NOCTI®

Job Ready Assessment Blueprint

Architectural Drafting

Test Code: 3004 / Version: 01

"Measuring What Matters"

Specific Competencies and Skills Tested in this Assessment:

Preparing to Draw; Basic Drawing and Dimensioning Skills

- Identify drafting tools, materials, and equipment (including CAD)
- Differentiate and select drafting media
- Identify and select paper sizes and determine scale
- Identify various line types
- Draw and modify lines
- Measure lines and angles
- Use acceptable lettering techniques
- Place dimensions and local/general notes

Geometric Construction

- Construct geometric elements
- Divide geometric elements
- Construct perpendicular lines
- Construct tangent lines and arcs
- Transfer an angle

Applied Mathematics

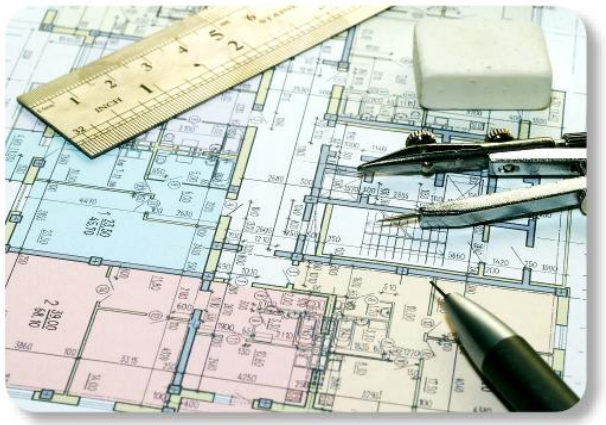
- Demonstrate knowledge of basic mathematical operations
- Perform calculations involving fractions, decimals, and percentages
- Perform algebraic operations
- Demonstrate knowledge of geometry
- Demonstrate knowledge of trigonometry
- Calculate weights, measurements, area, and volume
- Convert scales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

Specific Competencies and Skills continued:

Drawing Techniques; Supplementary Views

- Identify pictorial drawings (i.e., isometric, oblique, perspective and presentation)
- Demonstrate knowledge of schematic drawings
- Demonstrate knowledge of orthographic drawings
- Draw and identify auxiliary views
- Indicate point of material installation

Planning



- Examine space relationships
- Analyze site considerations
- Identify building styles
- Determine client needs
- Incorporate building codes
- Identify construction material properties and uses

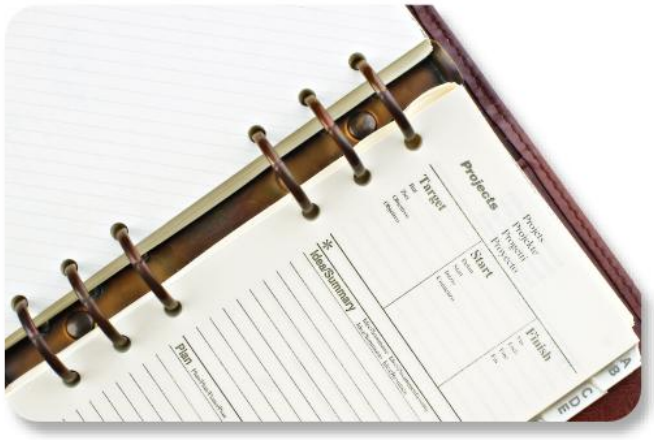
Architectural Drawing Types

- 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

Specific Competencies and Skills continued:

Site Plans

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



Structural Drawings

- Draw structural details
- Draw framing plan
- Analyze 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
- Revise drawings
- Create a bill of materials

