



Grades 9 to 12 Cabinet and Furniture Making

Manitoba Technical-Vocational
Curriculum Framework
of Outcomes



GRADES 9 TO 12
CABINET AND FURNITURE
MAKING

Manitoba Technical-Vocational Curriculum
Framework of Outcomes

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This resource is available on the Manitoba Education and Training website at www.edu.gov.mb.ca/k12/cur/teched/sy_tech_program.html.

Available in alternate formats upon request.

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TECHNICAL-VOCATIONAL EDUCATION OVERVIEW

In 2013, Manitoba Education released the document *Technical-Vocational Education Overview*, available at www.edu.gov.mb.ca/k12/cur/teched/sy_tech_program.html, to provide the philosophical and pedagogical underpinnings for curriculum development and the teaching of technical-vocational education (TVE) courses in Manitoba. This overview presents educators with the vision and goals of TVE in Manitoba.

Topics include the following:

- curriculum revitalization and renewal
- curriculum framework and implementation
- articulation of programming
- assessment and reporting
- safety
- employability/essential skills and career development
- sustainable development

The TVE curriculum includes Grades 9 to 12 courses in a variety of areas, including cabinet and furniture making.

CABINET AND FURNITURE MAKING OVERVIEW

Grades 9 to 12 Cabinet and Furniture Making: Manitoba Technical-Vocational Curriculum Framework of Outcomes identifies the goals, general learning outcomes (GLOs), and specific learning outcomes (SLOs) for nine cabinet and furniture making courses. This framework is intended for use in all Manitoba schools teaching cabinet and furniture making courses as part of the Senior Years Technology Education Program.

Cabinet and Furniture Making as a TVE Cluster

Grades 9 to 12 Cabinet and Furniture Making: Manitoba Technical-Vocational Framework of Outcomes was developed as a TVE cluster of courses. TVE clusters are designed to encourage students to explore career options in designated trades and trained occupations and to address labour shortages in these areas. The TVE curriculum includes course clusters for both *designated trades* (trades designated for apprenticeship training and certification by Apprenticeship Manitoba) and *trained occupations* (not designated as trades).

This cabinet and furniture making curriculum prepares students for a career as cabinetmakers, which has been designated as a trade by the regulations under *The Apprenticeship and Certification Act* (Manitoba), and is administered by Apprenticeship Manitoba. For more information on the trade programs, refer to *Manitoba Trades* on the Apprenticeship Manitoba website at www.gov.mb.ca/wd/apprenticeship/discover/mbtrades/index.html.

The TVE curriculum differs significantly from other subject areas, such as industrial arts. It has distinctive qualities that will provide students with a uniquely valuable experience they cannot receive from any other curriculum.

TVE gives students the opportunity to learn, from an industry-certified teacher with industry experience, the theoretical and practical aspects of one specific trade or trained occupation in order to facilitate their transition from school to work, or to post-secondary education in that trade or trained occupation (including journeyman status from Apprenticeship Manitoba), or into an associated trade or occupation. This transition is accomplished by having students complete an entire TVE cluster of courses in a setting that, as much as possible, emulates an actual workplace.

Like all other TVE courses, the cabinet and furniture making courses should be taught only as part of a complete cluster, approved by Manitoba Education and Training.

Career and Employment Opportunities

A student who has completed the cabinet and furniture making cluster can seek entry-level employment in a cabinetmaking facility in a variety of positions. Students can also continue into post-secondary studies or apprenticeship. For information on career and employment opportunities for cabinetmakers, see “Unit Group 7272” on the Service Canada website at www.servicecanada.gc.ca/eng/qc/job_futures/statistics/7272.shtml.

The Role of Cabinetmakers

Apprenticeship Manitoba describes the role of cabinetmakers as follows:

Cabinetmakers produce furniture, cabinetry and architectural millwork from a variety of natural and manufactured materials for both commercial and residential markets. Cabinetmakers use traditional and modern tools and techniques to produce high quality and other wood specialties, including staircases, doors, furniture, moulding, joinery, veneers, inlays and laminates.

Furniture manufacturers, construction companies and custom cabinet shops all employ cabinetmakers. (Apprenticeship Manitoba, “Cabinetmaker”)

Implementation of Cabinet and Furniture Making

To receive a Senior Years Technology Education Program diploma, a student must complete a minimum of eight departmentally developed courses from an approved TVE cluster, together with 16 compulsory credits and six optional credits.

Students must complete the eight mandatory courses from the Grades 10 to 12 cabinet and furniture making curriculum to earn their diploma and to meet the Level 1 apprenticeship training requirements for cabinetmakers. They do not need to complete the optional Grade 9 course to graduate from the Program or to meet the apprenticeship requirements.

As in all subject areas, high school students may take the TVE courses in any grade. While the grade level at which the courses are offered is a local school-based decision, it is highly recommended that the sequencing of credits follow the schedule set out in this framework.

Cross-curricular learning outcomes in the cabinet and furniture making courses include essential skills from other subject areas including, but not limited to, mathematics and information and communication technology, and these are to be integrated into the authentic learning activities of the courses. Learning outcomes dealing with the following topics are also integrated into most courses:

- health and safety
- sustainability
- ethical and legal standards
- employability skills
- working conditions and career opportunities
- evolution, technological progression, and emerging trends

In most courses, the emphasis is on applied learning activities. For instructional purposes, the sequence of learning outcomes can vary, based on the learning activities within the course. In other words, learning outcomes can be addressed in an order that differs from how they appear in this document. Teachers are advised to select the learning activities best suited to addressing the learning outcomes, based on a variety of factors, including access to resources and regional needs.

In light of rapidly changing trends in cabinet and furniture making, teachers are encouraged to update their learning activities to meet the needs of students.

Level 1 Apprenticeship for Cabinetmaker

Students completing the cabinet and furniture making cluster of courses have the opportunity to complete their Level 1 apprenticeship training for cabinetmaker, since this cluster may be taught only by a journey person cabinetmaker, and the curriculum contains all the Apprenticeship Manitoba objectives from *Cabinetmaker Level 1* (Manitoba Jobs and the Economy), available at www.gov.mb.ca/wd/apprenticeship/pdfpubs/pubs/discover/mb_trades/cabinetmaker/cabinetmaker_lev1.pdf.

In addition to including all the Level 1 apprenticeship objectives for cabinetmaker, this cluster includes SLOs related to the design and construction of furniture. Students will demonstrate the knowledge and skills required to

- design a kitchen
- produce joints and casework
- complete an advanced furniture-making project
- participate in the construction of a set of cabinets

Critical Information on SLOs from *Cabinetmaker Level 1*

The SLOs in this curriculum that correspond with the Apprenticeship Manitoba objectives in *Cabinetmaker Level 1* have an alphanumeric code at the end, indicating the unit and objective from which they were taken.

For example, **9181 Cabinetry** includes the following SLO:

Describe the structure and scope of the cabinetmaker trade. (A1.1)

The **A1.1** code indicates that the SLO is from Unit **A1: Orientation I: Structure and Scope of Cabinetmaker, Objective 1**. This objective is found on page 1 of *Cabinetmaker Level 1*.

