

Wisconsin Technical College System
Curriculum Standards & Program Design Summary
50-410-9 CARPENTRY APPRENTICE (ABC)

Program Information

Program Description

Carpenters make up the largest building trades occupation in the industry and those with all-around skills are in high demand. Carpenters are involved in many different kinds of construction activities, from building highways and bridges to installing kitchen cabinets. Carpenters construct, erect, install, and repair structures and fixtures made from wood and other materials. This four-level curriculum covers content such as Building Materials, Cabinet Fabrication, and Advanced Wall Systems. The use of basic carpenter tools, optical equipment, lasers, mechanical tools, rigging and welding is also needed. Carpenters must also coordinate and schedule work with other trades.

Accreditation and Program Alignment Information

This program is aligned with the ABC construction apprenticeship training standards and NCCER curriculum levels 1 - 4.

External Requirements

- 4 year training program
- 6,240 hours on-the-job training
- 400 hours paid related instruction
- 250 hours unpaid related instruction
- Apprentice must, during their first two years, complete Red Cross First Aid and CPR Training courses.
- Apprentice must in his/her final year complete the Transition-To-Trainer course.

Entry Requirements

- Applicants must be at least 17 years of age
- High school diploma or equivalent
- Meet required norms on aptitude test (if required)
- Physically able to perform trade
- Valid driver's license or reliable transportation

Related Outcomes – pending future development

Program Configurations for Related Instruction

50-410-9 WTCS Program Configuration Model for ABC Carpentry Apprenticeship

This program configuration serves as a curriculum standards model for related instruction in the ABC Carpentry apprenticeship. The program provides 576 hours of related instruction in 8 terms. Each course is approved for up to 2 credits and 72 hours of instruction. A Transition to Trainer course is shown in an optional term and may be taken at any time in the last year of the apprenticeship.

The WTCS learning outcomes in this program align with the National Center for Construction Education and Research (NCCER) standardized curriculum used across the United States (www.NCCER.org). Course

competencies relate to the NCCER Levels 1 through 4. An optional Core level is shown in case trade prep and pre-apprenticeship instructional activities are required to meet specific local needs.

Credits & Hours

1 - Occupation Specific 17.00 credits and 576 total hours. Approved course hours are 36 hours per credit and 16 total credits. Model includes an optional course at 1 credit to align with NCCER core curriculum.

2 - Occupation Supportive 0.00 (Transition to Trainer course at 8 hours)

Total Credits 17.00

Term 1

Course #	Course Title	Credits & Hours	Course Description
50-410-771	ABC Carpentry Apprenticeship 1	2.00 72 hours	Course competencies align with NCCER Core and Level 1 learning outcomes. Course topics include construction safety, math, hand tools, power tools, and an introduction to construction drawings, basic rigging, basic communications, basic employability skills, material handling, and an orientation to the construction trades.

Term 2

Course #	Course Title	Credits & Hours	Course Description
50-410-772	ABC Carpentry Apprenticeship 2	2.00 72 hours	Course competencies align with the remaining NCCER level 1 learning outcomes. Course topics include building materials, fasteners and adhesives; hand and power tool use; introduction to construction drawings, specifications, and layout; floor systems; wall systems; ceiling joists and roof framing; introduction to concrete and building envelope systems.

Term 3

Course #	Course Title	Credits & Hours	Course Description
50-410-773	ABC Carpentry Apprenticeship 3	2.00 72 hours	Course competencies align with NCCER level 2 learning outcomes. Course topics include roofing applications, thermal and moisture protection, carpentry framing and finishing, exterior finishing, cold formed steel framing, drywall installation, and drywall finishing.

Term 4

Course #	Course Title	Credits & Hours	Course Description
50-410-774	ABC Carpentry Apprenticeship 4	2.00 72 hours	Course competencies align with additional NCCER level 2 learning outcomes. Course topics include doors, door hardware, suspended ceilings, window, door, floor and ceiling trim, cabinet installation and cabinet fabrication.

Term 5

Course #	Course Title	Credits & Hours	Course Description
50-410-775	ABC Carpentry Apprenticeship 5	2.00 72 hours	Course competencies align with NCCER level 3 learning outcomes. Course topics include rigging equipment, rigging practices, properties of concrete, reinforcing of concrete, and handling & placing concrete.

Term 6

Course #	Course Title	Credits & Hours	Course Description
50-410-776	ABC Carpentry Apprenticeship 6	2.00 72 hours	Course competencies align with additional NCCER Level 3 learning outcomes. Course topics include trenching and excavating, foundations, slab-on-grade, vertical framework, horizontal framework and tilt-up wall systems.

