete.**	**10%**
3.	**Interpret codes, regulations and information found on drawings and specifications pertaining to pre-cast concrete.**	**10%**
4.	**Identify tools and equipment used with pre-cast concrete, and describe their applications and procedures for use.**	**10%**
5.	**Identify pre-cast concrete components, accessories and materials, and describe their characteristics and applications.**	**30%**
6.	**Describe the procedures to construct, install and reinforce pre-cast concrete components and accessories.**	**30%**

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Unit: C5 Suspended Slab, Beam, Wall and Column Forms

Level: Three

Duration: 25 hours

Theory: 16 hours

Practical: 9 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of suspended slab, beam, wall and column forms, their characteristics and applications, and of the procedures used to construct and dismantle suspended slab, beam, wall and column forms.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Define terminology associated with suspended slab, beam, wall and column forms.	**5%**
2. Identify hazards and describe safe work practices pertaining to suspended slab, beam, wall and column forms.	**2%**
3. Interpret codes, regulations, manufacturers' specifications and information found on drawings, specifications and engineers' documentation, pertaining to the construction of suspended slab, beam, wall and column forms.	**10%**
4. Identify tools and equipment used with suspended slab, beam, wall and column forms, and describe their applications and procedures for use.	**3%**
5. Identify types of suspended slab, beam, wall and column forms, and describe their characteristics and applications. a. Loose forming/panel forming b. Proprietary forming c. Insulated concrete forms (ICF) d. Slip forms/self-jacking forms e. Gang forms	**15%**
6. Identify types of form accessories and support structures, and describe their characteristics and applications. a. Falsework b. Pans c. Drop panels d. Shores e. Re-shores f. Table forms g. Proprietary forms	**15%**

7.	**Describe the procedures and products used to construct, dismantle and recondition suspended slab, beam, wall and column forms.**	**5%**
8.	**Identify types of embedded materials and describe the procedures used to place them.**	**5%**
9.	**Describe the procedures used to re-shore suspended slabs and beams.**	**5%**
10.	**Calculate materials needed to construct suspended slab, beam, wall and column forms, and calculate the volume of concrete required.**	**10%**
11.	**Demonstrate the procedures to construct and dismantle suspended slab, beam, wall and column forms.**	**25%**

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Unit: D4 Roof Framing II

Level: Three

Duration: 72 hours

Theory: 30 hours

Practical: 42 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of components, accessories and materials used to lay out and frame equal and unequal slope intersecting roofs, and of the procedures used to lay out and frame equal and unequal slope intersecting roofs.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Define terminology associated with equal and unequal slope intersecting roofs.	**5%**
2. Identify hazards and describe safe work practices pertaining to equal and unequal slope intersecting roofs.	**2%**
3. Interpret codes, regulations and information found on drawings and specifications pertaining to equal and unequal slope intersecting roofs.	**5%**
4. Identify tools and equipment used in the construction of equal and unequal slope intersecting roofs and describe their applications and procedures for use.	**2%**
5. Identify types of equal and unequal slope intersecting roofs, and describe their applications and procedures for use. a. gable b. hip b. intersecting	**3%**
6. Identify equal and unequal slope intersecting roof framing components, accessories and materials, and describe their purpose, characteristics and applications.	**3%**
7. Describe the procedures used to lay out and frame equal and unequal slope intersecting roofs.	**10%**
8. Describe the procedures used to lay out and install engineered equal and unequal slope intersecting roof trusses.	**10%**
9. Calculate dimensions associated with equal and unequal slope intersecting roof layout.	**20%**

10. Calculate materials needed to frame an equal and unequal slope intersecting roof. 10%

a. Framing components
b. Sheathing

11. Demonstrate the procedures to lay out and frame an equal and unequal slope intersecting roof. 30%

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Unit: **F2 Stairs II**

Level: Three

Duration: 44 hours

Theory: 14 hours

Practical: 30 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of interior wood stairs and concrete stair forms, their characteristics and applications, and of the procedures used to lay out, construct, dismantle and recondition interior wood stairs and concrete stair forms.

