

Architectural Drafting

Code: 4104 / Version: 01
Copyright © 2019. All Rights Reserved.

General Assessment Information

Blueprint Contents

| | |
|---|------------------------------------|
| General Assessment Information | Sample Written Items |
| Written Assessment Information | Performance Assessment Information |
| Specific Competencies Covered in the Test | Sample Performance Job |

Test Type: The Architectural Drafting industry-based credential is included in NOCTI's Job Ready assessment battery. Job Ready assessments measure technical skills at the occupational level and include items which gauge factual and theoretical knowledge. Job Ready assessments typically offer both a written and performance component and can be used at the secondary and post-secondary levels. Job Ready 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 Florida, New Mexico, Pennsylvania, and Virginia.



15.1303- Architectural Drafting and Architectural CAD/CADD



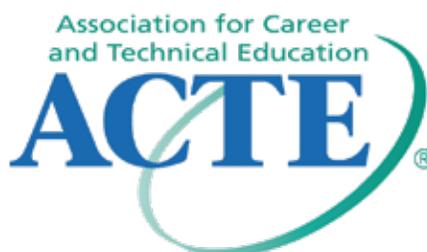
Career Cluster 1- Architecture and Construction



17-3011.01- Architectural Drafters



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



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

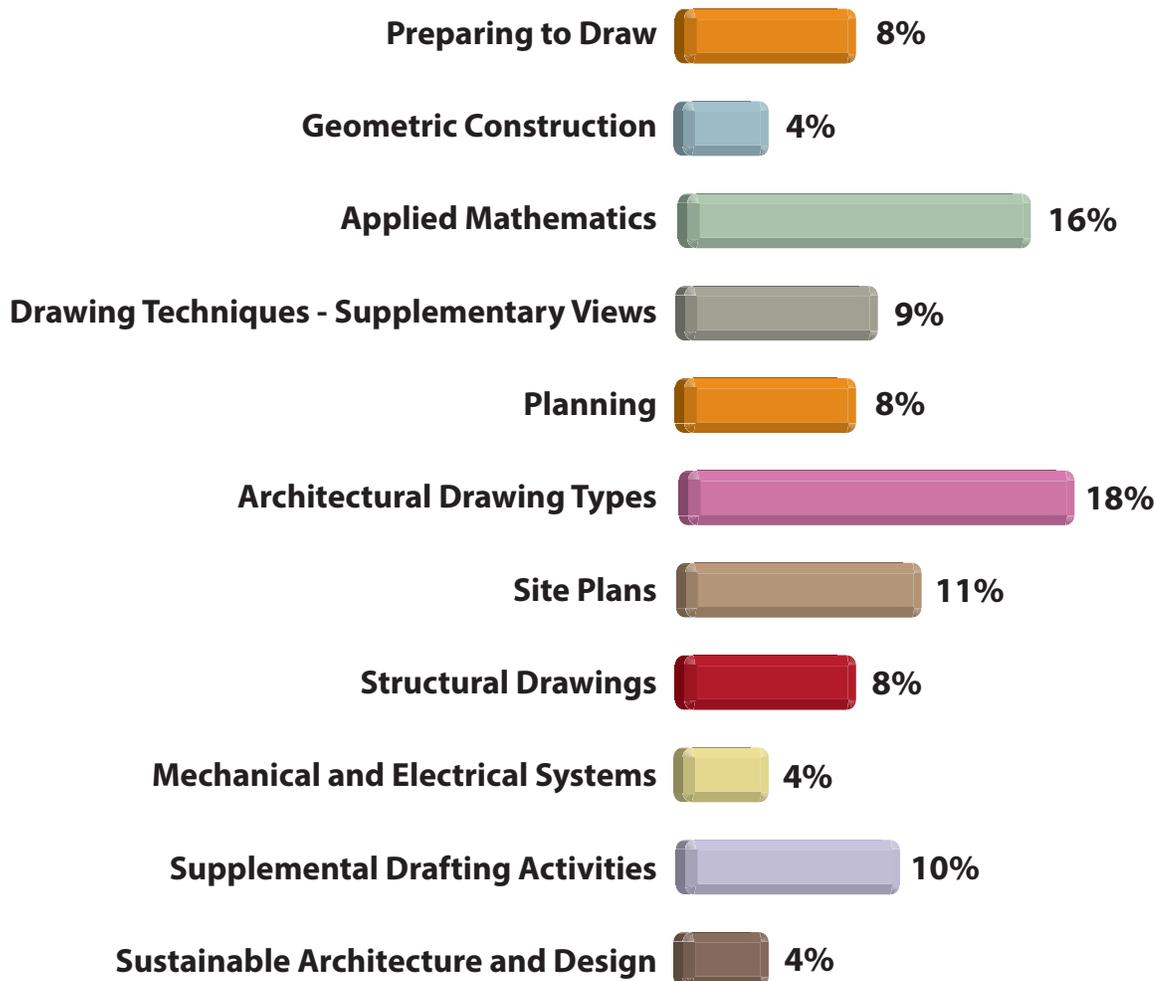
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

Administration Time: 3 hours

Number of Questions: 152

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, and determine scale and layout
- Identify various line types

Geometric Construction

- Construct and manipulate geometric elements
- Construct and manipulate lines, arcs, and angles

Applied Mathematics

- Demonstrate knowledge of basic mathematical operations
- Perform calculations involving fractions, decimals, and percents
- Demonstrate knowledge of geometry
- Demonstrate knowledge of trigonometry with respect to pitch, rise, and run
- Calculate measures, area, and volume
- Convert scales



