



National Craft Assessment and Certification Program  
S P E C I F I C A T I O N S

**Scaffold Builder v3**

**AEN31SCFB03**

February 2016

**Focus Statement**

A scaffold builder masters all concepts and procedures involved with scaffold building. This includes handling various conditions in a responsible manner, developing a safety plan, and inspecting scaffold equipment on a regular basis. He/she interprets safety and hazard warnings to ensure the proper handling of scaffolding.

**Overview**

- Two-hour closed-book examination
- May use a basic function, non-printing calculator
- No extra papers, books, notes or study materials are allowed
- The minimum passing score is 75
- A corresponding hands-on Performance Verification is available

**NCCER Curriculum**

All NCCER knowledge assessments are referenced to NCCER's curriculum modules as listed on this specification sheet. You may order modules from Pearson (800.922.0579) or from NCCER's Online Catalog at [www.nccer.org](http://www.nccer.org).

**Assessment Development**

All questions are developed and approved by subject matter experts under the direction of NCCER.

**Credentials**

Upon successful completion of the knowledge assessment, NCCER will send applicable credentials to the assessment center.

**Score Report and Training Prescription**

Each candidate will have access to their assessment results including their overall score and recommended training.

**NCCER Registry**

Knowledge assessment results are recorded in NCCER's Registry and become a part of the portable record of an individual's NCCER credentials.

**Knowledge Assessment Contents:**

Content Domain	Number of Questions
<b>Introduction to the Trade (31101-15)</b>	5
<b>Trade Safety (31102-15)</b>	11
<b>Trade Tools and Equipment (31103-15)</b>	5
<b>Trade Math (31104-15)</b>	8
<b>Supported Scaffolds (31105-15)</b>	20
<b>Mobile Scaffolds (31106-15)</b>	10
<b>Suspension Scaffolds (31107-15)</b>	6
<b>Total Number of Questions</b>	<b>65</b>

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Learning Objectives related to Assessment:

Introduction to the Trade	
Registry ID Number:	Module Title and Objectives:
31101-15	Introduction to the Trade
	<ol style="list-style-type: none"> <li>1. Explain the scaffolding trade and the trade math and regulations and standards associated with the scaffolding trade.               <ol style="list-style-type: none"> <li>a. Describe the scaffolding trade.</li> <li>b. Summarize the math applications used in the scaffolding trade.</li> <li>c. Identify the regulatory agencies in the scaffolding trade and their basic standards.</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>2. Identify commonly used scaffolding systems and the safety guidelines associated with each type of system.               <ol style="list-style-type: none"> <li>a. Identify the safety guidelines, characteristics, and applications of stationary scaffolding systems.</li> <li>b. Identify the safety guidelines, characteristics, and applications of mobile scaffolding systems.</li> <li>c. Identify the safety guidelines, characteristics, and applications of suspended scaffolding systems.</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>3. Identify personal qualities that contribute to job success.               <ol style="list-style-type: none"> <li>a. Describe the responsibilities of a scaffold builder.</li> <li>b. Describe the attributes of a good scaffold builder.</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>4. Explain the apprenticeship training process.               <ol style="list-style-type: none"> <li>a. Describe the types of formal craft training available in the scaffolding industry.</li> <li>b. Describe the standards associated with an apprenticeship program.</li> <li>c. Identify the functions of the Bureau of Apprenticeship and Training (BAT).</li> <li>d. Identify the advantages and benefits of today's apprenticeship training programs.</li> </ol> </li> </ol>
Trade Safety	
Registry ID Number:	Module Title and Objectives:
31102-15	Trade Safety
	<ol style="list-style-type: none"> <li>1. Identify the reasons for the Occupational Safety and Health Act (OSHA) regulations that govern the scaffolding industry.               <ol style="list-style-type: none"> <li>a. Explain the development and intent of the regulations and standards.</li> <li>b. Describe common safety practices used in the scaffolding industry.</li> <li>c. Identify OSHA's Fatal Four.</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>2. Explain the basic guidelines for planning, erecting, and using scaffolding.               <ol style="list-style-type: none"> <li>a. Explain the basic guidelines for planning a scaffolding project.</li> <li>b. Explain the basic guidelines for erecting a scaffold.</li> <li>c. Explain the basic guidelines for using a scaffold.</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>3. Identify the equipment and tasks required for safe scaffold erection.               <ol style="list-style-type: none"> <li>a. List the personal protective equipment required for safe scaffold erection.</li> <li>b. Identify the special requirements necessary when working with respiratory equipment.</li> </ol> </li> </ol>
	<ol style="list-style-type: none"> <li>4. Identify the fall protection and life-saving measures employed in the scaffolding trade.               <ol style="list-style-type: none"> <li>a. Identify the appropriate fall protection and lifesaving equipment, and describe their proper use.</li> <li>b. Describe proper rescue procedures after a fall.</li> </ol> </li> </ol>