Term 7

Course #	Course Title	Credits & Hours	Course Description
50-410-777	ABC Carpentry Apprenticeship 7	2.00	Course competencies align with NCCER level 4 learning outcomes. Course topics include site layout, advanced roofing systems, advanced wall systems, and advanced stair systems,

Term 8

Course #	Course Title	Credits & Hours	Course Description
50-410-778	ABC Carpentry Apprenticeship 8	2.00	Course competencies align with additional NCCER level 4 learning outcomes. Topics include lighting and an introduction to light equipment, welding for construction, commercial finish work, site preparation, and basic skills for crew leaders.

Optional Term

Course #	Course Title	Credits & Hours	Course Description
50-410-770	ABC Carpentry Apprenticeship Core	1.00	<p>Course competencies align with the NCCER core level learning outcomes. Course topics include construction safety, math, hand tools, power tools, and introduction to construction drawings, basic communication, employment skills, material handling and an orientation to the trade. This course is optional and may be used for pre-apprenticeship or trade prep activities. Course competencies are repeated in related instruction 1; however this course can stand alone for trade prep and pre-apprenticeship instruction.</p>
47-455-455	Transition to Trainer: Your Role as a Journey Worker	0.00	<p>Apprenticeship training is a collaborative partnership: employer and employee associations, government, and educational institutions each play a part. In reality, most learning takes place through the daily interaction between an apprentice and his/her co-workers. Surveys have shown that the apprentices are least satisfied with the on-the-job portion of their training--particularly the ability of journey level workers and supervisors to pass on their knowledge of the trade.</p> <p>You have already learned to use the tools of your chosen trade. In this workshop you will be introduced to a new set of basic tools--the tools of a jobsite trainer. You will explore the skills that are necessary to be an effective trainer, discover how to deliver hands-on training, and examine the process for giving useful feedback. During the workshop you will build a Training Toolkit to take back to your work on the job.</p>

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50-410-770 ABC Carpentry Apprenticeship Core

Course Outcome Summary

Course Information

Description Course competencies align with the NCCER core level learning outcomes. Course topics include construction safety, math, hand tools, power tools, and introduction to construction drawings, basic communication, employment skills, material handling and an orientation to the trade. This course is optional and may be used for pre-apprenticeship or trade prep activities. Course competencies are repeated in related instruction 1; however this course can stand alone for trade prep and pre-apprenticeship instruction.

Total Credits 1.00

Course Competencies

- 1 Identify construction safety requirements for various job site situations
- 2 Apply math principles to construction trades
- 3 Examine common hand tools used by the trades
- 4 Examine common power tools used by the trades
- 5 Become acquainted with construction drawings and blueprints
- 6 Use basic rigging according to specifications and requirements
- 7 Apply basic communication for success in the trade
- 8 Practice basic employability skills required for success in the trade
- 9 Compare material handling practices and safety requirements
- 10 Orientate yourself to the trade, construction related terminology, tools, and practices

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50-410-771 ABC Carpentry Apprenticeship 1

Course Outcome Summary

Course Information

Description Course competencies align with NCCER Core and Level 1 learning outcomes. Course topics include construction safety, math, hand tools, power tools, and an introduction to construction drawings, basic rigging, basic communications, basic employability skills, material handling, and an orientation to the construction trades.

Total Credits 2.00

Course Competencies

- 1 Identify construction safety requirements for various job site situations
- 2 Apply math principles to construction trades
- 3 Examine common hand tools used by the trades
- 4 Examine common power tools used by the trades
- 5 Become acquainted with construction drawings and blueprints
- 6 Use basic rigging according to specifications and requirements
- 7 Apply basic communication for success in the trade
- 8 Practice basic employability skills required for success in the trade
- 9 Compare material handling practices and safety requirements
- 10 Orientate yourself to the trade, construction related terminology, tools, and practices

Wisconsin Technical College System
50-410-772 ABC Carpentry Apprenticeship 2
Course Outcome Summary

Course Information

Description Course competencies align with the remaining NCCER level 1 learning outcomes. Course topics include building materials, fasteners and adhesives; hand and power tool use; introduction to construction drawings, specifications, and layout; floor systems; wall systems; ceiling joists and roof framing; introduction to concrete and building envelope systems.

Total Credits 2.00

Course Competencies

- 1 Compare building materials, fasteners, and adhesives
- 2 Select hand and power tools for various applications
- 3 Interpret basic construction drawings, specifications, and layouts
- 4 Examine installation requirements for various flooring systems
- 5 Examine installation requirements for various wall systems
- 6 Compare ceiling joists and roof framing practices
- 7 Become familiar with concrete basics and reinforcing materials
- 8 Identify the components of building envelope systems
- 9 Examine the installation requirements for basic stair layouts

Wisconsin Technical College System
50-410-773 ABC Carpentry Apprenticeship 3
Course Outcome Summary

Course Information

Description Course competencies align with NCCER level 2 learning outcomes. Course topics include roofing applications, thermal and moisture protection, carpentry framing and finishing, exterior finishing, cold formed steel framing, drywall installation, and drywall finishing.

