Apprenticeship Manitoba

Manitoba

Cabinetmaker
Level 3

Apprenticeship Manitoba

Cabinetmaker

Unit: A5 Jigs, Fixtures and Templates

Level: Three

Duration: 35 hours

Theory: 14 hours

Practical: 21 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of jigs, fixtures, and templates, materials and hardware, and of the principles, techniques, and materials to devise a suitable jig, fixture or template.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Describe the use of jigs, fixtures and templates. a. Definitions and examples b. Common elements and types c. Commercial and shop-built options	**10%**
2. Explain requirements for design. a. Form and function of accessory b. Forces acting upon accessory c. Capacity, durability and versatility d. Documentation and storage requirements of accessory e. Costs of building and purchasing accessory	**10%**
3. Explain requirements for construction. a. Tools and equipment used to construct accessory b. Suitability and availability of materials and hardware c. Incorporating non-wooden components d. Accuracy and precision in construction e. Safety features	**10%**
4. Explain requirements for use. a. Initial set-up and test-run b. Modification of accessory c. Monitoring of accessory throughout during production run d. Documentation and storage of accessory	**10%**
5. Design or adapt a jig or fixture and demonstrate its use.	**60%**

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Cabinetmaker

Unit: C6 Computer Numeric Controlled Applications (CNC)

Level: Three

Duration: 63 hours

Theory: 35 hours

Practical: 28 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of the basic principles and applications of CNC technology to cabinetmaking, as well as of writing and running a basic CNC program.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Describe the application of CNC technology to cabinetmaking. a. Concepts and technical terminology b. Scope of CNC-related production specialties c. Variations in CNC equipment and functions	**10%**
2. Describe CNC machinery, components and tools. a. Classification and characteristics b. Capacity and limitations c. Turning centre d. Combination e. Vertical f. Accessories and tool changers g. Manual system h. Belts i. Track with tool pockets j. Rotary tables k. Indexing heads l. Tool-holders and workpiece-securing devices	**20%**
3. Explain the principles and procedures of CNC operation. a. Hazards and precautions b. Interfaces c. Cartesian coordinates d. Programming e. Setting part zero f. Setting tool offset g. Standard size machining centres h. CAD CAM programming	**20%**
4. Write and operate a basic CNC program.	**50%**

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Cabinetmaker

Unit: D6 Laminates, Veneers and Solid Surface Materials

Level: Three

Duration: 21 hours

Theory: 7 hours

Practical: 14 hours

Overview:

Upon completion of this unit the apprentice will demonstrate the knowledge of and ability to fabricate veneer, laminate and solid surface components.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Identify lamination materials and equipment.	**20%**
a. Wood veneers	
b. Inlays	
c. Plastic and metal laminates	
d. Edge-banding and edge tapes	
e. Products for curved work	
f. Adhesives, glues and clamps	
g. Specialty tools and equipment	
2. Identify solid surface materials and equipment.	**20%**
a. Sheets	
b. Solid surface specialty tools and equipment	
c. Abrasives and adhesives	
d. Specialty solid surface products (sinks)	
e. Substrates and support	
3. Fabricate solid surface projects as assigned by the instructor.	**60%**

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Unit: E3 Advanced Casework and Fixtures

Level: Three

Duration: 84 hours

Theory: 14 hours

Practical: 70 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of casework practices to produce special fixtures widely used in commercial, institutional, and residential applications.

Objectives and Content:	**Percent of Unit Mark (%)**
1. Describe applications and products in casework and fixture-building. a. Commercial, retail and institutional market b. Residential market	**20%**
2. Review content related to casework and fixture-building. a. Design and technical drawing considerations b. Casework requirements and standards c. Specialty materials d. Specialty hardware	**20%**
3. Complete project demonstrating advanced casework and fixture-building skills as per the instructor's specifications.	**60%**

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Unit: F3 Architectural Millwork II: Staircase Building

Level: Three

Duration: 77 hours

Theory: 35 hours

Practical: 42 hours

Overview:

Upon completion of this unit the apprentice will demonstrate knowledge of the components, calculations, techniques, and terminology of building conventional and geometric stairs, balconies, handrails, balusters, and panel-work, according to local and national building code requirements.

Objectives and Content:		Percent of Unit Mark (%)
1.	**Describe staircases and staircase components.**	**5%**
2.	**Describe staircase construction.**	**5%**
3.	**Perform stair-building calculations.**	**5%**
4.	**Describe finish-stair components in their design, construction and installation.**	**5%**
5.	**Calculate materials for stairs.**	**5%**
6.	**Describe components of geometric stairs.**	**5%**
7.	**Describe the design, construction and installation of geometric stairs.**	**5%**
8.	**Calculate dimensions for geometric stairs.**	**5%**
9.	**Describe components of geometric stairs.**	**5%**
10.	**Complete project demonstrating skills in platform staircase building as per the instructor's specifications.**	**55%**

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