

Building Construction Occupations

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Test Type: The Building Construction Occupations assessment is included in NOCTI's Teacher assessment battery. Teacher assessments measure an individual's technical knowledge and skills in a proctored proficiency examination format. These assessments are used in a large number of states as part of the teacher licensing and/or certification process, assessing competency in all aspects of a particular industry. NOCTI Teacher tests typically offer both a written and performance component that must be administered at a NOCTI-approved Area Test Center. Teacher assessments can be delivered in an online or paper/pencil format.

Revision Team: The assessment content is based on input from secondary, post-secondary, and business/industry representatives from the states of Montana, New York, Pennsylvania, Texas, Wyoming.



46.0415- Building Construction
Technology



Career Cluster - Architecture and
Construction



47-2031.01- Construction Carpenters



The Association for Career and Technical Education (ACTE), the leading professional organization for career and technical educators, commends all students who participate in career and technical education programs and choose to validate their educational attainment through rigorous technical assessments. In taking this assessment you demonstrate to your school, your parents and guardians, your future employers and yourself that you understand the concepts and knowledge needed to succeed in the workplace. Good Luck!

Written Assessment

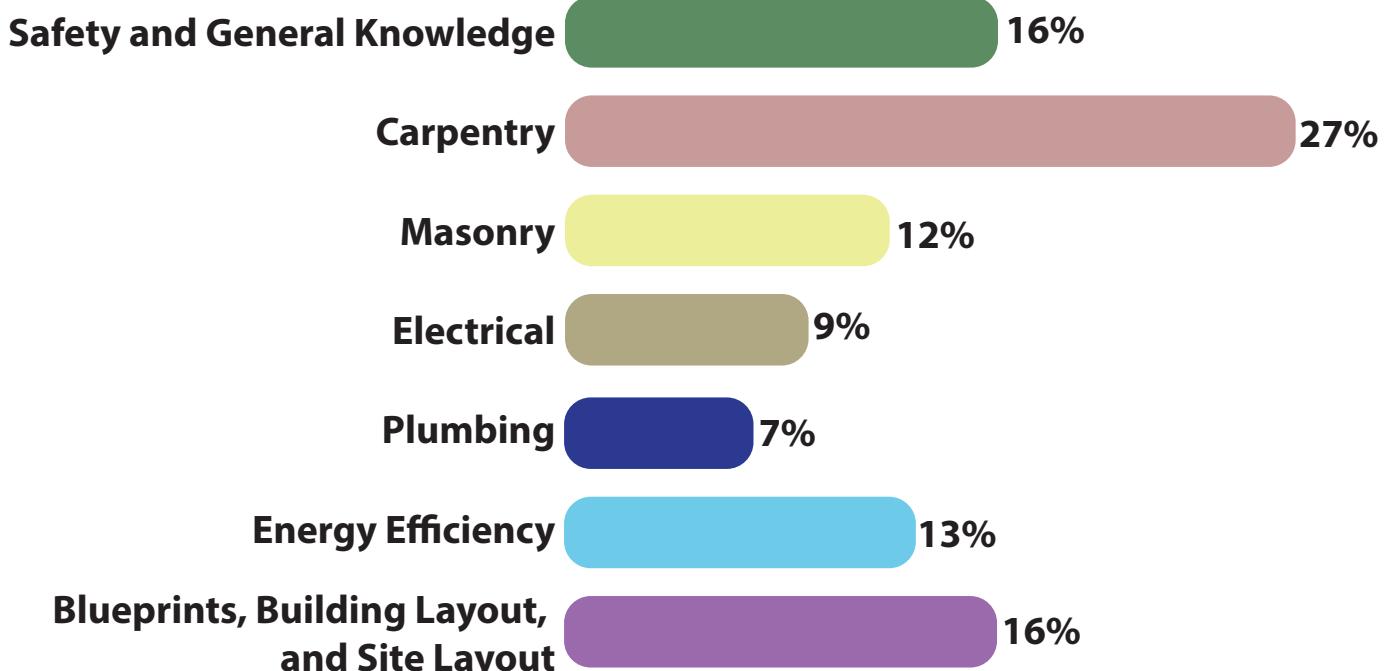
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

Administration Time: 3 hours

Number of Questions: 159

Number of Sessions: This assessment may be administered in one, two, or three sessions.