In some cases, the objectives have been reworded slightly to make them more consistent with this framework or more appropriate for high school students. To make this curriculum easier to read, the SLOs do not include all the detailed information for each objective taken from Apprenticeship Manitoba's *Cabinetmaker Level 1* document. For example, for objective A1.1, the document also includes the following essential details, not found in this cabinet and furniture making curriculum:

1. Describe the structure and scope of the cabinetmaker trade. 25% (of unit mark)

- a. Historical background and apprentice experience
- b. Structure and scope of the trade
 - International and national characteristics
 - Characteristics and practice of the trade in Manitoba
 - Trade organizations
- c. Opportunities and career ladders
 - Generalists and specialists
 - Lead hands and supervisors
 - Geographic mobility
 - Job hierarchies

(Manitoba Jobs and the Economy, *Cabinetmaker Level 1* 1)

These details are a **necessary part** of this curriculum.

When addressing this SLO, teachers must ensure they are addressing each point listed. Teachers need to become familiar with the *Cabinetmaker Level 1* document in its entirety, as well as with the other cabinetmaker documents from Apprenticeship Manitoba that provide valuable background. To access these documents, see "Cabinetmaker" on the Apprenticeship Manitoba website at www.manitoba.ca/wdis/apprenticeship/discover/mbtrades/cabinetmaker.html.

Cabinet and furniture making teachers should also refer to Apprenticeship Manitoba's "Unit to Course Comparison (UCC) Form: Cabinetmaker – Level 1" (Manitoba Jobs and the Economy), available at www.gov.mb.ca/wd/apprenticeship/pdfpubs/pubs/discover/mb_trades/cabinetmaker/cabinetmaker_ucc.pdf. This form lists the SLO under which each Apprenticeship objective is taught in this high school curriculum. Teachers might find the document helpful in applying to have their cluster of courses accredited with Apprenticeship Manitoba. For more information on accreditation, see "Information for Instructors and Educators" on the Apprenticeship Manitoba website at www.gov.mb.ca/wd/apprenticeship/generalinfo/instructoreducators.html.

Trade Safety Awareness Manual

Apprenticeship Manitoba has developed a Trade Safety Awareness Unit, the purpose of which is to increase student awareness of trade safety in the workplace. All students, including those in high school, studying a designated trade must complete this seven-hour unit.

In this cabinet and furniture making curriculum, the SLOs from the Trade Safety Awareness Unit are incorporated into Goal 1 of **9186 Applied Cabinet and Furniture Making**. The Trade Safety Awareness Unit's alphanumeric designations are located at the end of the applicable SLOs in this framework.

For example, the following SLO is found in **9186 Applied Cabinet and Furniture Making**:

Explain the S.A.F.E. acronym. (**TSA 6**)

The **TSA 6** code indicates that this learning outcome is taken from Apprenticeship Manitoba's Trade Safety Awareness Unit.

For more information, and to access the Trade Safety Awareness Unit and its tests and other resources, see "Information for Instructors and Educators" on the Apprenticeship Manitoba website at www.gov.mb.ca/wdis/apprenticeship/generalinfo/instructoreducators.html. Also see *Instructor Trade Safety Awareness Manual* (Manitoba Jobs and the Economy), available at www.gov.mb.ca/wd/apprenticeship/pdfpubs/pubs/general/trade_safety/instructor.pdf.

Red Seal Resources

Because cabinetmaker is a designated Red Seal trade across Canada, the Apprenticeship Manitoba curriculum is aligned with the Canada-wide Red Seal curriculum. High school cabinet and furniture making teachers, as well as students working towards their Level 1 apprenticeship for cabinetmaker, can find valuable resources in the *Cabinetmaker* section of the Interprovincial Standards Red Seal Program website at www.red-seal.ca/trades/c.1b.3n.2tm.1k.2r-eng.html. For example, teachers and students can find sample examination questions used on Red Seal examinations.

Qualifications of Cabinet and Furniture Making Teachers

Only vocationally certified teachers should teach TVE courses, including the ones in this cabinet and furniture making cluster.

Vocational certification includes three components:

1. **Trade Certification:** Cabinet and furniture making teachers need to have personally experienced the apprenticeship and journey person process, so that they can share it with their students.
2. **Trade Experience:** Cabinet and furniture making teachers need to have been employed as cabinetmakers for at least six years (including their four-year apprenticeship). This will enable them to share their industry experience with students, which, in turn, will prepare students for working as cabinetmakers.

3. **Technical Vocational Teaching Certification:** TVE teachers should have a technical vocational teaching certificate, obtained by completing Red River College's one-year Technical Vocational Teacher Education diploma program. For information about this program, see <http://me.rrc.mb.ca/Catalogue/ProgramInfo.aspx?ProgCode=TECVF-DP&RegionCode=WPG>.

Employing only vocationally certified teachers to teach TVE courses preserves the integrity of TVE programming by ensuring that teachers are able to share their first-hand experience working as cabinetmakers, their familiarity with industry certification, and health and safety requirements. Students receive instruction from someone who has been involved in that trade.

Apprenticeship Manitoba certifies TVE clusters offered in Manitoba schools only if they are taught by a vocationally certified teacher. Without a vocationally certified teacher, students' pathways to further study and careers are limited.

School boards risk significant liability if they employ non-vocationally certified teachers to teach TVE courses. Vocational certification confirms that a teacher has the requisite skills and knowledge to teach cabinet and furniture making safely, reducing the risk of accident and injury.

For further information on professional certification, see "Technical Vocational Teacher" on the Manitoba Education and Training website at www.edu.gov.mb.ca/k12/profcert/certificates/vocational.html.

Comparison of TVE Cabinet and Furniture Making with Industrial Arts Woodwork Technology

Like all other TVE curricula, *Grades 9 to 12 Cabinet and Furniture Making: Manitoba Technical-Vocational Framework of Outcomes* has been developed to prepare high school students for a career in one specific trade. In this case, students will learn the knowledge, skills, and attitudes required to work as cabinetmakers. It has **not** been developed as a general interest cluster of courses in woodworking. Schools interested in teaching such a course are invited to teach the industrial arts curricula. For further information, see "Industrial Arts" on the Manitoba Education and Training website at www.edu.gov.mb.ca/k12/cur/teched/ind_arts.html.

Although the cabinet and furniture making curriculum and the industrial arts woodwork technology curriculum share some common content, they have significant differences in content and completely different purposes. The following chart summarizes, in a question-and-answer format, some of the differences between cabinet and furniture making (as a TVE cluster of courses) and woodwork technology (as an industrial arts cluster of courses).

