



9194

APPLIED CARPENTRY (12D)

40S/40E/40M

A Carpentry Course

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Course Description

In this course, students will synthesize knowledge, skills, and attitudes learned in previous courses to complete projects. They will also prepare for Level 1 accreditation with Apprenticeship Manitoba, and demonstrate knowledge of the *Trade Safety Awareness Manual*. The course also includes all of the objectives found in A1 Orientation I: Structure and Scope of Carpenter, and A2 Trade Safety Awareness from *Carpenter Level 1*, from Apprenticeship Manitoba.

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

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

SLO 12D.1.1.1 Demonstrate an understanding of and adherence to health and safety practices.

SLO 12D.1.1.2 Identify safety and health requirements. (A2.1)

- overview of *The Workplace Safety and Health Act*
 - rights and responsibilities of employees under the *Act*
 - rights and responsibilities of employers under the *Act*
 - rights and responsibilities of supervisors under the *Act*
- fourteen (14) regulations
- codes of practice
- guidelines
- right to refuse
 - explanation of right to refuse process
 - rights and responsibilities of employees
 - rights and responsibilities of employers
 - rights and responsibilities of supervisors under the *Act*

- SLO 12D.1.1.3 Identify electrical safety. (A2.3)
- effects of electric current on the human body
 - three factors that affect the severity of an electric shock
 - effects of electrical arc and blast of the human body and on equipment
 - hazards/precautions in working with energized equipment
- SLO 12D.1.1.4 Identify fire safety. (A2.4)
- types of fires
 - types of firefighting equipment
 - classification of fire extinguishers (A, B, C)
 - location of fire extinguishers and exits
 - fire alarms and drills
- SLO 12D.1.1.5 Identify ergonomics. (A2.5)
- definition of ergonomics and conditions that may affect the body
 - working postures
 - repetition
 - force
 - lifting
 - tools
 - identify tool and safety equipment
 - causes of hand-tool accidents
 - equipment
- SLO 12D.1.1.6 Identify hazards of confined space entry. (A2.6)
- identification of a confined space
 - hazards of a confined space
 - physical
 - biological
 - working in a confined space
 - emergency response plan
 - self-contained breathing apparatus (SCBA)
 - trenching and excavation working environments

- SLO 12D.1.1.7 Identify first aid/CPR. (A2.7)
- overview of first-aid regulation
 - obligations of employers regarding first aid
 - Who is certified to provide first aid?
 - What to do while waiting for help?
 - Where is the first-aid kit?
 - describe basic first-aid requirements and techniques
 - scope and limits of first-aid intervention
 - specific interventions (cuts, burns, abrasions, fractures, suffocation, shock, electrical shock, etc.)
 - What is it?
 - interface with other services and agencies (e.g., Workers Compensation claims)
 - describe basic CPR requirements and techniques
 - How do you get certified?
 - scope and limits of CPR intervention (include varieties of CPR certification)

- SLO 12D.1.1.8 Identify and control hazards. (A2.9)
- basic control measures (injury prevention)
 - safe-work procedures
 - explanation on the importance of industrial housekeeping
 - employer responsibilities
 - how and where to store materials
 - safety measures related to walkways, stairs, and floor openings
 - explanation of how to protect the worker and others when working in traffic paths

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

- SLO 12D.1.2.1 Explain the importance of trade safety and health in reducing injuries and fatalities to young employees in Manitoba. (TSA 1)
- SLO 12D.1.2.2 Describe the rights and responsibilities of employees, employers, and supervisors under *The Workplace Safety and Health Act*. (TSA 2)
- SLO 12D.1.2.3 Describe the steps to use in the Right to Refuse process. (TSA 3)

