



New Brunswick Indigenous Career College

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*"Your Training – Your Future,
Soar to New Heights"*

Carpentry Pre-Employment Program

Introduction

Our Carpentry program offers a comprehensive curriculum that spans 17 essential topics, preparing students for a successful career in the field. From safety awareness and tool handling to advanced construction techniques and project management, this program covers the full spectrum of carpentry skills. Students learn to work with a variety of materials, master key construction methods, and develop effective communication and documentation skills. Upon completion, graduates are well-equipped to handle diverse challenges in the construction and carpentry industry, ensuring safety, efficiency, and high-quality outcomes in their professional endeavors.

Admissions Prerequisites

- At least grade 12 or
- Mature student (21+) non-graduate or
- Exceptions might be made for the right applicant.

Program Courses

1. CAR-100 Safety Awareness

The CAR-100 Safety Awareness course is a critical component of the carpentry curriculum, essential for anyone in the field. As a carpenter, understanding and implementing safety measures is not just about compliance; it's about creating a secure and efficient work environment. This course will equip you with the knowledge and skills to correctly use personal protective equipment (PPE), understand the regulatory requirements related to safety, and adopt safe work practices.

In this course, you will learn to define key safety terms, identify various workplace hazards, and understand the importance of safety in diverse environments - from electrical safety to dealing with environmental hazards like asbestos or radon gases. The course covers the use and maintenance of PPE, the procedures for locking out and tagging out equipment, and the best practices for maintaining a safe work environment.

By the end of CAR-100, you'll not only be able to interpret safety documentation and regulations like WHMIS and CSA standards but also apply these safety principles practically in your day-to-day carpentry work. This foundational knowledge is indispensable, ensuring that you can work safely and responsibly in any carpentry setting.

2. CAR-105 Tools and Equipment course

The CAR-105 Tools and Equipment course, essential for any carpenter, is a program focusing on the various tools used in the carpentry trade. This course will teach you about hand, powered, gas, pneumatic, and powder-actuated tools, along with measuring, layout, and material handling equipment. You'll learn not only their applications but also the crucial aspects of maintenance and safety procedures. Understanding how to select the right tool for the job and the proper care for these tools is vital for efficient and safe carpentry work. By the end of this course, you'll be well-equipped with the knowledge needed to handle a wide range of tools effectively in your carpentry projects.

3. CAR-145 Wood and Wood Products

The CAR-145 Wood and Wood Products course is a crucial training course for carpenters, focusing on the diverse types of wood and wood products used in the trade. This course aims to provide you with a thorough understanding of the characteristics and applications of different woods, including hardwoods and softwoods, as well as various wood products like lumber, panels, and engineered products.

In this course, you will learn to define the terminology associated with wood and wood products, identify the safe work practices for handling and storing these materials, and interpret relevant codes and regulations. Understanding the nuances of wood types, their defects, and processing techniques such as sawing, drying, dressing, grading, and treating is vital for any carpentry work.

Additionally, you will gain insight into the tools and equipment used with wood products, enhancing your ability to select and apply the right tool for specific wood types. By the end of the course, you'll be equipped with the necessary skills to efficiently select, handle, and store wood and wood products, a foundational skill set for any successful carpentry project.

4. CAR-150 non-Wood Products

The CAR-150 non-Wood Products course is essential for carpenters to understand the variety of non-wood materials commonly used in construction. This course will deepen your knowledge of non-wood products such as composites, metals, plastics, glass, foams, ceramics, cementitious boards, masonry, and gypsum. You'll learn about their unique characteristics and applications in various carpentry projects.

Key aspects of this course include defining terminology related to non-wood products, identifying, and practicing safe handling and storage methods, and understanding the codes and regulations governing their use. You will also learn how to interpret relevant information on these materials from drawings and specifications.

Additionally, the course covers the tools and equipment specific to non-wood products, guiding you on their proper use and application. By the end of this course, you'll be equipped with the skills to effectively select, handle, and store a range of non-wood materials, broadening your expertise and versatility in the carpentry field.

5. CAR-115 Fasteners, Connectors, and Adhesives

The CAR-115 Fasteners, Connectors, and Adhesives course is a fundamental 6-hour module vital for any carpenter. This course aims to equip you with comprehensive knowledge about various fasteners, connectors, and adhesives, and their practical applications in carpentry.

You'll learn to define and understand the terminology associated with these materials, identify potential hazards, and apply safe work practices when using them. The course also covers how to interpret codes, specifications, and information from drawings, ensuring you can make informed decisions in selecting and using the right materials for different carpentry tasks.