Comparison of Cabinet and Furniture Making with Industrial Arts Woodwork Technology		
Frequently Asked Questions	Cabinet and Furniture Making	Industrial Arts Woodwork Technology
1. Is the purpose of the curriculum to facilitate students' transition to the cabinetmaker trade?	Yes	No
2. Does the instruction try to emulate, as far as possible, a cabinet and furniture making workplace?	Yes	No
3. Does the curriculum mandate employability skills such as punctuality and time management?	Yes	No
4. Is the teacher required to be a journeyperson cabinetmaker?	Yes	No
5. Is the teacher required to have experience in working as a cabinetmaker?	Yes	No
6. Does the cluster prepare students for certification as a journeyperson cabinetmaker?	Yes	No
7. Does the cluster focus on preparing students for entry-level employment as a cabinetmaker after high school?	Yes	No
8. Is the teacher required to have a Manitoba general teaching certificate?	No	Yes
9. Is the teacher required to have a Manitoba technical vocational teaching certificate?	Yes	No
10. Do schools require special permission from Manitoba Education and Training to offer a cluster of courses?	Yes	No
11. Do schools have to offer all the courses in the cluster?	Yes	No
12. Do the clusters focus on only one trade or trained occupation?	Yes	No
13. Can schools offer hybrid clusters, made up of courses from several clusters?	No	Yes
14. Will students receive a Senior Years Technology Education Program diploma when they complete a cluster of courses?	Yes	No

Cabinet and Furniture Making Goals and General Learning Outcomes

The learning outcomes for each course in the cabinet and furniture making cluster are based on the following curriculum goals and general learning outcomes (GLOs). **Please note that some courses do not address all these goals and GLOs.**

Goal 1: Describe and apply **health and safety** practices.

GLO 1.1: Describe and apply **health and safety** practices.

GLO 1.2: Demonstrate knowledge of the *Trade Safety Awareness Manual*.

Goal 2: Demonstrate an understanding of the characteristics of **materials**.

GLO 2.1: Demonstrate an understanding of the characteristics of **materials**.

Goal 3: Demonstrate the storage, selection, use, and management of **materials, fasteners, adhesives, and hardware**.

GLO 3.1: Demonstrate the storage, selection, use, and management of **materials**.

GLO 3.2: Demonstrate the storage, selection, use, and management of **fasteners**.

GLO 3.3: Demonstrate the storage, selection, use, and management of **adhesives**.

GLO 3.4: Demonstrate the storage, selection, use, and management of **hardware**.

Goal 4: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**.

GLO 4.1: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**.

Goal 5: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**.

GLO 5.1: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**.

Goal 6: Demonstrate knowledge and skills related to **joinery and casework**.

GLO 6.1: Demonstrate knowledge and skills related to **joinery and casework**.

Goal 7: Demonstrate knowledge and skills related to **finishing**.

GLO 7.1: Demonstrate knowledge and skills related to **finishing**.

Goal 8: Demonstrate knowledge and skills related to **installation**.

GLO 8.1: Demonstrate knowledge and skills related to **installation**.

Goal 9: Describe and apply transferable **cross-curricular knowledge and skills** as they relate to cabinet and furniture making.

GLO 9.1: Demonstrate knowledge and skills from **mathematics** as they relate to cabinet and furniture making.

GLO 9.2: Demonstrate knowledge and skills from **information and communication technology** as they relate to cabinet and furniture making.

Goal 10: Follow the **ethical and legal standards** that pertain to cabinet and furniture making.

GLO 10.1: Demonstrate an awareness of the **ethical and legal expectations** of cabinet and furniture makers.

Goal 11: Demonstrate **employability skills**.

GLO 11.1: Demonstrate fundamental **employability skills**.

GLO 11.2: Demonstrate **critical thinking skills**.

GLO 11.3: Demonstrate respectful interactions with individuals of different **cultures**.

Goal 12: Demonstrate an awareness of **sustainability** as it pertains to cabinet and furniture making.

GLO 12.1: Describe the cabinet and furniture making industry's **sustainability practices** and their impact on the **environment**.

GLO 12.2: Describe the impact of **sustainability** on the **health and well-being** of cabinet and furniture makers.

Goal 13: Demonstrate an understanding of the **structure and scope** of cabinet and furniture making, including **education and career opportunities** and **working environments**.

GLO 13.1: Describe the **scope** of cabinet and furniture making.

GLO 13.2: Describe **apprenticeship, education, and employment opportunities** and **working environments** in cabinet and furniture making.

Goal 14: Demonstrate an understanding of the **evolution** of cabinet and furniture making, including its **technological progression and emerging trends**.

GLO 14.1: Demonstrate an understanding of the **evolution** of cabinet and furniture making, including its **technological progression and emerging trends**.

Specific Learning Outcomes

Grades 9 to 12 Cabinet and Furniture Making: Manitoba Technical-Vocational Curriculum Framework of Outcomes identifies specific learning outcomes (SLOs) for use in all Manitoba schools teaching Grades 9 to 12 cabinet and furniture making courses as part of the Senior Years Technology Education Program. SLO statements define what students are expected to achieve by the end of a course.

It is essential that students learn and demonstrate safety practices and employability skills; therefore, some SLOs related to health and safety and to employability skills are repeated in all courses.

Please note that SLOs are not identified for the goals and GLOs that are not addressed in a given course.

Course Descriptions

Course titles, descriptions, and codes for the cabinet and furniture making courses follow. For an explanation of the codes, refer to the *Subject Table Handbook: Technology Education* (Manitoba Education and Training), available at www.edu.gov.mb.ca/k12/docs/policy/sthte/index.html.

Note that some courses in this cabinet and furniture making cluster are a continuation of others:

- **9178 Cabinetmaking Tools and Equipment** is a continuation of **9177 Introduction to Cabinetmaking**.
- **9183 Advanced Cabinetry** is a continuation of **9181 Cabinetry**.
- **9185 Advanced Furniture Making** is a continuation of **9182 Furniture Making**.

9176 Exploration of Cabinetmaking
(Optional) Half credit 15S/15E/15M
Full credit 10S/10E/10M

This optional course allows students to explore cabinetmaking. It can be offered as either a half credit or a full credit.

9177 Introduction to Cabinetmaking 20S/20E/20M

This course gives students a broad, introductory overview of cabinet and furniture making. Students will learn about hand, power, pneumatic, stationary, measuring, and layout tools and equipment, their applications, and procedures for their use. Students will develop basic knowledge, skills, and attitudes related to cabinet and furniture making.

9178 Cabinetmaking Tools and Equipment 30S/30E/30M

This course is a continuation of 9177. Students will learn more advanced operations of tools and equipment, along with their set-up and maintenance, while completing a project.

9179 Cabinet and Furniture Design 30S/30E/30M

In this course, students will learn the principles of cabinet and furniture design, and learn to produce shop drawings. The course includes all the objectives found in Unit C1: Design Principles and Technical Drawings and Unit C2: Blueprint Reading from Apprenticeship Manitoba's *Cabinetmaker Level 1*.

9181 Cabinetry 30S/30E/30M

In this course, students will be introduced to the construction of residential cabinetry. Students will learn about cabinetmaking materials, fasteners, adhesives, and hardware while constructing a basic cabinet that incorporates a drawer and a door.

