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## **Design and Pre-Construction**

## General Assessment Information

### Blueprint Contents

General Assessment Information  
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**Test Type:** The Design and Pre-Construction industry-based credential is included in NOCTI's Pathway assessment battery. Pathway assessments assess knowledge and skills at a broader level than the Job Ready assessments and focus on the Pathways established as part of the national career cluster model. Pathway assessments are delivered entirely online which allows NOCTI to include engaging interactive items.

**Revision Team:** The assessment content is based on input from secondary, post-secondary, and business/industry representatives from the states of Colorado, Kentucky, New York, Oklahoma, Pennsylvania, Tennessee, and Virginia.



15.1399-Drafting/Design Engineering  
Technologies/Technicians, Other



Career Cluster 2-Architecture  
and Construction



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!



NATIONAL COLLEGE CREDIT RECOMMENDATION SERVICE  
University of the State of New York - Regents Research Fund

In the lower division  
baccalaureate/associate degree  
category, 3 semester hours in  
Commercial and Industrial  
Design and Construction

## Written Assessment

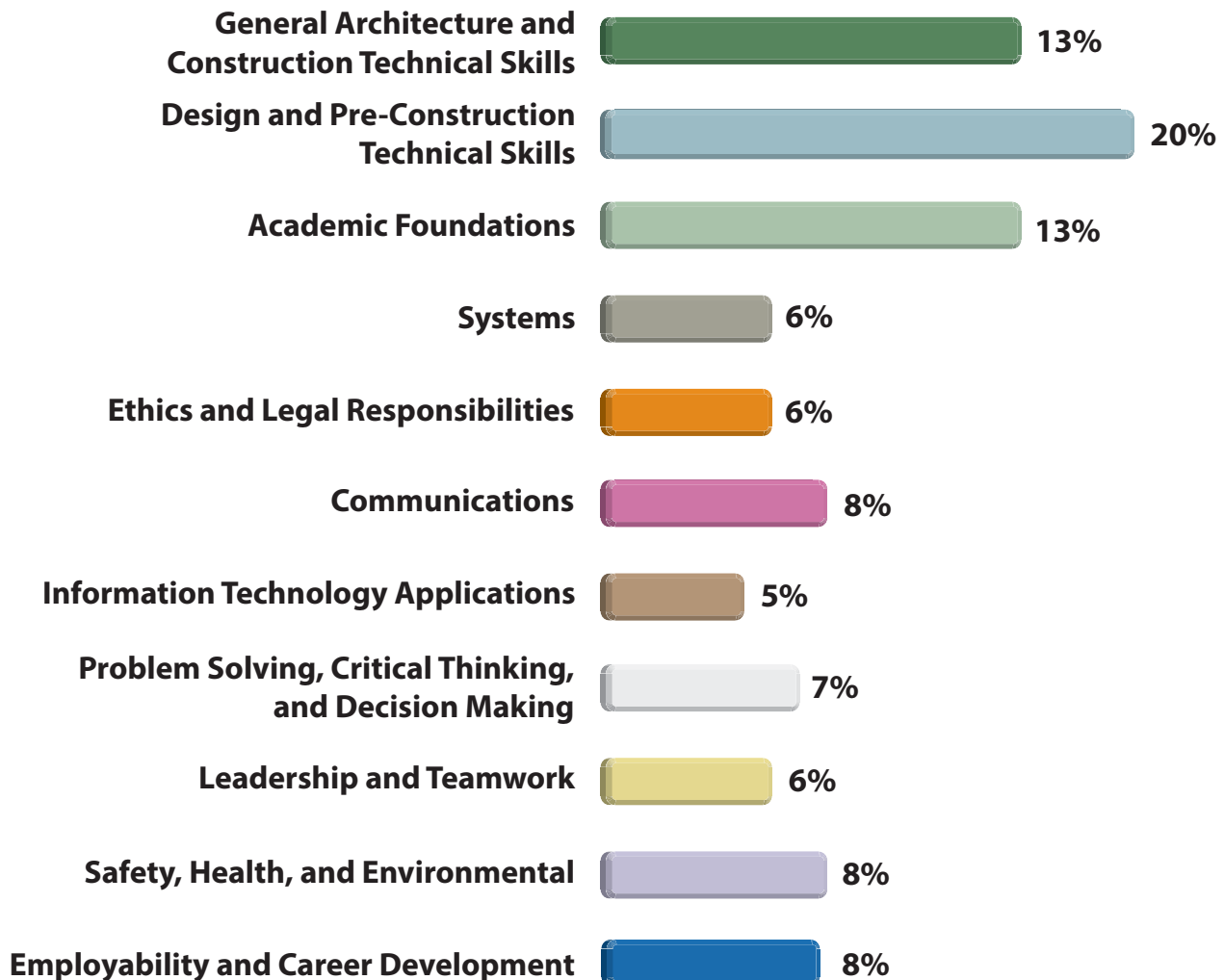
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