	<p>5. Identify common electrical hazards and sources when working with scaffolding.</p> <p>a. Identify common electrical hazards when working with scaffolding.</p> <p>b. Identify common electrical sources when working with scaffolding.</p>
	<b>Trade Tools and Equipment</b>
<b>Registry ID Number:</b>	<b>Module Title and Objectives:</b>
<b>31103-15</b>	<b>Trade Tools and Equipment</b>
	<p>1. Explain the proper methods of storing, handling, and inspecting scaffolding equipment.</p> <p>a. Explain the proper methods for storing scaffolding equipment at the laydown area.</p> <p>b. Explain the proper methods for handling scaffolding equipment.</p> <p>c. Explain the general inspection procedures for equipment of various types of scaffolding systems.</p> <p>d. Explain the procedures for the repair of damaged equipment.</p>
	<p>2. Identify the hand and power tools commonly used by scaffold builders, and describe their proper use.</p> <p>a. Identify the hand tools commonly used by scaffold builders, and describe their proper use.</p> <p>b. Identify the power tools commonly used by scaffold builders, and describe their proper use.</p>
	<p>3. Identify the scaffold components used to level scaffolding and demonstrate how to properly use these tools.</p> <p>a. Describe the purpose and proper use of screw jacks.</p> <p>b. Describe the general guidelines for properly using jacks.</p>
	<p>4. Describe the proper use of personal fall protection equipment used in the scaffolding industry.</p> <p>a. Describe the proper use of vertical and horizontal lifeline systems.</p> <p>b. Describe the proper use of self-retracting lifeline devices.</p>
	<b>Trade Math</b>
<b>Registry ID Number:</b>	<b>Module Title and Objectives:</b>
<b>31104-15</b>	<b>Trade Math</b>
	<p>1. Identify how to calculate the area and linear dimensions of plane surfaces.</p> <p>a. Identify how to calculate the area of rectangles and circles.</p> <p>b. Identify how to calculate the perimeter or linear dimensions of structures.</p>
	<p>2. Explain how to reference and use tables commonly used in the scaffolding trade to solve math problems.</p> <p>a. Explain how to reference and use comparative value tables.</p> <p>b. Explain how to reference and use mathematical tables.</p>
	<p>3. Identify types of live and dead loads on scaffolding and how to calculate these loads.</p> <p>a. Identify common types of live and dead loads.</p> <p>b. Identify how to calculate equipment loads.</p> <p>c. Identify how to calculate human loads.</p> <p>d. Identify how to calculate material loads.</p>
	<p>4. Identify how to calculate loads as to their placement on scaffold platforms.</p> <p>a. Identify how to calculate concentrated loads.</p> <p>b. Identify how to calculate distributed loads.</p> <p>c. Identify how to calculate cantilevered loads.</p>
	<b>Supported Scaffold</b>
<b>Registry ID Number:</b>	<b>Module Title and Objectives:</b>
<b>31105-15</b>	<b>Supported Scaffold</b>
	<p>1. Describe the safety considerations regarding stationary scaffolds.</p> <p>a. Identify safety regulations for various types of stationary scaffolding systems.</p>

	<ul style="list-style-type: none"> <li>b. Explain the importance of a properly installed scaffold foundation.</li> </ul>
	<ul style="list-style-type: none"> <li>2. Identify the basic principles of system scaffolds, and outline proper erection procedures. <ul style="list-style-type: none"> <li>a. Explain the versatility of system scaffolding components.</li> <li>b. Describe various system scaffold connections.</li> <li>c. Outline the steps for proper erection of a system scaffold.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>3. Identify the basic principles of tubular welded frame scaffolds, and outline proper erection procedures. <ul style="list-style-type: none"> <li>a. Identify common applications of tubular welded frame scaffolds.</li> <li>b. Identify the components of tubular welded frame scaffolding.</li> <li>c. Outline the steps for proper erection of a tubular welded frame scaffold.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>4. Identify the basic principles of tube and clamp scaffolds, and outline proper erection procedures. <ul style="list-style-type: none"> <li>a. Identify common applications of tube and clamp scaffolds.</li> <li>b. Identify the components of tube and clamp scaffolding.</li> <li>c. Outline the steps for proper erection of a tube and clamp scaffold.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>5. Identify less commonly used stationary scaffolding systems. <ul style="list-style-type: none"> <li>a. Identify the basic principles of outrigger scaffolds, and outline proper erection procedures.</li> <li>b. Identify the basic principles of pump-jack scaffolds, and outline proper erection procedures.</li> </ul> </li> </ul>
	<b>Mobile Scaffolds</b>
<b>Registry ID Number:</b>	<b>Module Title and Objectives:</b>
<b>31106-15</b>	<b>Mobile Scaffolds</b>
	<ul style="list-style-type: none"> <li>1. Describe the operation and common applications of rolling scaffolds. <ul style="list-style-type: none"> <li>a. Outline proper safety guidelines when using rolling scaffolds.</li> <li>b. Describe the benefits of rolling scaffolds.</li> <li>c. Identify common rolling scaffold applications.</li> <li>d. Identify rolling scaffold components.</li> <li>e. Outline proper rolling scaffold erection.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>2. Describe the proper operation of scissors lifts. <ul style="list-style-type: none"> <li>a. Identify the proper use of controls and indicators on scissors lifts.</li> <li>b. Describe basic operating procedures and concerns when using scissors lifts.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>3. Describe the operation and common applications of boom lifts. <ul style="list-style-type: none"> <li>a. Outline proper safety standards when using boom lifts.</li> <li>b. Identify common boom lift applications.</li> </ul> </li> </ul>
	<b>Suspension Scaffolds</b>
<b>Registry ID Number:</b>	<b>Module Title and Objectives:</b>
	<ul style="list-style-type: none"> <li>1. Describe the safety considerations, applications, and components of suspension scaffolds. <ul style="list-style-type: none"> <li>a. Outline proper safety guidelines for suspension scaffolds.</li> <li>b. Identify common suspension scaffold applications.</li> <li>c. Identify suspension scaffolding components.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>2. Explain the proper methods for rigging suspension scaffolds. <ul style="list-style-type: none"> <li>a. Explain the proper methods for rigging boatswain's chairs.</li> <li>b. Explain the proper methods for rigging work cages.</li> <li>c. Explain the proper methods for rigging beam suspended scaffolds.</li> </ul> </li> </ul>