9182 Furniture Making 40S/40E/40M

In this course, students will be introduced to furniture construction. Students will learn about furniture woods, adhesives, and hardware. They will produce joints as part of furniture-making projects.

9183 Advanced Cabinetry 40S/40E/40M

This course is a continuation of 9181. Students will design a kitchen and participate in the construction of a set of cabinets.

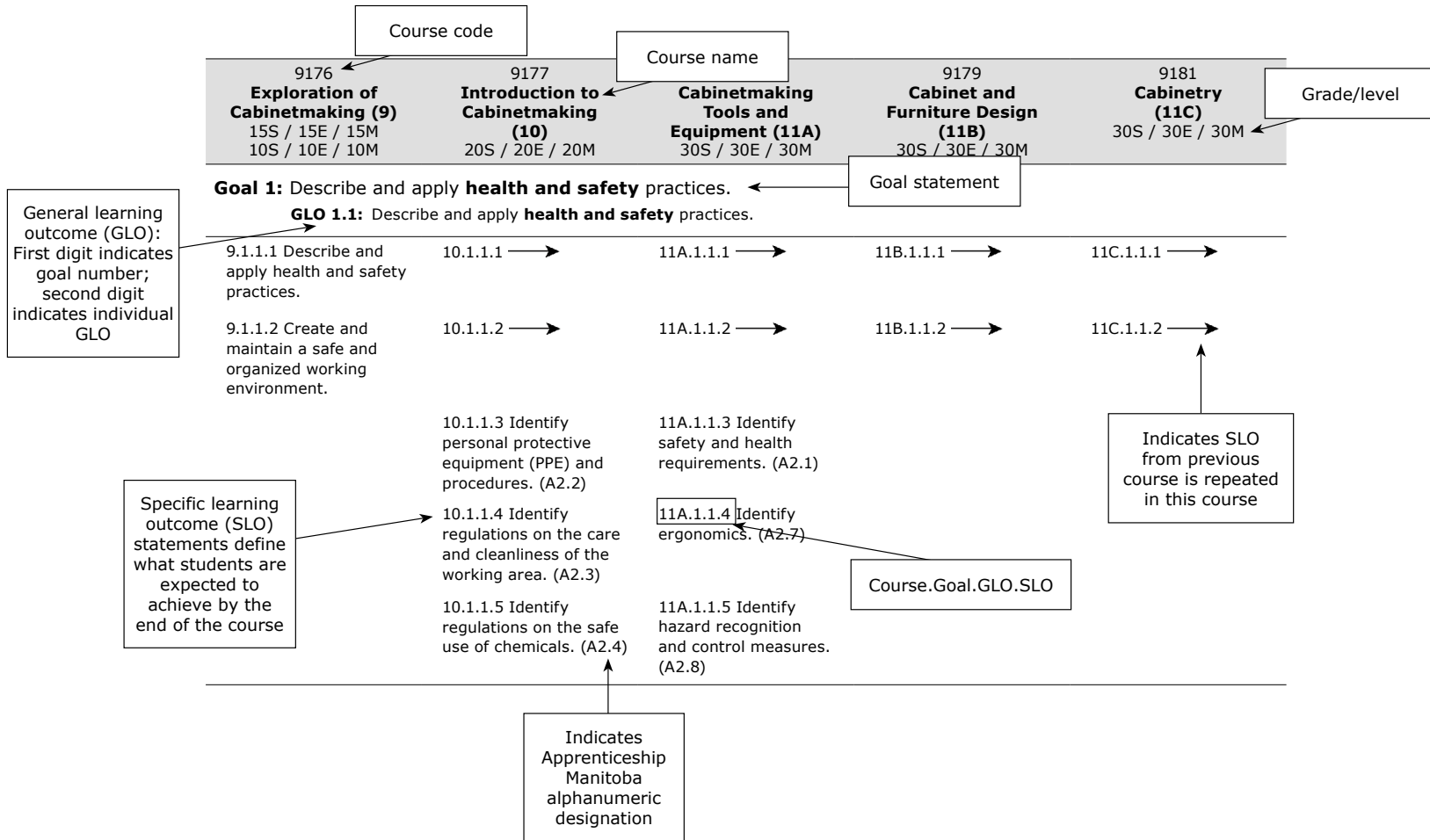
9185 Advanced Furniture Making 40S/40E/40M

This course is a continuation of 9182. Students will complete an advanced furniture-making project of their own design.

9186 Applied Cabinet and
Furniture Making 40S/40E/40M

In this course, students will synthesize knowledge, skills, and attitudes they have learned in previous courses to complete projects. They will also prepare to transition into the cabinet and furniture making industry.

Guide to Reading Cabinet and Furniture Making Goals and Learning Outcomes





GRADES 9 TO 11
CABINET AND FURNITURE
MAKING

General and Specific Learning
Outcomes by Goal

GRADES 9 TO 11 CABINET AND FURNITURE MAKING: GENERAL AND SPECIFIC LEARNING OUTCOMES BY GOAL

9176 Exploration of Cabinetmaking (9) 15S / 15E / 15M 10S / 10E / 10M	9177 Introduction to Cabinetmaking (10) 20S / 20E / 20M	9178 Cabinetmaking Tools and Equipment (11A) 30S / 30E / 30M	9179 Cabinet and Furniture Design (11B) 30S / 30E / 30M	9181 Cabinetry (11C) 30S / 30E / 30M
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Goal 1: Describe and apply **health and safety** practices.

GLO 1.1: Describe and apply **health and safety** practices.

9.1.1.1 Describe and apply health and safety practices.	10.1.1.1 →	11A.1.1.1 →	11B.1.1.1 →	11C.1.1.1 →
9.1.1.2 Create and maintain a safe and organized working environment.	10.1.1.2 →	11A.1.1.2 →	11B.1.1.2 →	11C.1.1.2 →
	10.1.1.3 Identify personal protective equipment (PPE) and procedures. (A2.2)	11A.1.1.3 Identify safety and health requirements. (A2.1)		
	10.1.1.4 Identify regulations on the care and cleanliness of the working area. (A2.3)	11A.1.1.4 Identify ergonomics. (A2.7)		
	10.1.1.5 Identify regulations on the safe use of chemicals. (A2.4)	11A.1.1.5 Identify hazard recognition and control measures. (A2.8)		

9176 Exploration of Cabinetmaking (9) 15S / 15E / 15M 10S / 10E / 10M	9177 Introduction to Cabinetmaking (10) 20S / 20E / 20M	9178 Cabinetmaking Tools and Equipment (11A) 30S / 30E / 30M	9179 Cabinet and Furniture Design (11B) 30S / 30E / 30M	9181 Cabinetry (11C) 30S / 30E / 30M
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Goal 1: Describe and apply **health and safety** practices. *(continued)*

GLO 1.1: Describe and apply **health and safety** practices. *(continued)*

10.1.1.6 Identify Workplace Hazardous Materials Information System (WHMIS) safety requirements. (A2.11)	11A.1.1.6 Identify first aid/cardiopulmonary resuscitation (CPR) requirements and techniques. (A2.10)
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Goal 2: Demonstrate an understanding of the characteristics of **materials**.