Total Credits 2.00

Course Competencies

- 1 Compare roofing applications for job plans and site specifications
- 2 Identify thermal & moisture protection components
- 3 Demonstrate carpentry framing & finishing techniques at level 2
- 4 Identify exterior finishing requirements
- 5 Demonstrate cold formed steel framing requirements
- 6 Identify drywall installation best practices
- 7 Compare drywall finishing techniques

Wisconsin Technical College System
50-410-774 ABC Carpentry Apprenticeship 4
Course Outcome Summary

Course Information

Description Course competencies align with additional NCCER level 2 learning outcomes. Course topics include doors, door hardware, suspended ceilings, window, door, floor and ceiling trim, cabinet installation and cabinet fabrication.

Total Credits 2.00

Course Competencies

- 1 Identify door systems and door hardware components for various applications
- 2 Identify the components used in suspended ceilings
- 3 Compare window, door, floor & ceiling trim operations
- 4 Describe cabinet installation practices and techniques
- 5 Describe cabinet fabrication requirements

Wisconsin Technical College System
50-410-775 ABC Carpentry Apprenticeship 5
Course Outcome Summary

Course Information

Description Course competencies align with NCCER level 3 learning outcomes. Course topics include rigging equipment, rigging practices, properties of concrete, reinforcing of concrete, and handling & placing concrete.

Total Credits 2.00

Course Competencies

- 1 Compare rigging equipment commonly used in the construction trades
- 2 Summarize the key properties of concrete
- 3 Demonstrate safe rigging practices
- 4 Describe techniques for reinforcing Concrete
- 5 Demonstrate safe handling & placement of concrete

Wisconsin Technical College System
50-410-776 ABC Carpentry Apprenticeship 6
Course Outcome Summary

Course Information

Description Course competencies align with additional NCCER Level 3 learning outcomes. Course topics include trenching and excavating, foundations, slab-on-grade, vertical framework, horizontal framework and tilt-up wall systems.

Total Credits 2.00

Course Competencies

- 1 Identify safe trenching & excavating techniques commonly used by the trade
- 2 Compare foundations & slab-on-grade construction requirements
- 3 Demonstrate vertical framework
- 4 Demonstrate horizontal framework
- 5 Describe construction practices involved in tilt-Up wall systems

Wisconsin Technical College System
50-410-777 ABC Carpentry Apprenticeship 7
Course Outcome Summary

Course Information

Description Course competencies align with NCCER level 4 learning outcomes. Course topics include site layout, advanced roofing systems, advanced wall systems, and advanced stair systems,

Total Credits 2.00

Course Competencies

- 1 Examine site layout requirements for residential and commercial buildings
- 2 Examine site layout requirements for special situations and applications
- 3 Identify installation requirements for advanced roofing systems
- 4 Identify installation requirements for advanced wall systems
- 5 Identify installation requirements for advanced stair systems

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50-410-778 ABC Carpentry Apprenticeship 8

Course Outcome Summary

Course Information

Description Course competencies align with additional NCCER level 4 learning outcomes. Topics include lighting and an introduction to light equipment, welding for construction, commercial finish work, site preparation, and basic skills for crew leaders.

Total Credits 2.00

Course Competencies

- 1 Compare lighting and light equipment
- 2 Demonstrate welding for construction
- 3 Examine trade practices involved in commercial finish work
- 4 Describe site preparation requirements for various situations
- 5 Explore introductory skills for crew leaders

Course Information

Description Apprenticeship training is a collaborative partnership: employer and employee associations, government, and educational institutions each play a part. In reality, most learning takes place through the daily interaction between an apprentice and his/her co-workers. Surveys have shown that the apprentices are least satisfied with the on-the-job portion of their training--particularly the ability of journey level workers and supervisors to pass on their knowledge of the trade.

You have already learned to use the tools of your chosen trade. In this workshop you will be introduced to a new set of basic tools--the tools of a jobsite trainer. You will explore the skills that are necessary to be an effective trainer, discover how to deliver hands-on training, and examine the process for giving useful feedback. During the workshop you will build a Training Toolkit to take back to your work on the job.

Course Competencies

- 1 Value your role as a journey worker trainer
- 2 Serve as a mentor and job coach
- 3 Foster a positive work environment by acting as an ally/advocate
- 4 Provide hands-on skills training
- 5 Provide feedback on apprentice performance