

General Assessment Information

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Test Type: The Architectural Drafting 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 subject matter experts representing the following states: Colorado, Connecticut, New York, Pennsylvania, and Virginia.



15.1303- Architectural
Drafting and
Architectural CAD/CADD



Career Cluster 1-
Architecture and
Construction



17-3011.01- Architectural
Drafters



In the lower division
baccalaureate/associate degree
category, 3 semester hours in
Architectural Drafting

Written Assessment

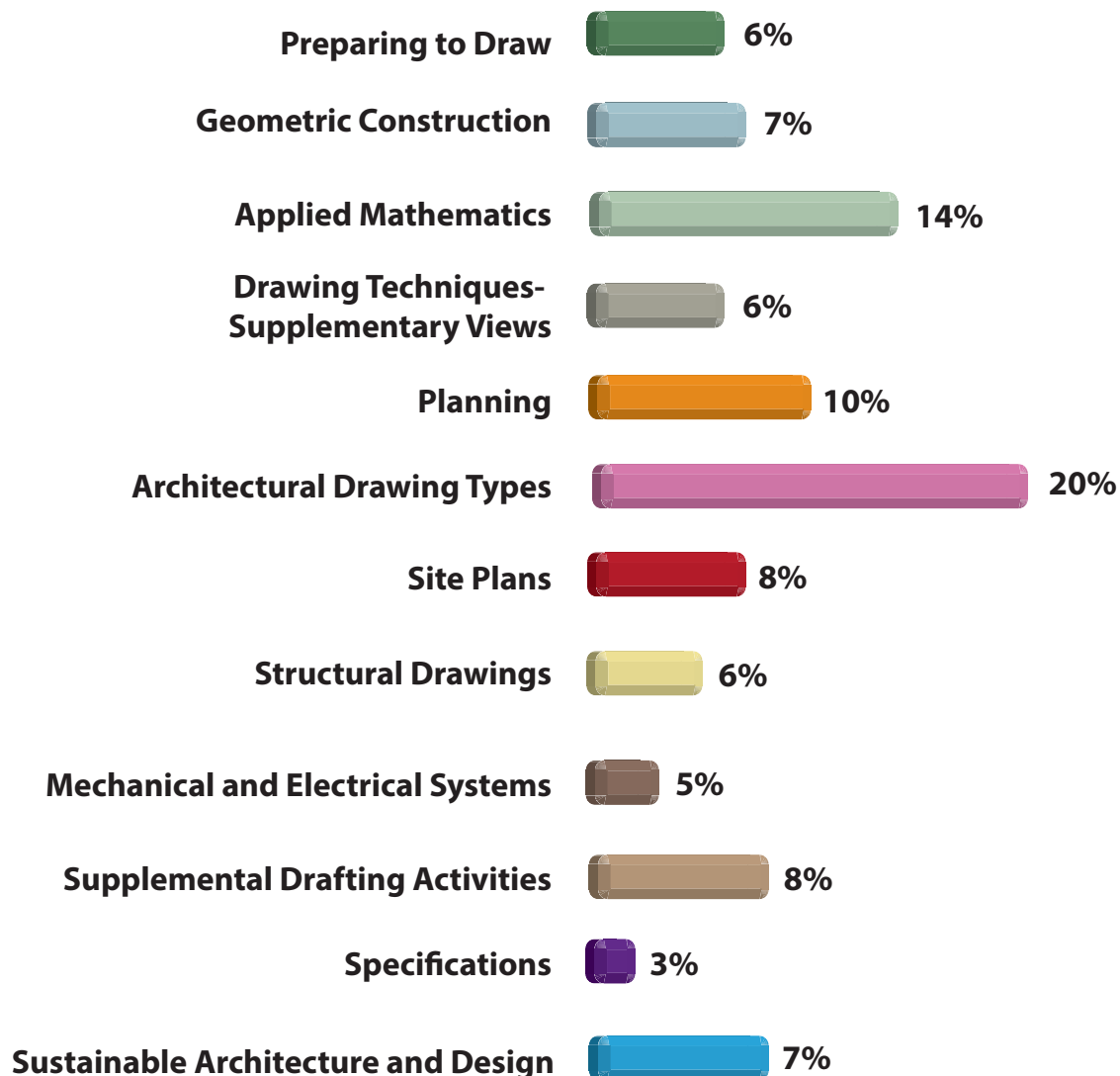
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

Administration Time: 3 hours

Number of Questions: 184

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

Areas Covered



Specific Standards and Competencies Included in this Assessment

Preparing to Draw

- Identify drafting tools, and equipment (including CAD)
- Identify and select paper sizes/types, determine scale, and layout
- Identify various line types

Geometric Construction

- Construct and manipulate geometric elements
- Construct and manipulate lines, arcs, and angles
- Place dimensions and notes