GLO 2.1: Demonstrate an understanding of the characteristics of **materials**.

10.2.1.1 Describe the materials of cabinetmaking and their preferred uses. (D1.1)	11C.2.1.1 Describe the materials of cabinetmaking and their preferred uses. (D1.1)
10.2.1.2 Explain wood technology concepts in relation to cabinetmaking practice. (D1.2)	11C.2.1.2 Explain wood technology concepts in relation to cabinetmaking practice. (D1.2)
10.2.1.3 Explain the classification and dimensioning of wood and wood products. (D1.3)	11C.2.1.3 Explain the classification and dimensioning of wood and wood products. (D1.3)

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Goal 3: Demonstrate the storage, selection, use, and management of **materials, fasteners, adhesives, and hardware.**

GLO 3.1: Demonstrate the storage, selection, use, and management of **materials.**

9.3.1.1 Demonstrate the storage, selection, use, and management of materials.	10.3.1.1 →	11A.3.1.1 →	11B.3.1.1 →	11C.3.1.1 →
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GLO 3.2: Demonstrate the storage, selection, use, and management of **fasteners.**

	10.3.2.1 Identify threaded and non-threaded fasteners and their preferred uses. (D2.1)			11C.3.2.1 Identify threaded and non-threaded fasteners and their preferred uses. (D2.1)
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GLO 3.3: Demonstrate the storage, selection, use, and management of **adhesives.**

	10.3.3.1 Identify adhesive products and their preferred uses. (D2.2)			11C.3.3.1 Identify adhesive products and their preferred uses. (D2.2)
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GLO 3.4: Demonstrate the storage, selection, use, and management of **hardware.**

	10.3.4.1 Demonstrate the storage, selection, use, and management of hardware.	11A.3.4.1 →		11C.3.4.1 Demonstrate the storage, selection, use, and management of hardware.
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Goal 4: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**.

GLO 4.1: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**.

	10.4.1.1 Demonstrate the identification, selection, operation, and maintenance of tools and equipment.	11A.4.1.1 →		11C.4.1.1 Demonstrate the identification, selection, operation, and maintenance of tools and equipment.
	10.4.1.2 Describe the use, selection, and maintenance of tools and equipment. (A3.1)	11A.4.1.2 →		
	10.4.1.3 Identify hand tools and describe their use, selection, and maintenance. (A3.2)	11A.4.1.3 →		
	10.4.1.4 Identify portable power tools and describe their use, selection, and maintenance. (A3.3)	11A.4.1.4 →		

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Goal 4: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**. *(continued)*

GLO 4.1: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**. *(continued)*

	10.4.1.5 Identify stationary power tools and describe their use, selection, and maintenance. (A3.4)	11A.4.1.5 →
	10.4.1.6 Describe electrical power supply considerations in maintaining and troubleshooting cabinet-shop tools and equipment. (A3.5)	11A.4.1.6 →
	10.4.1.7 Demonstrate the safe use, selection, and maintenance of trade-related hand and power tools and equipment and stationary machines on an assigned project. (A3.6)	11A.4.1.7 →

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Goal 5: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**.

GLO 5.1: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**.

9.5.1.1 Demonstrate the ability to create a freehand sketch.	10.5.1.1 →	11A.5.1.1 Demonstrate the ability to produce drawings and layouts.	11B.5.1.1 Describe the uses and categories of technical drawings in the current practice of cabinetmaking. (C1.1)	11C.5.1.1 Demonstrate the ability to produce drawings and layouts required to construct a cabinet that incorporates a drawer and a door.
9.5.1.2 Demonstrate the ability to create a list of materials from own sketch.	10.5.1.2 →		11B.5.1.2 Describe the basic design principles and trade-accepted conventions in design. (C1.2)	
	10.5.1.3 Demonstrate the ability to produce drawings and layouts.		11B.5.1.3 Describe the use and selection of conventional drafting equipment and materials. (C1.3)	
			11B.5.1.4 Describe specified principles, conventions, and techniques in joinery and casework construction and installation. (C1.4)	

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Goal 5: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**. *(continued)*

GLO 5.1: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**. *(continued)*

11B.5.1.5 Design and draw a cabinetmaking specialty according to identified specifications. (C1.5)

11B.5.1.6 Describe the taxonomy of blueprint use in casegoods and residential construction. (C2.1)

11B.5.1.7 Describe the uses and preparation of blueprints in casegoods and residential construction. (C2.2)

11B.5.1.8 Describe the use of casegoods and residential blueprints to derive specified information. (C2.3)

11B.5.1.9 Produce millwork shop drawings using casegoods and residential blueprints, as assigned. (C2.4)

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Goal 6: Demonstrate knowledge and skills related to **joinery and casework.**

GLO 6.1: Demonstrate knowledge and skills related to **joinery and casework.**

9.6.1.1 Demonstrate an awareness of basic joints used in casework.	10.6.1.1 →	11C.6.1.1 Demonstrate an understanding of joints used in casework.
9.6.1.2 Demonstrate the ability to cut basic joints using hand tools.	10.6.1.2 →	11C.6.1.2 Demonstrate the ability to cut joints using power equipment.
		11C.6.1.3 Explain machining and assembly practices in basic casework. (E1.4)
		11C.6.1.4 Demonstrate the knowledge and skills required to construct a cabinet that incorporates a drawer and a door.

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Goal 7: Demonstrate knowledge and skills related to **finishing**.

GLO 7.1: Demonstrate knowledge and skills related to **finishing**.

	10.7.1.1 Demonstrate an awareness of finishes.	11C.7.1.1 Demonstrate an awareness of finishes.
	10.7.1.2 Demonstrate the ability to apply at least one type of finish.	11C.7.1.2 Demonstrate the ability to apply at least one type of finish.

Goal 8: Demonstrate knowledge and skills related to **installation**.

GLO 8.1: Demonstrate knowledge and skills related to **installation**.

		11C.8.1.1 Demonstrate the knowledge and skills required to install cabinets.
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Goal 9: Describe and apply transferable **cross-curricular knowledge and skills** as they relate to cabinet and furniture making.

GLO 9.1: Demonstrate knowledge and skills from **mathematics** as they relate to cabinet and furniture making.

10.9.1.1 Review general mathematics concepts and the use of an electronic calculator. (B1.1)	11B.9.1.1 Review general mathematics concepts and the use of an electronic calculator. (B1.1)	11C.9.1.1 →
10.9.1.2 Perform specified trade-related calculations. (B1.2)	11B.9.1.2 Perform specified trade-related calculations. (B1.2)	11C.9.1.2 →
10.9.1.3 Demonstrate the ability to manipulate fractions, decimals, ratios, and percentages.	11B.9.1.3 Demonstrate the ability to work in imperial (or standard) and metric measurements.	11C.9.1.3 →

GLO 9.2: Demonstrate knowledge and skills from **information and communication technology** as they relate to cabinet and furniture making.

