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 Connecticut, Colorado, New York, Pennsylvania, and Virginia.
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

**Administration Time:** 3 hours  
**Number of Questions:** 189  
**Number of Sessions:** This assessment may be administered in one, two, or three sessions.

### Areas Covered

- **Preparing to Draw**: 6%  
- **Geometric Construction**: 7%  
- **Applied Mathematics**: 14%  
- **Drawing Techniques-Supplementary Views**: 6%  
- **Planning**: 10%  
- **Architectural Drawing Types**: 20%  
- **Site Plans**: 8%  
- **Structural Drawings**: 6%  
- **Mechanical and Electrical Systems**: 5%  
- **Supplemental Drafting Activities**: 8%  
- **Specifications**: 3%  
- **Sustainable Architecture and Design**: 7%
Specific Standards and Competencies Included in this Assessment

Preparing to Draw
• Identify drafting tools, materials, and equipment (including CAD)
• Identify and select paper sizes and 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 percentages
• 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 drawings
• Demonstrate knowledge of orthographic drawings

(Continued on the following page)
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

(Continued on the following page)
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

(Continued on the following page)
Specific Competencies and Skills (continued)

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)
• 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. electronic 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

(Continued on the following page)
Sample Questions (continued)

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 divided by opposite side
D. opposite divided by 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

The structural wood piece at the highest point of the rafters is a _____ board.
A. fascia
B. soffit
C. rafter
D. ridge

Contract documents include contracts, specifications, and
A. drawings
B. schedules
C. field inspections
D. press releases

An organic building material that will decompose naturally and is non-toxic is
A. dimensionally cut lumber
B. #14-2 non-metallic sheathed electrical cable
C. fiber reinforced light-weight concrete
D. non-guilt echo wall panels
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**  
Participants will identify symbols and abbreviations in section A and B.

**34%  Elevation**  
Participants will meet the criteria of a correct building structure, windows, doors, siding, and have drawn the correct notes and dimensions with correct line work.

**49%  Kitchen and Bathroom Floor Plan**  
Participants will create the correct building structure, kitchen and bath layout, sheet size, line work, dimensions and notes.
**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.