- SLO 12D.1.2.4 Explain how and where to find information on workplace safety and health. (TSA 4)
- SLO 12D.1.2.5 Demonstrate how to handle a potentially dangerous work situation. (TSA 5)
- SLO 12D.1.2.6 Explain the S.A.F.E. acronym. (TSA 6)
- SLO 12D.1.2.7 Define workplace safety and health hazards. (TSA 7)
- SLO 12D.1.2.8 Give examples of trade-specific workplace safety and health hazards. (TSA 8)
- SLO 12D.1.2.9 Give examples of five types of safety and health hazards. (TSA 9)
- SLO 12D.1.2.10 Define workplace safety and health risk. (TSA 10)
- SLO 12D.1.2.11 Give examples of trade-specific workplace safety and health risks. (TSA 11)
- SLO 12D.1.2.12 Explain the principles of hazard recognition and control as they apply to carpentry. (TSA 12)
- SLO 12D.1.2.13 Explain the Workplace Hazardous Material Information System (WHMIS). (TSA 13)
- SLO 12D.1.2.14 Match the WHMIS hazardous materials symbols and their meanings. (TSA 14)
- SLO 12D.1.2.15 Describe the importance of the Material Safety Data Sheets (MSDS). (TSA 15)
- SLO 12D.1.2.16 Describe the importance of using personal protective equipment (PPE). (TSA 16)
- SLO 12D.1.2.17 Demonstrate the proper selection and use of a variety of personal protective equipment and fall protection systems. (TSA 17)
- SLO 12D.1.2.18 Outline the safety principles for working on and around electrical equipment. (TSA 18)
- SLO 12D.1.2.19 Outline the workplace fire safety principles. (TSA 19)
- SLO 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 the identification, installation, and management of **materials**.

GLO 2.1: Demonstrate the identification, installation, and management of **materials**.

No applicable SLOs.

Goal 3: Demonstrate the identification, use, and management of **tools, equipment, fasteners, and adhesives.**

GLO 3.1: Demonstrate the identification, use, and management of **tools and equipment.**

- SLO 12D.3.1.1 Identify types of gas, diesel, and powder-actuated tools and equipment, and material-handling equipment, and describe their applications and procedures for use. (A3.4) *(The remainder of this objective is taught in course #9188.)*
- SLO 12D.3.1.2 Describe the procedures used to inspect, maintain, and store gas, diesel, and powder-actuated tools and equipment, and material-handling equipment. (A3.6) *(The remainder of this objective is taught in course #9188.)*
- SLO 12D.3.1.3 Demonstrate the use of gas, diesel, and powder-actuated tools and equipment, and material-handling equipment. (A3.8) *(The remainder of this objective is taught in course #9188.)*
- SLO 12D.3.1.4 Identify types of hoarding and describe their purpose and applications, and the associated equipment and materials used to construct hoarding. (B3.5)
- environmental
 - containment
- SLO 12D.3.1.5 Identify types of lifting, rigging, and hoisting equipment and accessories, and describe their applications, limitations, and procedures for use. (B3.6)
- SLO 12D.3.1.6 Identify the considerations and procedures used for installing, securing, dismantling, storing, and maintaining temporary access structures. (B3.7)
- code and regulatory requirements
 - site conditions
 - manufacturers' specifications and instructions
 - load characteristics
 - equipment and accessories
 - safety
 - environmental factors
 - anchor points/attachment locations
 - sling angles
 - machine capacity/load chart

SLO 12D.3.1.7 Identify the methods of communication used during lifting, rigging, and hoisting operations, and describe their associated procedures. (B3.10)

- hand signals
- electronic communications
- audible/visual

SLO 12D.3.1.8 Identify the considerations when modifying existing scaffold structures and describe the procedures used. (B3.11)

- manufacturers' specifications
 - jurisdictional regulations
 - location and type of support systems
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GLO 3.2: Demonstrate the identification, use, and management of **fasteners and adhesives.**

SLO 12D.3.2.1 Demonstrate the identification, use, and management of fasteners and adhesives.

Goal 4: Demonstrate the basic **skills** of carpentry.

GLO 4.1: Demonstrate the skills related to **project drawings and specifications.**

SLO 12D.4.1.1 Identify documentation related to modifications of drawings and specifications, and describe their applications. (B2.6)

- change orders
- addendums
- as-builts

SLO 12D.4.1.2 Explain resolution protocols to follow when a conflict is identified within a set of project documents. (B2.8)

- precedence
- communication

SLO 12D.4.1.3 Demonstrate the literacy skills required to participate fully in the construction or renovation of a structure.

GLO 4.2: Demonstrate the carpentry skills related to **layout, measurement, and assembly.**

SLO 12D.4.2.1 Demonstrate the process of assembling projects.

SLO 12D.4.2.2 Demonstrate the layout, measurement, and assembly skills and knowledge required to participate fully in the construction or renovation of a structure.

GLO 4.3: Demonstrate the ability to determine **elevations** and lay out **building lines.**

No applicable SLOs.

GLO 4.4: Demonstrate the knowledge and skills associated with **concrete foundations.**

No applicable SLOs.

Goal 5: Follow the **ethical and legal standards** that pertain to carpentry.

GLO 5.1: Demonstrate an awareness of the **ethical and legal expectations** of carpenters.