11A.9.2.1 Describe basic computer components and programs and their functions. (C4.1)	11B.9.2.1 →	11C.9.2.1 →
	11B.9.2.2 Describe areas of trade practice to which computer technology is being applied. (C4.2)	

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Goal 10: Follow the **ethical and legal standards** that pertain to cabinet and furniture making.

GLO 10.1: Demonstrate an awareness of the **ethical and legal expectations** of cabinet and furniture makers.

11A.10.1.1 Define and discuss ethics.

11C.10.1.1 Discuss the place of ethics in the workplace.

Goal 11: Demonstrate **employability skills**.

GLO 11.1: Demonstrate fundamental **employability skills**.

9.11.1.1 Demonstrate regular attendance and punctuality.	10.11.1.1 →	11A.11.1.1 →	11B.11.1.1 →	11C.11.1.1 →
9.11.1.2 Demonstrate accountability by taking responsibility for own actions.	10.11.1.2 →	11A.11.1.2 →	11B.11.1.2 →	11C.11.1.2 →
9.11.1.3 Demonstrate adaptability and effort.	10.11.1.3 →	11A.11.1.3 →	11B.11.1.3 →	11C.11.1.3 →
9.11.1.4 Demonstrate the ability to accept and follow direction and feedback.	10.11.1.4 →	11A.11.1.4 →	11B.11.1.4 →	11C.11.1.4 →
9.11.1.5 Demonstrate teamwork skills.	10.11.1.5 →	11A.11.1.5 →	11B.11.1.5 →	11C.11.1.5 →

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Goal 11: Demonstrate **employability skills**. *(continued)*

GLO 11.1: Demonstrate fundamental **employability skills**. *(continued)*

9.11.1.6 Demonstrate the ability to stay on task and to use time effectively.	10.11.1.6 →	11A.11.1.6 →	11B.11.1.6 →	11C.11.1.6 →
9.11.1.7 Demonstrate the responsible use of electronic devices.	10.11.1.7 →	11A.11.1.7 →	11B.11.1.7 →	11C.11.1.7 →

GLO 11.2: Demonstrate **critical thinking skills**.

9.11.2.1 Demonstrate problem-solving skills.	10.11.2.1 →	11A.11.2.1 →	11B.11.2.1 →	11C.11.2.1 →
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GLO 11.3: Demonstrate respectful interactions with individuals of different **cultures**.

		11A.11.3.1 Demonstrate an awareness of cultural differences.	11B.11.3.1 Define and discuss culture.	
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Goal 12: Demonstrate an awareness of **sustainability** as it pertains to cabinet and furniture making.

GLO 12.1: Describe the cabinet and furniture making industry’s **sustainability practices** and their impact on the **environment**.

9.12.1.1 Demonstrate an awareness of wood and wood products as limited resources.	10.12.1.1 →	11B.12.1.1 Demonstrate the efficient use of materials.	11C.12.1.1 →
	10.12.1.2 Demonstrate an awareness of opportunities to reduce waste and to reuse materials.		11C.12.1.2 Demonstrate the ability to reuse materials.

Goal 13: Demonstrate an understanding of the **structure and scope** of cabinet and furniture making, including **education and career opportunities** and **working environments**.

GLO 13.1: Describe the **scope** of cabinet and furniture making.

	11C.13.1.1 Describe the structure and scope of the cabinetmaker trade. (A1.1)
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Goal 13: Demonstrate an understanding of the **structure and scope** of cabinet and furniture making, including **education and career opportunities** and **working environments**. *(continued)*

GLO 13.2: Describe **apprenticeship, education, and employment opportunities** and **working environments** in cabinet and furniture making.

10.13.2.1 Describe the Manitoba cabinetmaker apprenticeship program. (A1.2)

10.13.2.2 Demonstrate an awareness of opportunities in cabinet and furniture making.

Goal 14: Demonstrate an understanding of the **evolution** of cabinet and furniture making, including its **technological progression and emerging trends**.

GLO 14.1: Demonstrate an understanding of the **evolution** of cabinet and furniture making, including its **technological progression and emerging trends**.

11B.14.1.1 Demonstrate an understanding of the evolution of drafting and design, including their technological progression and emerging trends.

11C.14.1.1 Demonstrate an understanding of the evolution of cabinetmaking, including its technological progression and emerging trends.



GRADE 12 CABINET AND FURNITURE MAKING

General and Specific Learning
Outcomes by Goal

GRADE 12 CABINET AND FURNITURE MAKING: GENERAL AND SPECIFIC LEARNING OUTCOMES BY GOAL

9182 Furniture Making (12A) 40S / 40E / 40M	9183 Advanced Cabinetry (12B) 40S / 40E / 40M	9185 Advanced Furniture Making (12C) 40S / 40E / 40M	9186 Applied Cabinet and Furniture Making (12D) 40S / 40E / 40M
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Goal 1: Describe and apply **health and safety** practices.

GLO 1.1: Describe and apply **health and safety** practices.

12A.1.1.1 Describe and apply health and safety practices.	12B.1.1.1 →	12C.1.1.1 →	12D.1.1.1 →
12A.1.1.2 Create and maintain a safe and organized working environment.	12B.1.1.2 →	12C.1.1.2 →	12D.1.1.2 →
			12D.1.1.3 Identify regulations on the use of scaffolding. (A2.5)
			12D.1.1.4 Identify regulations on the use of ladders and related equipment. (A2.6)
			12D.1.1.5 Identify ergonomics. (A2.7)
			12D.1.1.6 Identify the hazards of confined space entry. (A2.9)
			12D.1.1.7 Describe the safe storage of equipment in service vehicles. (A2.12)
			12D.1.1.8 Discuss the transportation of dangerous goods. (A2.13)

9182 Furniture Making (12A) 40S / 40E / 40M	9183 Advanced Cabinetry (12B) 40S / 40E / 40M	9185 Advanced Furniture Making (12C) 40S / 40E / 40M	9186 Applied Cabinet and Furniture Making (12D) 40S / 40E / 40M
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Goal 1: Describe and apply **health and safety** practices. *(continued)*

GLO 1.2: Demonstrate knowledge of the *Trade Safety Awareness Manual*.