Key aspects of the course include identifying different types and sizes of fasteners and connectors, from threaded and non-threaded to chemical and mechanical anchors and understanding their specific characteristics and applications. You will also explore various types of adhesives, learning about their properties and the factors to consider when choosing the right adhesive for a project, such as material types and environmental conditions.

By the end of this course, you will not only be able to correctly select and apply these critical components but also understand the procedures for installing, removing, and applying them effectively. This knowledge is essential for ensuring the durability and integrity of your carpentry work.

6. CAR-130 Temporary Access Equipment and Structures

The CAR-130 Temporary Access Equipment and Structures course is an essential part of the carpentry training program. This course provides comprehensive knowledge about various temporary access solutions used in construction and carpentry, including stationary and mobile access equipment, as well as scaffolding.

Throughout the course, you will learn to define the terminology associated with these access systems, understand the safety practices involved, and interpret relevant codes and regulations. This knowledge is crucial for ensuring safe and efficient access to work sites.

You will be introduced to different types of temporary access equipment such as ladders, ramps, elevating work platforms, telescoping and articulated booms, and various forms of scaffolding. The course covers not just the use of this equipment, but also detailed procedures for their construction, installation, maintenance, and modification.

One of the key aspects of this course is learning how to erect, dismantle, and securely modify scaffolding systems, an essential skill for any carpenter working in environments that require elevated access. By the end of this course, you will have a solid understanding of how to select, set up, and safely use various temporary access structures, an indispensable part of many carpentry projects.

7. CAR-135 Hoarding

The CAR-135 Hoarding course, a concise yet crucial 3-hour module, is designed to impart comprehensive knowledge about hoarding, its purposes, and applications in the construction and carpentry sectors. This course is essential for understanding how to create and manage temporary barriers or hoardings on construction sites.

In this course, you'll learn to define the specific terminology associated with hoarding, identify potential hazards, and understand safe work practices related to the construction and dismantling of hoarding structures. This includes interpreting relevant codes, regulations, and specifications, which are crucial for ensuring safety and compliance on a work site.

A significant part of the course is focused on understanding the different types of hoarding, such as environmental and containment hoardings, and their specific uses. You will also explore the various equipment, materials, fasteners, adhesives, and connectors used in constructing hoarding structures, along with their characteristics and applications.

By the end of the course, you will have a clear understanding of the procedures involved in both constructing and dismantling hoarding. This knowledge is vital for maintaining a safe work environment and managing site security and environmental factors effectively.

8. CAR-110 Introduction to Lifting, Rigging, and Hoisting

The CAR-110 Introduction to Lifting, Rigging, and Hoisting course is a 9-hour program designed to provide carpenters with fundamental knowledge and skills in managing lifting

equipment and operations. This course covers the terminology, safety practices, and regulations associated with lifting, rigging, and hoisting.

During the course, you will learn about different types of lifting, rigging, and hoisting equipment, along with their applications, limitations, and usage procedures. Understanding the factors to consider when selecting and using this equipment, such as safety factors, load characteristics, and environmental conditions, is a key component.

The course also includes training on how to effectively communicate during lifting operations, including the use of hand signals, electronic communications, and audible/visual methods. Practical skills such as tying various types of knots, hitches, and bends, and performing basic hand signals are also taught. By the end of this course, you will be equipped with the necessary knowledge to handle lifting, rigging, and hoisting tasks safely and efficiently in carpentry projects.

9. CAR-140 Basic Site Layout

The CAR-140 Basic Site Layout course is designed to equip carpenters with the essential skills and knowledge for executing site layout tasks. This comprehensive course covers the use of various layout instruments and the fundamental principles of site layout in construction.

Throughout the course, you'll learn to define terminology specific to site layout, identify potential hazards, and apply safe work practices. You'll also gain an understanding of the codes, regulations, and covenants relevant to site layout.

Key components of the course include mastering the use of tools and equipment essential for site layout, such as string lines, builders' levels, laser levels, plumb bobs, and tape measures. You'll also delve into basic surveying theory and learn practical procedures for site layout, including the 3-4-5 method based on the Pythagorean Theorem and diagonal measurements.

Practical objectives of this course involve performing calculations related to site layout and using site layout equipment to accurately determine elevations. By the end of this course, you'll have a solid foundation in the principles and practices of basic site layout, an invaluable skill set for any carpentry project.