Objectives and Content:		**Percent of Unit Mark (%)**
1.	**Define terminology associated with interior wood stairs and concrete stair forms.**	**3%**
2.	**Identify hazards and describe safe work practices pertaining to interior wood stairs and concrete stair forms.**	**2%**
3.	**Interpret codes, regulations and information found on drawings and specifications pertaining to interior wood stairs and concrete stair forms.**	**5%**
4.	**Identify tools and equipment used with interior wood stairs and concrete stair forms, and describe their applications and procedures for use.**	**5%**
5.	**Identify types of interior wood stairs, concrete stairs and concrete stair form components and accessories, and describe their characteristics, purpose and applications.**	**5%**
6.	**Identify materials and accessories used to construct interior wood stairs and concrete stair forms.**	**5%**
7.	**Describe the procedures and products used to lay out, construct, dismantle and recondition concrete stair forms.**	**10%**
8.	**Identify types of embedded materials and reinforcing components for concrete stairs, and describe their purpose, characteristics and applications.**	**5%**
9.	**Describe the procedures used to place embedded materials in concrete stairs.**	**10%**
10.	**Calculate materials required to construct interior stairs and concrete stairs.**	**10%**
11.	**Demonstrate the procedures to lay out, construct, dismantle and recondition concrete stair forms.**	**10%**

12. Demonstrate the procedures to lay out and construct interior wood stairs. 30%

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Unit: F4 Interior Wall Coverings and Trim

Level: Three

Duration: 28 hours

Theory: 14 hours

Practical: 14 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of interior wall coverings and trim, their characteristics and applications, and of the procedures used to remove and install interior wall coverings and trim.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Define terminology associated with interior wall coverings and trim.	**3%**
2. Identify hazards and describe safe work practices pertaining to interior wall coverings and trim.	**2%**
3. Interpret codes, regulations, manufacturers' specifications and information found on drawings and specifications pertaining to interior wall coverings and trim.	**2%**
4. Identify tools and equipment used with interior wall coverings and trim, and describe their applications and procedures for use.	**3%**
5. Describe the importance of proper handling, storage and preparation of interior trim.	**5%**
6. Identify types of interior wall coverings and trim and describe their characteristics and applications. a. Shaft b. Fire-rated c. STC-rated d. Demountable • Office partition e. Operable	**10%**
7. Identify types of wallboard, and describe their characteristics and applications. a. Gypsum b. Cementitious c. Fibre board	**10%**
8. Identify types of panels and tiles and describe their characteristics and applications. a. Hardboard	**10%**

b. Laminate
c. Acoustical tile
d. Composites
e. Metal
f. Wood

9. Identify interior wall covering components, accessories and materials, and describe their purpose, characteristics and applications. 5%

a. Hardware
b. Trim
c. Channels
d. Furring
e. Blocking

10. Identify factors to consider when selecting and installing interior wall coverings and trim. 10%

11. Describe the procedures used to prepare walls for finish. 10%

12. Calculate dimensions associated with and materials needed to layout and install interior wall coverings and trim. 10%

13. Describe the procedures used to remove, install, alter and repair wall coverings and trim. 10%

14. Demonstrate the procedures to remove and install interior wall coverings and trim. 10%

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Unit: F5 Ceilings

Level: Three
Duration: 14 hours
Theory: 7 hours
Practical: 7 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of ceilings, their characteristics and applications, and of the procedures used to lay out, install, alter and repair ceilings.