(Continued on the following page)

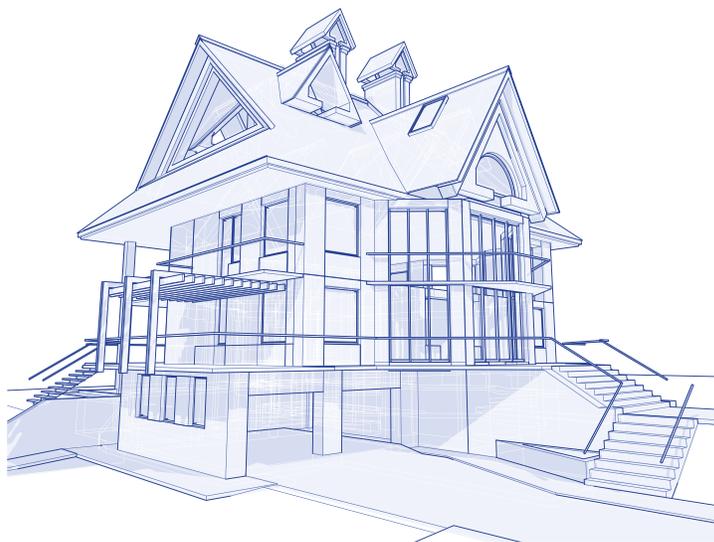
Specific Standards and Competencies (continued)

Drawing Techniques - Supplementary Views

- Identify pictorial drawings (e.g., perspective)
- Demonstrate knowledge of schematic diagrams
- Demonstrate knowledge of orthographic drawings
- Place dimensions and notes

Planning

- Examine spatial relationships
- Identify types of house design (e.g., duplex, split level, ranch)
- Determine client needs
- Identify common construction material, properties, and use



(Continued on the following page)

Specific Standards and Competencies (continued)

Architectural Drawing Types

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

Site Plans

- Draw and dimension site plans
- Interpret landscape plans
- Interpret contours and topographical profiles
- Identify setbacks and easements
- Identify above- and below-ground utilities



(Continued on the following page)

Specific Competencies and Skills (continued)

Structural Drawings

- Draw structural details
- Identify framing and structural components

Mechanical and Electrical Systems

- Identify electrical terms, symbols, and components
- Identify plumbing terms, symbols, and components

Supplemental Drafting Activities

- Draw cover sheet and title block information
- Develop schedules
- Describe responsibilities of related parties (e.g., design professional, contractor)
- Identify basic ADA accessibility compliance regulations
- Recognize ordinances and local building codes

Sustainable Architecture and Design

- Identify various rating systems (e.g., LEED, R-Value)
- Recognize recyclable and “green” building materials and systems



Sample Questions

Bisecting a line creates a second line that is _____ to the original line.

- A. parallel
- B. tangent
- C. perpendicular
- D. horizontal

What is the minimum landing depth required for an entrance door to meet ADA regulations?

- A. 24 inches
- B. 36 inches
- C. 48 inches
- D. 60 inches

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

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

In a right triangle, the tangent of an acute angle is equal to the

- A. opposite side divided by the hypotenuse
- B. adjacent side divided by the hypotenuse
- C. adjacent side divided by the opposite side
- D. opposite side divided by the adjacent side

Where would a stringer be used?

- A. at a door frame
- B. on a roof truss
- C. at a stair
- D. as part of a joist

(Continued on the following page)

Sample Questions (continued)

A structural component that rests on the sole plate and extends to the top plate is called a

- A. rafter
- B. cripple
- C. stud
- D. jack

In the water supply system, the pipe that enters the house is known as the

- A. branch supply
- B. building main
- C. prime line
- D. branch line

Where can detailed information for windows and doors be found?

- A. Bill of Material
- B. rendering
- C. schedules
- D. compass rose

Which of the following regulates the design of a building?

- A. building codes
- B. OSHA standards
- C. general conditions
- D. specifications

Which is most associated with active 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: 4 hours and 15 minutes

Number of Jobs: 3

Areas Covered:

17% Construction Components

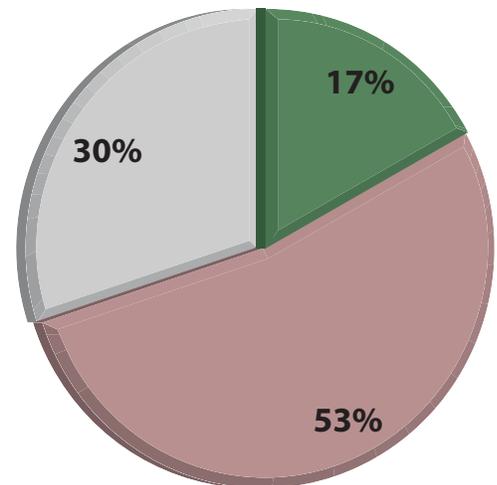
Participant will match the number in the diagram of construction components with corresponding term.

53% Kitchen and Bath Floor Plan

Participant will create the correct drawing of the kitchen and bath layout, sheet size, line work, dimensions, and notes.

30% Front Elevation

Participant will create a front elevation using a plan view and wall section to a correct scale and present final project in digital or hard copy format.



Sample Job

Kitchen and Bath Floor Plan

Maximum Time: 1 hour and 30 minutes

Participant Activity: Each participant will redraw the kitchen/bath plan according to specifications. The final project will be presented in digital or hard copy format.