Applied Mathematics

- Demonstrate knowledge of basic mathematical operations
- Perform calculations involving fractions, decimals, and percents
- Demonstrate knowledge of geometry
- Demonstrate knowledge of trigonometry
- Calculate weights, measures, area, and volume
- Convert scales
- Convert survey measurements to architectural measurements
- Determine pitch, rise, run, and slope

Drawing Techniques - Supplementary Views

- Identify pictorial drawings (i.e., isometric, oblique, perspective and presentation)
- Demonstrate knowledge of schematic diagrams
- Demonstrate knowledge of orthographic drawings



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Specific Standards and Competencies (continued)

Planning

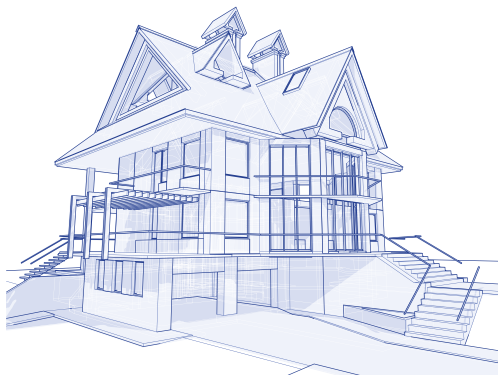
- Examine space relationships
- Identify building styles
- Determine client needs
- Incorporate building codes and regulations
- Identify construction material, properties, and use

Architectural Drawing Types

- Identify architectural terms and symbols
- Identify and develop roof styles
- Identify and develop floor plans
- Develop basement and foundation plans
- Identify kitchen and bath arrangements
- Develop interior and exterior elevations
- Develop a building section
- Develop a wall section
- Draw architectural details

Site Plans

- Draw and dimension site and plot plans
- Interpret landscape plans
- Interpret contours and topographical profiles
- Identify setbacks
- Identify utilities



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Specific Standards and Competencies (continued)

Structural Drawings

- Draw structural details
- Draw framing plan
- Identify structural systems

Mechanical and Electrical Systems

- Identify and apply electrical terms, symbols, and systems
- Identify and apply plumbing terms, symbols, and systems
- Identify and apply HVAC terms, symbols, and systems

Supplemental Drafting Activities

- Draw cover sheet and title block information
- Develop schedules
- Use reference sources
- Arrange and coordinate drawings
- Document revisions

Specifications

- Describe responsibilities of related parties (i.e., design professional, client, and contractor)
- Identify component and material specifications (CSI standards)

Sustainable Architecture and Design

- Identify various rating systems (i.e., LEED, R-Value, etc.)
- Recognize recyclable and/or “green” building materials
- Identify various sustainable design systems
- Utilize site for solar/environmental considerations

Sample Questions

A hexagon drawn outside a circle is

- A. circumscribed
- B. tangent
- C. inscribed
- D. rotated

Which of the following abbreviations represents a national building accessibility standard?

- A. UBC
- B. SBC
- C. ABC
- D. ADA

A landscape plan uses much of the same information as a _____ plan.

- A. structural
- B. plumbing
- C. plot
- D. floor

Automatic fire sprinkler systems are usually activated by

- A. electrical sensors
- B. master alarm control valves
- C. a fusible link
- D. a pull box

Which of the following is an example of passive solar energy?

- A. photovoltaic panels
- B. rainscreens
- C. windmills
- D. Trombe walls

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: 2 hours and 45 minutes

Number of Jobs: 3

Areas Covered:

17% Architectural Symbols and Abbreviations

Section A: Draw architectural symbols

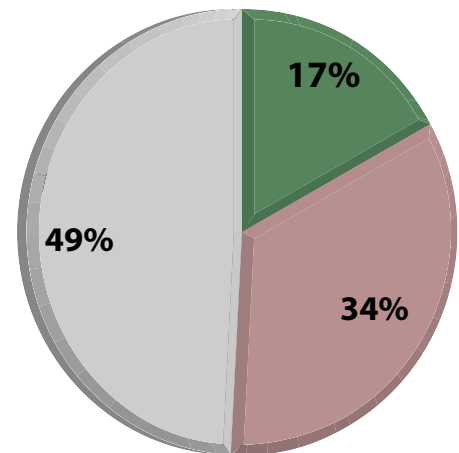
Section B: Identify symbols, and time to complete Job 1.

34% Elevation

Building structure, windows, doors, and siding, notes and dimensions, line work, and time to complete Job 2.

49% Kitchen and Bath Floor Plan

Building structure, kitchen and bath layout, sheet size setup, line work, dimension, notes, and time to complete Job 3.



Sample Job

Architectural Symbols and Abbreviations

Maximum Time: 15 minutes

Participant Activity: Each participant will carefully draw the architectural symbols for the items as provided.