Objectives and Content:	Percent of Unit Mark (%)
1. Define terminology associated with ceilings.	**4%**
2. Identify hazards and describe safe work practices pertaining to ceilings.	**2%**
3. Interpret codes, regulations, manufacturers' specifications and information found on drawings and specifications pertaining to ceilings.	**10%**
4. Identify tools and equipment pertaining to ceilings, and describe their applications and procedures for use.	**4%**
5. Identify types of ceilings and describe their characteristics and applications. a. Suspended b. Non-suspended c. Drop d. Bulkhead	**10%**
6. Identify ceiling components, accessories and materials, and describe their purpose, characteristics and applications.	**5%**
7. Identify factors to consider when selecting and installing ceilings.	**5%**
8. Calculate dimensions associated with ceiling layout.	**10%**
9. Calculate components, accessories and materials needed to install ceilings.	**10%**
10. Describe the procedures used to lay out, install, alter and repair ceilings.	**20%**
11. Demonstrate the procedures to lay out, install, alter and repair ceilings.	**20%**

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Unit: F6 Cabinets, Countertops and Built-in Units

Level: Three

Duration: 60 hours

Theory: 21 hours

Practical: 39 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of cabinets, countertops and built-in units, their characteristics and applications, and of the procedures used to lay out, construct and install cabinets, countertops and built-in units, and to alter and repair cabinets, countertops and built-in units.

Objectives and Content:		Percent of Unit Mark (%)
1.	**Define terminology associated with cabinets, countertops and built-in units.**	**3%**
2.	**Identify hazards and describe safe work practices pertaining to cabinets, countertops and built-in units.**	**2%**
3.	**Interpret codes, regulations, manufacturers' specifications and information found on drawings/specifications pertaining to cabinets, countertops and built-in units.**	**10%**
4.	**Identify tools and equipment used with cabinets, countertops and built-in units and describe their applications and procedures for use.**	**5%**
5.	**Identify types of cabinets, built-in units and countertops and describe their characteristics and applications.**	**5%**
6.	**Identify cabinet and built-in unit hardware, components and accessories and describe their purpose, characteristics and applications.**	**5%**
7.	**Identify the factors to consider when selecting and installing barrier-free/accessible cabinets, built-in units, countertops, hardware, components and accessories.**	**5%**
8.	**Describe the procedures used to lay out, construct, install, alter and repair cabinets, built-in units and countertops.**	**20%**
9.	**Calculate dimensions associated with cabinet and built-in unit layout.**	**10%**
10.	**Calculate materials needed to construct and install cabinets, countertops and built-in units.**	**10%**
11.	**Demonstrate the procedures to lay out, construct, install, alter and repair cabinets,**	**25%**

countertops and built-in units.

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Unit: F7 Interior Doors, Windows and Hardware

Level: Three

Duration: 28 hours

Theory: 14 hours

Practical: 14 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of interior door and window assemblies, hardware and accessories, their characteristics and applications, and of the procedures used to lay out and install interior door and window assemblies, hardware and accessories and to alter and repair interior door and window assemblies, hardware and accessories.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Define terminology associated with interior doors, windows, hardware and accessories.	**5%**
2. Identify hazards and describe safe work practices pertaining to interior doors, windows, hardware and accessories.	**2%**
3. Interpret codes, regulations, manufacturers' specifications and information found on drawings and specifications pertaining to interior doors, windows, hardware and accessories.	**10%**
4. Identify tools and equipment used with interior doors, windows, hardware and accessories and describe their applications and procedures for use.	**3%**
5. Identify types of interior doors and windows, door jambs and door and window frames, and describe their characteristics and applications.	**10%**
6. Identify interior door and window hardware, components and accessories, and describe their purpose, characteristics and applications. a. Barrier-free/accessibility b. Residential c. Industrial, commercial, institutional (ICI)	**10%**
7. Identify factors to consider when selecting and installing interior door and windows, their hardware, components and accessories. a. Barrier-free/accessibility b. Energy efficiency c. Sound reduction d. Fire rating e. Egress	**10%**

f. Security/safety
g. Framing and blocking

8.	**Describe the procedures used to lay out, install alter and repair interior door and window assemblies, hardware and accessories.**	**10%**
9.	**Calculate materials needed to install an interior door and window assembly, hardware and accessories.**	**10%**
10.	**Demonstrate the procedures to install an interior door and window assembly, hardware and accessories.**	**30%**