SLO 12D.5.1.1 Discuss instances when carpenters performed their responsibilities unethically, along with the ensuing consequences.

Goal 6: Demonstrate **employability skills.**

GLO 6.1: Demonstrate **employability skills.**

SLO 12D.6.1.1 Demonstrate regular attendance and punctuality.

SLO 12D.6.1.2 Demonstrate accountability by taking responsibility for own actions.

SLO 12D.6.1.3 Demonstrate adaptability and effort.

SLO 12D.6.1.4 Demonstrate the ability to accept and follow direction and feedback.

SLO 12D.6.1.5 Demonstrate teamwork skills.

SLO 12D.6.1.6 Demonstrate the ability to stay on task and use time effectively.

GLO 6.2: Demonstrate **critical thinking** skills.

SLO 12D.6.2.1 Demonstrate the ability to solve complex, multi-stage problems related to the design, construction, and/or renovation of structures.

GLO 6.3: Demonstrate respectful interactions with individuals of different **cultures**.

SLO 12D.6.3.1 Demonstrate respectful interactions with individuals of different cultures.

Goal 7: Demonstrate an awareness of **sustainability** as it pertains to carpentry.

GLO 7.1: Describe the impact of the construction industry on **human sustainability** and the health and well-being of carpenters.

No applicable SLOs.

GLO 7.2: Describe the construction industry's **sustainability practices** and impact on the environment.

No applicable SLOs.

Goal 8: Demonstrate an understanding of the **structure and scope** of carpentry.

GLO 8.1: Describe the **scope of** carpentry.

SLO 12D.8.1.1 Describe the structure and scope of the modern carpenter trade. (A1.1)

- historical background, including apprentice experience
 - structure/scope of the trade
 - international and national characteristics
 - characteristics and practice of the trade in Manitoba
 - trade organizations
 - opportunities and career ladders
 - generalists and specialists
 - lead hands and other immediate supervisors
 - geographic mobility
 - job hierarchies and innovations
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GLO 8.2: Describe **apprenticeship, post-secondary education, and employment opportunities**.

SLO 12D.8.2.1 Describe the Manitoba Carpenter Apprenticeship Program. (A1.2)

- concept and significance of skills stewardship.
 - to the trade
 - to apprentices

- to journeypersons
- to employers
- to the community
- practical training (on-the-job)
 - roles/responsibilities of employer and journeyperson(s)
 - roles/responsibilities of apprenticeship training coordinator (ATC)
 - roles/responsibilities of apprentice(s)
 - roles/responsibilities of instructors (including related-area instructors)
- technical training (offsite)
- attendance requirements
- progression requirements
- reporting of grades
- trade regulation and its significance
- policies (e.g., personal conduct, missed units, fees, harassment, etc.)
 - apprenticeship branch
 - training provider(s)

SLO 12D.8.2.2 Describe special challenges and opportunities regarding apprenticeship training. (A1.3)

- adapting personal learning goals to program contexts
 - characteristics and domains (types) of adult learning
 - description/recognition of learning and teaching styles
 - work culture (including work-crew hierarchy), interpersonal skills, and trade-learning
 - integrating technical training and practical training content
 - possibilities and perils of peer-learning
 - budgeting and other necessary personal arrangements
 - handling common varieties of stress at work and in school
- on-the-job challenges/opportunities
 - description/recognition of jobsite teaching styles/roles
 - communicating with journeypersons and employers

- coverage/documentation of formally prescribed tasks and subtasks
- personal record of achievements/needs: the trade learning journal option
- getting help and fixing mistakes
- in-school opportunities/challenges
 - personal arrangements that support in-school progress
 - self-assessing potential impacts of previous school experience on current learning (favourable/unfavourable); resources
 - techniques for note-taking, record-keeping, and review
 - relations with instructors (including related-area instructors)
 - college resources (library, support services, etc.)
 - missed units—policies regarding supplementals, re-tests, make-up assignments, etc.

SLO 12D.8.2.3 Demonstrate an awareness of accommodations for apprentices with disabilities. (A1.4)

- technical training
 - requirements
 - roles and responsibilities
 - services and information required by persons with disabilities
- on-the-job
 - requirements
 - roles and responsibilities
 - services and information required by persons with disabilities

Goal 9: Demonstrate an understanding of the **evolution** of carpentry, including its **technological progression and emerging trends**.

GLO 9.1: Demonstrate an understanding of the **evolution** of carpentry, including its **technological progression and emerging trends**.

No applicable SLOs.