**Administration Time:** 2 hours

**Number of Questions:** 105

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

### Areas Covered



## Specific Standards and Competencies Included in this Assessment

### General Architecture and Construction Technical Skills

- Create and implement project plans considering available resources and requirements
- Read and interpret blueprints and other technical drawings and documents
- Select and use tools, machinery, and equipment commonly used in design and construction

### Design and Pre-Construction Technical Skills

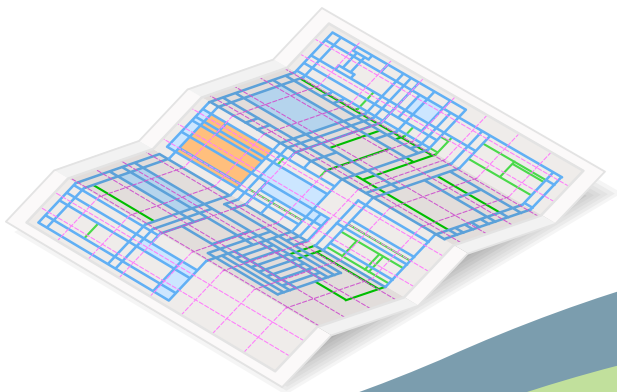
- Apply basic organizational, spatial, structural, and construction principles to the design of interior and exterior space
- Use two and three dimensional drawings to convey graphic information
- Select and use appropriate building materials and assemblies to meet project specifications

### Academic Foundations

- Apply reading skills in an architecture and construction career environment
- Apply writing skills in an architecture and construction career environment
- Apply mathematical skills in an architecture and construction career environment
- Apply science skills in an architecture and construction career environment

### Systems

- Examine the relationship of roles and responsibilities between trades/professions to complete a job or project
- Apply industry standards and practices to ensure quality work



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## Specific Standards and Competencies (continued)

### **Ethics and Legal Responsibilities**

- Apply appropriate codes, laws, regulations, and industry standards to architectural and construction situations
- Identify ethical issues and demonstrate ethical behavior in architectural and construction situations

### **Communications**

- Locate, organize, and reference written information from reliable sources to communicate with coworkers and clients
- Apply listening skills and interpret verbal and nonverbal behaviors to enhance communication with coworkers and clients
- Interpret and use tables, charts, and figures to support written and oral communication

### **Information Technology Applications**

- Use word processing, presentation, and email applications to prepare communications
- Use spreadsheet and database applications to manage and communicate data and information

### **Problem Solving, Critical Thinking, and Decision Making**

- Use problem solving and critical thinking skills to locate good sources of information about problems and determine appropriate methods for investigating causes
- Use problem solving and critical thinking skills to determine root causes of problems and suggest solutions

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## Specific Standards and Competencies (continued)

### Leadership and Teamwork

- Exhibit leadership qualities to improve the quality of work and the work environment
- Work effectively in a team environment to improve the quality of work and the work environment

### Safety, Health, and Environmental

- Identify and practice appropriate safety and health procedures for architecture and construction occupations
- Demonstrate appropriate emergency and first aid knowledge and procedures for architecture and construction occupations
- Identify and practice appropriate environmental procedures for architecture and construction occupations

### Employability and Career Development

- Demonstrate employability skills related to a career in architecture and construction
- Pursue career development skills to advance in architecture and construction careers



## Sample Questions

**The first step in any scientific experiment involves**

- A. identification of the problem
- B. collection of the data
- C. preparation of a conclusion
- D. testing of the solution

**An example of body language that conveys interest in what a speaker is saying is**

- A. repeatedly gazing over the speaker's shoulder
- B. crossing your arms
- C. stifling a yawn
- D. leaning forward slightly in the chair

**A reliable source of career information and networking is**

- A. a professional/trade organization
- B. coworkers
- C. friends and family
- D. the Internet

**One benefit of teamwork for employees is**

- A. less responsibility
- B. higher pay
- C. greater work efficiency
- D. less training is required

**Typical environmental safety and health guidelines call for personal fall protection gear to be inspected**

- A. once a month
- B. every 3 months
- C. every 6 months
- D. every time it is used

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### Sample Questions (continued)

**Which value is most effective at reducing heat transfer?**

- A. R-11
- B. R-19
- C. R-25
- D. R-30

**When composing a formal business email, avoid the use of**

- A. abbreviations like LOL
- B. descriptive phrases
- C. exclamation points
- D. acronyms like OSHA

**Within the continental United States, a building receives the most sun exposure from which direction?**

- A. north
- B. south
- C. east
- D. west

**Of the following, the occupation that requires formal post-secondary education is**

- A. building maintenance technician
- B. architect
- C. general contractor
- D. mason

**The projection of a section of a building that is cut horizontally is called a**

- A. floor plan
- B. rendering
- C. detail
- D. elevation



## Notes