

# Construction Trades: Program Outline

## Program Goal

To provide students with a basic understanding of the materials, tools, and processes used by construction professionals to complete residential and light-commercial building projects.

Program Outcomes	Courses	Evidence of Learning
Describe the career opportunities available in the carpentry profession, and identify the key work characteristics of carpentry technicians	CRP101: Careers, Materials, and Tools for Carpenters	Multiple-choice lesson exams
Identify the basic materials and tools used for standard residential construction projects, and describe how they are applied as part of the construction process	CRP101: Careers, Materials, and Tools for Carpenters	Multiple-choice lesson exams
Understand the basic concepts and rules of construction safety, and list the types of personal protective equipment construction technicians use to stay safe on the job site	CRP101: Careers, Materials, and Tools for Carpenters	Multiple-choice lesson exams
Identify and describe the essential steps in the framing process used for residential construction projects	CRP102: Site Layout, Foundations, and Basic Framing	Multiple-choice lesson exams
Describe the steps in the process for transmitting building requirements and specifications from construction documents to actual building layout	CRP101: Careers, Materials, and Tools for Carpenters	Multiple-choice lesson exams
	CRP102: Site Layout, Foundations, and Basic Framing	Multiple-choice lesson exams
List the materials and procedures used to install exterior building protection systems and interior building finish systems	CRP103: Exterior and Interior Finish	Multiple-choice lesson exams, final exam

# Program Structure

## **SYP110: Starting Your Program**

Lesson 1	Starting Your Program
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## **CRP101: Careers, Materials, and Tools for Carpenters**

Lesson 2	Introduction to Construction Technology
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Lesson 3	The Carpentry Profession
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Lesson 4	Wood and Building Materials
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Lesson 5	Blueprints and Building Codes
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Lesson 6	Hand Tools
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Lesson 7	Power Tools
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Textbook	<i>Modern Carpentry</i>
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## **CRP102: Site Layout, Foundations, and Basic Framing**

Lesson 8	Building Layout
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Lesson 9	Footings and Foundations
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Lesson 10	Framing, Floors, Walls, and Ceilings
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Lesson 11	Scaffolds and Ladders
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Lesson 12	Roof Framing
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## **CRP103: Exterior and Interior Finish**

Lesson 13	Stair Framing, Insulation, and Ventilation/Roofing
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Lesson 14	Windows and Exterior Doors/Exterior Finish, Porches, and Decks
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Lesson 15	Interior Wall and Ceiling Finish/Interior Doors and Trim
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Lesson 16	Finish Flooring/Cabinets
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Lesson 17	Final Exam
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## Course Descriptions and Objectives

### **SYP110: Starting Your Program**

In this course, you'll develop the necessary skills to ensure your success in the program. Starting Your Program is designed to help you make a smooth transition to Penn Foster, including learning how to use all the tools and resources that are available to you, get help when you need it, understand the Code of Conduct, and improve your study skills and time management. The goal is to help you become a confident, independent learner.

By the end of this course, you'll be able to:

- Identify skills needed to be a confident and independent online learner

### **CRP101: Careers, Materials, and Tools for Carpenters**

In this course, you'll start by reviewing different career paths, certifications, and safe work practices in the building trade and discover how math and science play a big role in the industry. You'll then learn about the field of carpentry, including training and career paths. You'll study various building materials and discover the importance of building plans and building codes. You'll also familiarize yourself with tools of the trade and standard safety practices.

By the end of this course, you'll be able to do the following:

- Describe the concepts, technologies, safe work practices, and protective gear used by those in the construction technology field
- Describe the carpentry training process, the career paths available to carpenters, standard safety practices in the carpentry field, and the qualities employers seek
- Describe common types of building materials, including wood, lumber, engineered wood products, concrete, fasteners, and adhesives
- Explain how to interpret building plans, the purpose and applications of building codes, and the process of obtaining building permits
- Identify various types of hand tools and how to maintain them
- Identify various types of power tools and their applications

### **CRP102: Site Layout, Foundations, and Basic Framing**

In this course, you'll learn both manual and automated techniques for laying out a foundation to begin the building process. You'll examine different materials and processes used to build foundations, footings, walls, floors, ceilings, and roofs. You'll also learn about ladders—including how to identify, inspect, carry, and store common job-site ladders—and scaffold assemblies. You'll learn how to differentiate among different roof styles and how to construct them.

By the end of this course, you'll be able to do the following:

- Explain the steps required to lay out the foundation of a structure, including manual and automated techniques
- Describe common materials used to construct building foundations and the carpenter's role in foundation development

- Describe the materials, layout, and assembly techniques used to construct walls, floors, and ceilings
- Identify different types of ladders and scaffold assemblies used on job sites
- Describe the configurations of different roof styles and the layout and assembly processes use to construct each style

### **CRP103: Exterior and Interior Finish**

In this course, you'll learn framing techniques for constructing stairs. You'll learn how to properly insulate and ventilate buildings. You'll examine various materials and techniques used to finish the exteriors of buildings, from roofs to siding, porches, and decks. You'll also learn how to finish the interiors of buildings, including walls, ceilings, doors, and moldings. Finally, you'll learn how to create finished floors and select and install cabinets in kitchens and baths.

By the end of this course, you'll be able to do the following:

- Describe the steps involved in the proper construction of stairs, the insulation and ventilation of buildings, and the application of common roofing materials and gutter systems
- Explain the process of installing standard windows and doors and identify the materials used to weatherize and customize the exteriors of buildings
- Identify materials and tools used to finish the interiors of buildings, including walls, ceilings, doors, and trim
- Describe the processes and materials involved in finish flooring and the installation of cabinetry
- Demonstrate an understanding of the different processes within the building trade by completing a final exam

**Note:** The titles of your learning materials may be different from those listed on your program outline. There is no need to call your instructor about these differences. While the titles of certain learning materials may differ, the educational content is the same. All learning materials are designed to give you the finest education in your field. If you need instructional assistance, however, be sure to call for help. We reserve the right to revise the program of study and the instructional materials and to substitute for the items of equipment offered.