10. CAR-155 Concrete

The CAR-155 Concrete course is a detailed training program designed to provide carpenters with in-depth knowledge and skills related to concrete. This course covers the fundamental aspects of concrete, including its characteristics, applications, and the various techniques used in working with concrete.

During the course, you'll learn to define terminology specific to concrete, identify safety practices, and understand codes and regulations related to concrete work. There's a focus on interpreting information from drawings and specifications related to concrete structures.

Key topics include identifying and using the correct tools and equipment for testing, consolidating, and finishing concrete. You'll gain insights into different concrete structures like cast-in-place and pre-cast concrete, and learn about various concrete reinforcements such as rebar, stirrups, collars, fibers, meshes, and dowels.

The course also delves into understanding the role of embedded materials in concrete, the importance of water/cement ratio, aggregate size, and additives/admixtures. You'll learn about concrete tests and their procedures, including slump tests, air entrainment, compression, and temperature testing.

Additionally, you'll study the procedures for placing, consolidating, finishing, and curing concrete, ensuring a thorough understanding of the entire process. By the end of this course, you'll have a comprehensive understanding of working with concrete, a critical skill in many carpentry and construction projects.

11. CAR-215 Footings and Slab-On-Grade Forms

The CAR-215 Footings and Slab-On-Grade Forms course is a comprehensive training designed to equip carpenters with detailed knowledge and skills in constructing foundational structures. This course focuses on footings and slab-on-grade forms, their characteristics, and their applications in construction.

During the course, you will learn to define relevant terminology and understand the safe work practices associated with creating footings and slab-on-grade forms. There's an emphasis on interpreting codes and regulations as well as information from drawings and specifications pertaining to these foundational elements.

Key elements of the course include identifying different types of footings and slab-on-grade forms, such as piles, piers, grade beams, strip footings, and pad footings. You will also learn about the tools, equipment, materials, and accessories used in their construction.

Practical skills taught in the course include steps for site preparation, factors to consider in construction, and procedures for constructing these forms, including the placement of embedded materials like rebar and anchor bolts. You'll also learn how to calculate the materials needed and the volume of concrete required for these structures.

By the end of this course, you will have gained in-depth knowledge and practical experience in laying out and constructing footing forms, a crucial skill in building robust and stable structures in carpentry projects.

12. CAR-600 Wall Forms

The CAR-600 Wall Forms course, a detailed training program, is designed to provide carpenters with thorough knowledge and skills in constructing and dismantling wall forms. This course is crucial for understanding the various types of wall forms and their applications in construction projects.

Throughout the course, you'll learn the specific terminology associated with wall forms, identify potential hazards, and understand safe work practices related to wall form construction. A key component of the course is interpreting codes, regulations, and information from drawings and specifications relevant to wall forms.

The course covers different types of wall form systems, including loose forming/panel forming, proprietary forming, insulated concrete forms (ICF), and slip forms/self-jacking forms. You'll also learn about the components, accessories, and materials used in wall form systems and their specific purposes.

Practical skills taught include the procedures for constructing wall forms, placing embedded materials like steel reinforcements, and the methods used to dismantle and recondition forms. Additionally, you will learn to calculate the materials needed and the volume of concrete required for these structures.

By the end of this course, you'll have a comprehensive understanding of wall forms and the practical experience needed to layout and construct wall forms, an essential skill for any advanced carpentry or construction work.

13. CAR-160 Beams and Supports

The CAR-160 Beams and Supports course is an in-depth training program designed to give carpenters a thorough understanding of beams and supports, their characteristics, and installation procedures. This course is essential for anyone involved in the structural aspects of building construction.

Throughout the course, you'll learn the specific terminology associated with beams and supports. There's a strong emphasis on identifying potential hazards and practicing safe work methods in handling and installing these structural elements. Understanding the codes and regulations that govern the construction and installation of beams and supports is a key component of this course.

You will explore various types of beams, including built-up, engineered, steel, and concrete beams, along with their unique characteristics and applications. The course also covers different types of beams supports and the appropriate fastening methods to secure them, including the use of grout and pocket connections.

A significant part of the course involves interpreting information from drawings and specifications related to beams and supports. You will also learn about the tools and equipment used in their construction and installation.

Practical skills include understanding the forces acting on beams, the factors to consider when selecting beam and support systems, and specific construction techniques for these systems. By the end of the course, you will be able to layout and construct built-up beams and install various types of beams and supports, equipping you with crucial skills for advanced carpentry work.