Areas Covered



Specific Standards and Competencies Included in this Assessment

Safety and General Knowledge

- Recognize and adhere to worksite safety rules (health related)
- Utilize appropriate personal protective equipment (PPE)
- Demonstrate understanding of ladder and scaffold safety
- Recognize and adhere to governmental regulations (e.g., OSHA, SDS)
- Demonstrate safe and appropriate use of hand tools
- Demonstrate safe and appropriate use of power tools
- Demonstrate safe and appropriate use of stationary shop tools

Carpentry

- Identify carpentry materials
- Describe, lay out, and construct wood floor framing
- Calculate, lay out, and construct stairs
- Identify, lay out, and construct wood wall framing
- Describe, calculate, and construct ceiling and roof framing
- Identify and install roofing materials (e.g., shingles, flashings)
- Differentiate various styles of roofs
- Identify, estimate, and install exterior windows and doors
- Identify, measure, calculate, and apply exterior finishes (e.g., sidings, trims)
- Describe and install interior finishes (e.g., drywall, doors, trims)

Masonry

- Identify, calculate quantities, and install footings and foundations
- Identify, calculate quantities, and install brick and block
- Identify, calculate quantities, and install various types of tiles
- Identify, calculate quantities, place, and finish concrete applications

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Specific Standards and Competencies (continued)

Electrical

- Identify, estimate, and install rough electrical
- Identify, calculate quantities, and install finish electrical
- Identify various electrical components and their use

Plumbing

- Identify, estimate, design, and install rough plumbing (e.g., PVC, copper)
- Identify, calculate quantities, and install finish plumbing fixtures
- Identify various plumbing components and their use

Energy Efficiency

- Identify, estimate, and install insulation and understand R-values
- Recognize various ventilation applications
- Identify "green" construction technology (e.g., lighting, Energy Star)

Blueprints, Building Layout, and Site Layout

- Recognize blueprint terms, symbols, and abbreviations
- Interpret blueprints and calculate quantities
- Demonstrate use of architect's scale
- Lay out buildings using various calculations, squaring, and leveling methods

Sample Questions

SDS documents should be examined

- A. before working with a chemical
- B. after a fire or explosion
- C. in the event of a spill
- D. when inspectors are on site

The leading cause of fatalities in the construction industry is

- A. falls
- B. lacerations
- C. electrical shock
- D. structure fires

Roof trusses are typically spaced _____ on center.

- A. 10 inches
- B. 15 inches
- C. 20 inches
- D. 24 inches

Which is a pre-cut length of rolled fiberglass insulation.

- A. filler
- B. batt
- C. cricket
- D. standard

The height of the window header is found in the

- A. site section
- B. plot plan
- C. wall section
- D. mechanical plan

Performance Assessment

NOCTI performance assessments allow individuals to demonstrate their acquired skills by completing actual jobs using the tools, materials, machines, and equipment related to the technical area.

Administration Time: 3 hours

Number of Jobs: 6

Areas Covered:

17% Solder Pipe

Participant will correctly cut, ream, clean, flux, and solder copper tubing into a complete, finished product.

15% Lay Out Rafter

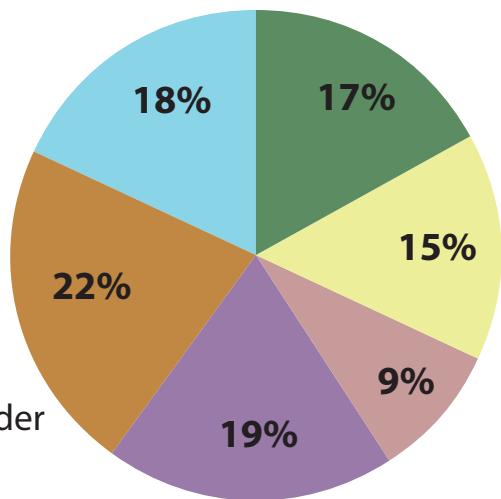
Participant will position the rafter crown, create the correct rafter line length and overhang length, place and cut the bird's mouth correctly, and cut the tail plumb and ridge plumb correctly.

9% Calculate and Cut a Stud

Participant will cut the stud to the correct length and shape.

19% Rough and Finish Electrical

Participant will correctly set boxes, choose and install cables, pre-wire boxes, choose, wire, and install switch properly, split and wire the receptacle correctly.



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Areas Covered (continued)

22% 8-Inch Block Wall Construction

Construct the block course correctly, with correct wall length, height, and straightness. Ensure wall is plumb, and joints are full and free of voids and finished and tooled properly.

18% PVC Pipe Assembly

Participant will measure, mark, and cut PVC pipe into three sections, present the cut sections to evaluator, dry fit the assembly, prime and glue the pipes, make sure the project will lay flat, and clean up the workstation.

Sample Job

8-Inch Block Wall Construction

Maximum Time: 45 minutes

Participant Activity: The participant is to construct a block wall 47-5/8 inches long by 24 inches high, strike all joints using a convex jointer, and finish wall with a clean appearance.