12D.1.2.1 Explain the importance of trade safety and health in reducing injuries and fatalities to young employees in Manitoba. (TSA 1)

12D.1.2.2 Describe the rights and responsibilities of employees, employers, and supervisors under *The Workplace Safety and Health Act*. (TSA 2)

12D.1.2.3 Describe the steps to use in the Right to Refuse process. (TSA 3)

12D.1.2.4 Explain how and where to find information on workplace safety and health. (TSA 4)

12D.1.2.5 Demonstrate how to handle a potentially dangerous work situation. (TSA 5)

12D.1.2.6 Explain the S.A.F.E. acronym. (TSA 6)

9182 Furniture Making (12A) 40S / 40E / 40M	9183 Advanced Cabinetry (12B) 40S / 40E / 40M	9185 Advanced Furniture Making (12C) 40S / 40E / 40M	9186 Applied Cabinet and Furniture Making (12D) 40S / 40E / 40M
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Goal 1: Describe and apply **health and safety** practices. *(continued)*

GLO 1.2: Demonstrate knowledge of the **Trade Safety Awareness Manual**. *(continued)*

12D.1.2.7 Define workplace safety and health hazards. (TSA 7)

12D.1.2.8 Give examples of trade-specific workplace safety and health hazards. (TSA 8)

12D.1.2.9 Give examples of five types of safety and health hazards. (TSA 9)

12D.1.2.10 Define workplace safety and health risk. (TSA 10)

12D.1.2.11 Give examples of trade-specific workplace safety and health risks. (TSA 11)

12D.1.2.12 Explain the principles of hazard recognition and control as they apply to the specific trade. (TSA 12)

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Goal 1: Describe and apply **health and safety** practices. *(continued)*

GLO 1.2: Demonstrate knowledge of the **Trade Safety Awareness Manual**. *(continued)*

12D.1.2.13 Explain the Workplace Hazardous Materials Information System (WHMIS). (TSA 13)

12D.1.2.14 Match the WHMIS hazardous materials symbols and their meanings. (TSA 14)

12D.1.2.15 Describe the importance of the Material Safety Data Sheets (MSDS). (TSA 15)

12D.1.2.16 Describe the importance of using personal protective equipment (PPE). (TSA 16)

12D.1.2.17 Demonstrate the proper selection and use of a variety of PPE and fall-protection systems. (TSA 17)

12D.1.2.18 Outline the safety principles for working on and around electrical equipment. (TSA 18)

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Goal 1: Describe and apply **health and safety** practices. *(continued)*

GLO 1.2: Demonstrate knowledge of the **Trade Safety Awareness Manual**. *(continued)*

12D.1.2.19 Outline workplace fire safety principles. (TSA 19)

12D.1.2.20 Identify the hazards in confined spaces and the preparation needed to work in a confined space. (TSA 20)

Goal 2: Demonstrate an understanding of the characteristics of **materials**.

GLO 2.1: Demonstrate an understanding of the characteristics of **materials**.

12A.2.1.1 Demonstrate an understanding of the characteristics of woods and wood products used in furniture making.

12B.2.1.1 Demonstrate an understanding of the characteristics of woods and wood products used in cabinetry.

12C.2.1.1 Demonstrate an understanding of the characteristics of woods and wood products used in furniture making.

12D.2.1.1 Demonstrate an understanding of the characteristics of woods and wood products used in cabinetry and furniture making.

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Goal 3: Demonstrate the storage, selection, use, and management of **materials, fasteners, adhesives, and hardware.**

GLO 3.1: Demonstrate the storage, selection, use, and management of **materials.**

12B.3.1.1 Select appropriate wood and wood products based on their characteristics and the requirements of the project.

12C.3.1.1 →

12D.3.1.1 →

12B.3.1.2 Explain the manufacture and use of plastic laminates (high pressure decorative laminate—HPDL) and solid-surface materials. (D1.4)

GLO 3.2: Demonstrate the storage, selection, use, and management of **fasteners.**

12A.3.2.1 Demonstrate the selection and use of fasteners.

12B.3.2.1 →

12C.3.2.1 →

12D.3.2.1 →

12A.3.2.2 Select appropriate fasteners based on their characteristics and the requirements of the project.

12B.3.2.2 →

12C.3.2.2 →

12D.3.2.2 →

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Goal 3: Demonstrate the storage, selection, use, and management of **materials, fasteners, adhesives, and hardware.** *(continued)*

GLO 3.3: Demonstrate the storage, selection, use, and management of **adhesives.**

12A.3.3.1 Demonstrate the selection and use of adhesives.	12B.3.3.1 →	12C.3.3.1 →	12D.3.3.1 →
12A.3.3.2 Select appropriate adhesives based on their characteristics and the requirements of the project.	12B.3.3.2 →	12C.3.3.2 →	12D.3.3.2 →

GLO 3.4: Demonstrate the storage, selection, use, and management of **hardware.**

12A.3.4.1 Demonstrate the selection and use of hardware.	12B.3.4.1 →	12C.3.4.1 →	12D.3.4.1 →
12A.3.4.2 Select appropriate hardware based on their characteristics and the requirements of the project.	12B.3.4.2 →	12C.3.4.2 →	12D.3.4.2 →
	12B.3.4.3 Identify the use and variation of specified cabinetmaking hardware. (D2.3)		

9182 Furniture Making (12A) 40S / 40E / 40M	9183 Advanced Cabinetry (12B) 40S / 40E / 40M	9185 Advanced Furniture Making (12C) 40S / 40E / 40M	9186 Applied Cabinet and Furniture Making (12D) 40S / 40E / 40M
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Goal 4: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**.

GLO 4.1: Demonstrate the identification, selection, operation, and maintenance of **tools and equipment**.

12A.4.1.1 Demonstrate the selection, operation, and maintenance of tools and equipment.	12B.4.1.1 →	12C.4.1.1 →	12D.4.1.1 →
12A.4.1.2 Demonstrate the safe use, selection, and maintenance of trade-related hand and power tools and equipment and stationary machines on an assigned project. (A3.6)	12B.4.1.2 →	12C.4.1.2 →	12D.4.1.2 →

Goal 5: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**.

GLO 5.1: Demonstrate the ability to interpret **blueprints** and to produce **drawings and layouts**.

12A.5.1.1 Demonstrate the knowledge and skills required to produce drawings and layouts, create cutting lists, and estimate costs.	12B.5.1.1 →	12C.5.1.1 →	12D.5.1.1 →
	12B.5.1.2 Demonstrate the ability to design a kitchen.	12C.5.1.2 Demonstrate the ability to initiate and complete a project, including the design, drawings, layouts, and cutting lists.	12D.5.1.2 →

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Goal 6: Demonstrate knowledge and skills related to **joinery and casework.**

GLO 6.1: Demonstrate knowledge and skills related to **joinery and casework.**

12A.6.1.1 Describe considerations and choices in joinery and casework. (E1.1)	12B.6.1.1 Complete a casework project, as assigned. (E1.5)	12C.6.1.1 Determine the joinery required for a project.	12D.6.1.1 Determine the joinery and/or casework required for a project.
12A.6.1.2 Describe traditional joinery applications, their rationale, and preferred techniques for layout and use of specific joints. (E1.2)	12B.6.1.2 Demonstrate the knowledge and skills required to participate in the construction of a set of cabinets.	12C.6.1.2 Demonstrate the knowledge and skills required to cut the joints for a project.	12D.6.1.2 Demonstrate the knowledge and skills required to produce the joints and/or casework for a project.
12A.6.1.3 Describe contemporary and other types of traditional joinery and casework. (E1.3)		12C.6.1.3 Demonstrate the knowledge and skills required to complete an advanced furniture-making project.	
12A.6.1.4 Demonstrate the knowledge and skills required to construct pieces of furniture that incorporate a variety of joinery.			