14. CAR-165 Floor Layout and Framing

The CAR-165 Floor Layout and Framing course is a comprehensive training designed to provide carpenters with essential skills and knowledge in floor system construction. This course is crucial for understanding the intricacies of laying out and framing floor systems, a fundamental aspect of building construction.

During the course, you will learn the specific terminology related to floor layout and framing. A key focus is on identifying hazards and implementing safe work practices when working with floor systems. You will also gain an understanding of the codes and regulations governing floor layout and framing.

The course covers various types of floor systems, including dimensional lumber and engineered systems, and the tools and equipment used for their installation. You'll learn about different floor system components, accessories, and materials, such as sub-floors, bridging, solid blocking, strapping, and sills, and their specific applications.

An essential part of the course involves interpreting information from drawings and specifications, particularly concerning mechanical and electrical penetrations. You will also understand the factors to consider when selecting and implementing a floor framing system, such as leveling and squaring.

Practical skills taught in the course include the procedures for laying out and framing floor systems, especially those with openings, and the methods used to connect, anchor, and fasten these systems. Additionally, you will learn how to calculate the materials needed for a floor system.

By the end of the course, you will be adept at laying out a floor system with an opening, equipping you with a vital skill set for any advanced carpentry or construction project.

15. CAR-225 Deck Layout and Framing

The CAR-225 Deck Layout and Framing course is a focused program designed to equip carpenters with the necessary skills for designing, laying out, and constructing decks. This course is key for those looking to specialize in or enhance their knowledge of deck building.

During the course, you'll learn the specific terminology associated with decks, understand the safety practices relevant to deck construction, and become familiar with the codes and regulations governing deck building. You will also gain insights into interpreting information from drawings and specifications related to deck construction.

A significant portion of the course is dedicated to identifying the tools and equipment needed for deck layout and construction, along with their applications and usage procedures. You will explore various types of decks, their characteristics, and applications, including both traditional site-built and prefabricated decks.

The course also covers the different components, accessories, and materials used in deck building, such as ramps, guards, rails, and landings, and the factors to consider when choosing a deck system. You'll learn about construction techniques specific to deck framing and the procedures for laying out and constructing decks, including methods for attaching decks to existing structures and building free-standing decks.

Practical aspects of the course include calculating dimensions for ramps and landings and determining the materials needed for a deck project. You will also learn about the materials, fasteners, adhesives, and connectors used in deck construction, enhancing your understanding of the entire deck building process.

16. CAR-120 Communication and Trade Documentation

The CAR-120 Communication and Trade Documentation course is a concise program aimed at enhancing carpenters' skills in effective communication and understanding trade-related documentation. This course is crucial for professionals who need to interpret various project-related documents and communicate effectively in the workplace.

In this course, you'll learn the terminology associated with effective communication and trade documentation. A significant focus is on the importance of both verbal and non-verbal communication in various professional interactions, including with tradespersons, colleagues, supervisors, and clients. You'll also gain insights into conflict resolution strategies.

Another key aspect of the course is understanding the appropriate and effective use of electronic devices and sources of information in a trade setting. You'll explore different types of trade-related documentation, such as manufacturers' specifications, codes, and standards (including the National Building Code, provincial/municipal codes, and Canadian Standards Association standards), energy efficiency guides, safety manuals, operating manuals, permits, and project drawings and specifications.

The practical component of the course involves learning the procedures to access, interpret, and apply information from trade-related documentation. By the end of the course, you will have a better understanding of how to effectively communicate and utilize various documents in carpentry and construction projects, enhancing your professional capabilities.

17. CAR-125 Introduction to Project Drawings and Specifications

The CAR-125 Introduction to Project Drawings and Specifications is an extensive course designed to provide carpenters with a deep understanding of project drawings and specifications, crucial for effective planning and execution of construction projects.

In this course, you'll learn the terminology related to project drawings and specifications and how to interpret various codes and regulations at the federal, provincial/territorial, and municipal levels. A key component of the course is understanding measurement systems, including metric and imperial, and how to convert between them.

The course covers various types of specification documents, such as code books, contract specifications, manufacturers' specifications, and national specification formats. You'll also explore different types of project drawings, including site/plot/civil, architectural, mechanical, structural, electrical, shop drawings, and sketches.

You'll learn about drafting instruments and their applications, as well as documentation related to modifications of drawings and specifications like change orders, addendums, and as-builts. The course will teach you about drawing projections and views, and how to resolve conflicts within project documents.

Practical skills include basic sketching techniques and interpreting basic project drawings. By the end of the course, you will have the skills to accurately interpret and extract information from drawings and specifications, a vital capability in carpentry and construction.