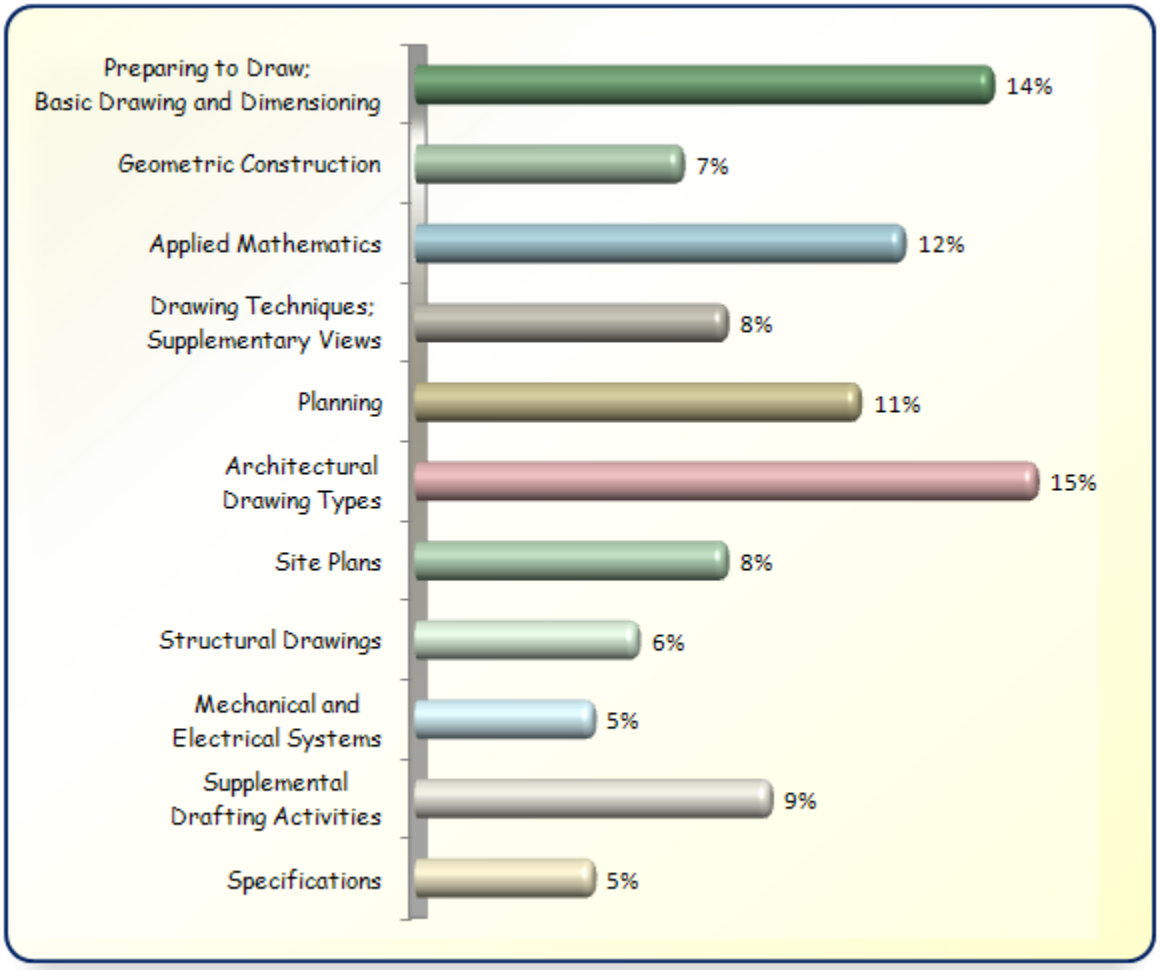
Specifications

- Assist in developing a project manual
- Describe responsibilities of related parties (i.e., design professional, client, and contractor)
- Identify component and material specifications

Written Assessment:

Administration Time: 3 hours
Number of Questions: 185

Areas Covered:



Sample Questions:

A scale with fractions of an inch equal to a foot is a/an _____ scale.

A. mechanical
B. decimal
C. civil engineer's
D. architect's

If a building costs $108.00 per square foot to construct, and the area of the building is 4,650 square feet, how much will it cost to construct the building?

A. $43,055
B. $83,000
C. $465,000
D. $502,200

An architect's first step in the design process is making

A. contact with the client
B. preliminary sketches
C. a cost estimate
D. a feasibility study

A three-way electrical switch is used to control

A. a light from two locations
B. three lights
C. a light from three locations
D. overloading

The initials CSI stand for

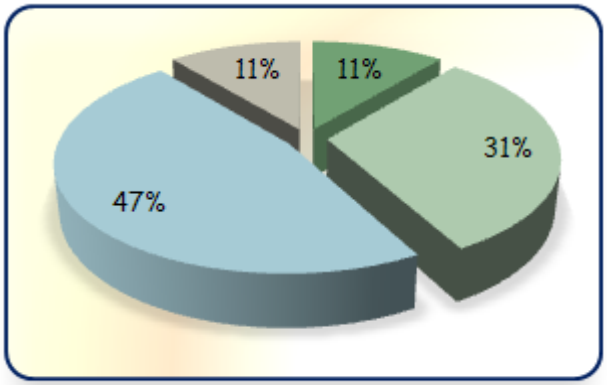
A. Common Specification Inventory
B. Construction Suppliers International
C. Contract Supplemental Inspection
D. Construction Specifications Institute

Performance Assessment:

Administration Time: 3 hours
Number of Jobs: 4

Areas Covered:

11% **Architectural Symbols and Abbreviations**
Identify symbols and abbreviations, and timeliness of job.



31% **Elevation**
Building structure; windows, doors, and siding; notes and dimensions; line work; and timeliness of job.

47% **Kitchen and Bathroom Floor**
Building structure, kitchen and bath layout, layer and level setup, sheet size setup, line work, dimension, notes, and timeliness of job.

11% **Light Framing of Sill Wall**
Identified sill and wall components, and timeliness of job.

Sample Job: Light Framing of Sill Wall

Maximum Time: 15 minutes

Participant Activity: Each participant will be given a drawing of a structural wood sill and wall frame. They will identify the number in the diagram with the corresponding term and letter.

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!