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Goal 7: Demonstrate knowledge and skills related to **finishing**.

GLO 7.1: Demonstrate knowledge and skills related to **finishing**.

12C.7.1.1 Demonstrate an awareness of furniture refinishing practices.

12D.7.1.1 Demonstrate an understanding of finishes typically used in the cabinet and furniture making industry.

12C.7.1.2 Demonstrate an awareness of furniture upholstery practices.

Goal 8: Demonstrate knowledge and skills related to **installation**.

GLO 8.1: Demonstrate knowledge and skills related to **installation**.

12B.8.1.1 Describe packaging and shipping procedures. (F1.1)

12D.8.1.1 Demonstrate the knowledge and skills required to complete the installation of cabinetry and/or furniture.

12B.8.1.2 Describe installation requirements and procedures. (F1.2)

12B.8.1.3 Demonstrate casework packaging, shipping, and installation procedures. (F1.3)

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Goal 9: Describe and apply transferable **cross-curricular knowledge and skills** as they relate to cabinet and furniture making.

GLO 9.1: Demonstrate knowledge and skills from **mathematics** as they relate to cabinet and furniture making.

12A.9.1.1 Review general mathematics concepts and the use of an electronic calculator. (B1.1)

12A.9.1.2 Perform specified trade-related calculations. (B1.2)

GLO 9.2: Demonstrate knowledge and skills from **information and communication technology** as they relate to cabinet and furniture making.

12B.9.2.1 Demonstrate the ability to work with computers in processing operations, sending and receiving email, producing spreadsheets, conducting Internet searches, and producing computer-aided design (CAD) drawings. (C4.3)

12D.9.2.1 Demonstrate the ability to conduct research on cabinet and furniture making employment and training opportunities.

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Goal 10: Follow the **ethical and legal standards** that pertain to cabinet and furniture making.

GLO 10.1: Demonstrate an awareness of the **ethical and legal expectations** of cabinet and furniture makers.

12B.10.1.1 Demonstrate an awareness of building-code requirements related to cabinetry.

12D.10.1.1 Discuss ethical considerations related to the effective use of time during the workday.

Goal 11: Demonstrate **employability skills**.

GLO 11.1: Demonstrate fundamental **employability skills**.

12A.11.1.1 Demonstrate regular attendance and punctuality.

12B.11.1.1 →

12C.11.1.1 →

12D.11.1.1 →

12A.11.1.2 Demonstrate accountability by taking responsibility for own actions.

12B.11.1.2 →

12C.11.1.2 →

12D.11.1.2 →

12A.11.1.3 Demonstrate adaptability and effort.

12B.11.1.3 →

12C.11.1.3 →

12D.11.1.3 →

12A.11.1.4 Demonstrate the ability to accept and follow direction and feedback.

12B.11.1.4 →

12C.11.1.4 →

12D.11.1.4 →

12A.11.1.5 Demonstrate teamwork skills.

12B.11.1.5 Demonstrate the skills required to participate in the construction of a set of cabinets as part of a team.

12C.11.1.5 Demonstrate teamwork skills.

12D.11.1.5 →

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Goal 11: Demonstrate **employability skills.** *(continued)*

GLO 11.1: Demonstrate fundamental **employability skills.** *(continued)*

12A.11.1.6 Demonstrate the ability to stay on task and to use time effectively.	12B.11.1.6 →	12C.11.1.6 →	12D.11.1.6 →
12A.11.1.7 Demonstrate the responsible use of electronic devices.	12B.11.1.7 →	12C.11.1.7 →	12D.11.1.7 →

GLO 11.2: Demonstrate **critical thinking skills.**

12A.11.2.1 Demonstrate problem-solving skills.	12B.11.2.1 →	12C.11.2.1 →	12D.11.2.1 Demonstrate the ability to solve complex, multi-stage problems related to the design, construction, and repair of cabinets and furniture.
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GLO 11.3: Demonstrate respectful interactions with individuals of different **cultures.**

12A.11.3.1 Demonstrate an awareness of cultural differences in the workplace.			12D.11.3.1 Demonstrate respectful interactions with individuals of different cultures.
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Goal 12: Demonstrate an awareness of **sustainability** as it pertains to cabinet and furniture making.

GLO 12.1: Describe the cabinet and furniture making industry’s **sustainability practices** and their impact on the **environment**.

12C.12.1.1 Demonstrate an awareness of sustainability factors related to the source/ procurement of wood and wood products (e.g., products obtained from local sources or transported over long distances, resources produced and manufactured in a sustainable manner).

12C.12.1.2 Demonstrate an awareness of local sawmills.

12C.12.1.3 Demonstrate an awareness of local sources of reclaimed wood.

GLO 12.2: Describe the impact of **sustainability** on the **health and well-being** of cabinet and furniture makers.

12A.12.2.1 Define sustainability as it relates to human health and well-being.

12D.12.2.1 Discuss the sustainability of the cabinet and furniture maker’s working conditions, including working hours, out-of-town travel, and shift work.

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Goal 13: Demonstrate an understanding of the **structure and scope** of cabinet and furniture making, including **education and career opportunities** and **working environments**.

GLO 13.1: Describe the **scope** of cabinet and furniture making.

12B.13.1.1 Demonstrate an awareness of the scope of the cabinetmaking industry.

12C.13.1.1 Demonstrate an awareness of the scope of the furniture making industry.

12B.13.1.2 Demonstrate an awareness of the scope of the cabinetmaking industry in the local area.

GLO 13.2: Describe **apprenticeship, education, and employment opportunities** and **working environments** in cabinet and furniture making.

12B.13.2.1 Demonstrate an awareness of employment opportunities in cabinetmaking.

12C.13.2.1 Demonstrate an awareness of employment opportunities in furniture making, furniture repair and refinishing, and upholstery.

12D.13.2.1 Describe challenges and opportunities in apprenticeship training. (A1.3)

12B.13.2.2 Demonstrate an awareness of local employment opportunities in cabinetmaking.

12C.13.2.2 Demonstrate an awareness of local employment opportunities in furniture making, furniture repair and refinishing, and upholstery.

12D.13.2.2 Demonstrate an awareness of accommodation requirements for apprentices with disabilities. (A1.4)

12D.13.2.3 Create a resumé and a portfolio to prepare for employment in the cabinet and furniture making industry.

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Goal 14: Demonstrate an understanding of the **evolution** of cabinet and furniture making, including its **technological progression and emerging trends**.

GLO 14.1: Demonstrate an understanding of the **evolution** of cabinet and furniture making, including its **technological progression and emerging trends**.

12B.14.1.1 Discuss the evolution of cabinetmaking, including its technological progression and emerging trends.

12C.14.1.1 Discuss the evolution of furniture making, furniture repair and refinishing, and upholstery, including their technological progression and emerging trends.



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