

# Creating Construction Career Pathways: Nailing it with NCCER



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2:00 pm Eastern

# Creating Construction Career Pathways: Nailing it with NCCER



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Developing sustainable partnerships for workforce, education, and employer alignment

Providing technical assistance on a national scope

Engaging key stakeholders

Coordinating with federal and state investments





# National Awards

Honoring Excellence in Adult Education

## **\$2,000 Awarded**

Teacher of the Year | Student of the Year | Administrator of  
the Year | State Innovation of the Year | Workforce Development |  
Individual Scholarships | Local Excellence in Advocacy |  
Incentive Grants | Programs Succeed When Learners Lead



*COABE awards more than \$20,000 annually, in part through generous sponsorships from multiple partners. In addition to the awards noted above, all awardees receive complimentary conference registration, travel, and meals to the national conference where they will be honored. Nominators of the awardees also receive complimentary registration to the COABE 2023 national conference in Atlanta, GA.*



A construction worker wearing a white hard hat, safety glasses, and a high-visibility orange and green safety vest is using a yellow level against a concrete block wall. Another worker in an orange safety vest is partially visible in the foreground on the left. The background shows a construction site with vertical rebar.

# NCCER Mission & Vision

## Mission

Provide rigorous and relevant workforce development solutions that create opportunities for individual career advancement and support industry growth.

## Vision

A qualified and successful workforce of diverse individuals whose lives were improved through construction education.



# Who we are



- A not-for-profit 501(c)(3) education foundation created in **1996**
- Developed with the support of more than **125** construction CEOs and various association and academic leaders
- Standardized training and credentialing program evolved into curricula for more than **40** craft areas
- A complete series of more than 50 assessments:
  - English: 54
  - Spanish: 8
  - French: 1
- Over **5,700** training and assessment locations across the United States



# 2024 NCCER Board of Trustees



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CAREER & TECHNICAL  
EDUCATION®



**BASF**  
We create chemistry



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RESOURCES



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**KWEST GROUP**  
CIVIL CONSTRUCTION AND ENVIRONMENTAL SERVICES



Monique Valentine Ford  
Certified Public Accountant



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DESIGN | BUILD | BEYOND



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DELIVERING SUSTAINABLE CHANGE



# 2024 NCCER Partners

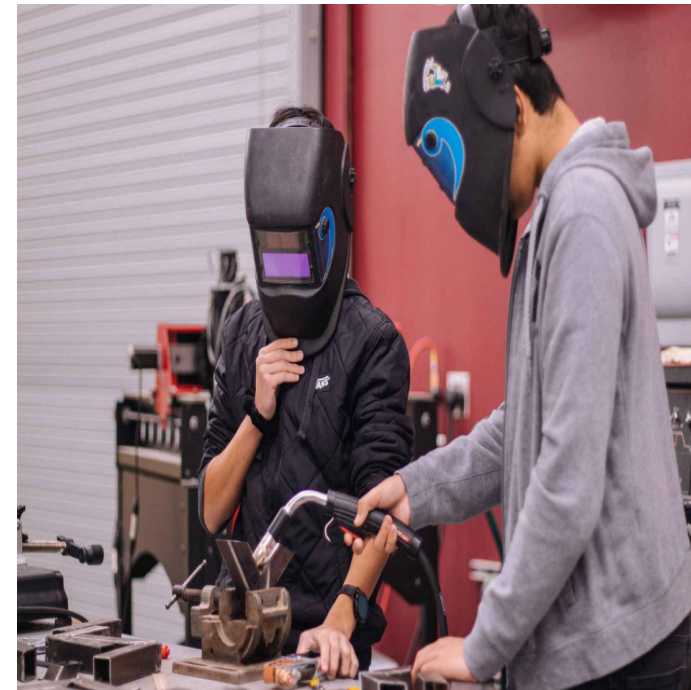




# NCCER Scope

## Education

- Secondary
- Community Colleges
- Career Colleges
- Proprietary Schools
- Training Academies
- Employment-Based



## Industry

- Construction
- Pipeline
- Manufacturing
- Shipbuilding
- Petrochemical
- Energy



## Government

- Job Corps
- YouthBuild
- Corrections
- State & Local Workforce Agencies
- Military
- State Licensing Agencies

## Workforce

- Owners
- Contractors
- Associations
- Organized Labor
- Leased Labor



# NCCER offers

*A comprehensive Workforce Development solution that includes:*

- Accreditation
- Instructor certification
- Standardized industry-driven curricula
- Nationally-recognized skill assessments
- Industry-recognized credentialing and certification
- Construction career/recruiting resources (Build Your Future & CareerStarter)
- Construction safety and front-line management education





# Industry-recognized credentials

## NCCER's Registry

- Confidential, secure storage
- Documents training and skills attainment
- Provides portable, industry-recognized credentials
- Free, online, secure and user-friendly way to submit, review and manage:
  - Training and certification information
  - Performance Verification credentials



# Digital credentials

NCCER's digital credentials are an online, modern way to display industry knowledge & skills.

## *As a digital portfolio:*

- Craft professionals and instructors can securely display NCCER credentials on their websites, email signatures and more
- Contractors can quickly identify the skills they are seeking



# Curricula Resources



# Curricula

- Covers over **40** craft areas
- Utilizes industry subject matter experts
- Meets or exceeds industry standards and the Department of Labor's Office of Apprenticeship requirements for registered training
  - Perfect for Pre-Apprenticeship - Link to a registered apprenticeship programs.
  - Partner with industry for meaningful hands-on training.
  - Possible direct entry into a registered apprenticeship program.
- Competency based, modular format allows for flexibility





## How Apprenticeship and NCCER Work Together

**NCCER Certification:** Many apprenticeship programs, particularly in construction and related fields, integrate NCCER's standardized curriculum and certification process.

Apprentices receive NCCER certification upon completing the required training. Certification provides a portable, industry-recognized credential.

### Benefits of NCCER in Apprenticeship

**Industry Recognition:** Employers value NCCER certification as proof of competency in key skills.

**Structured Training:** Apprenticeship programs using NCCER offer a clear, structured path from entry-level to fully skilled tradesperson.

**Career Advancement:** NCCER certifications open doors to advanced job opportunities and increased earning potential.

**Consistency & Quality:** Ensures uniform standards for training and assessment across the industry.

# Curricula resources

## Instructor Resources

- Lesson plans, PowerPoints & Performance Profiles
- Spanish translations of PowerPoints for key crafts
- Course maps, equipment and material lists

## NCCERconnect

- Online, interactive eBooks
- Blended learning opportunities

## Pearson eTexts

- Digital versions of the student editions
- Read offline capabilities

# Workforce Development







# Construction employment outlook

**Over 1.5 million jobs added in the past 10 years**

**500,000 craft jobs need to filled per year**

**61% of contractors experience project delays due to a shortage of craft professionals**



# Crafts in-demand in the U.S.

## U.S. Construction Industry Employs 8.1 Million Workers

Increase in construction spending and workers retiring will create an even higher demand for new craft workers.

### Top 10 In-Demand Crafts

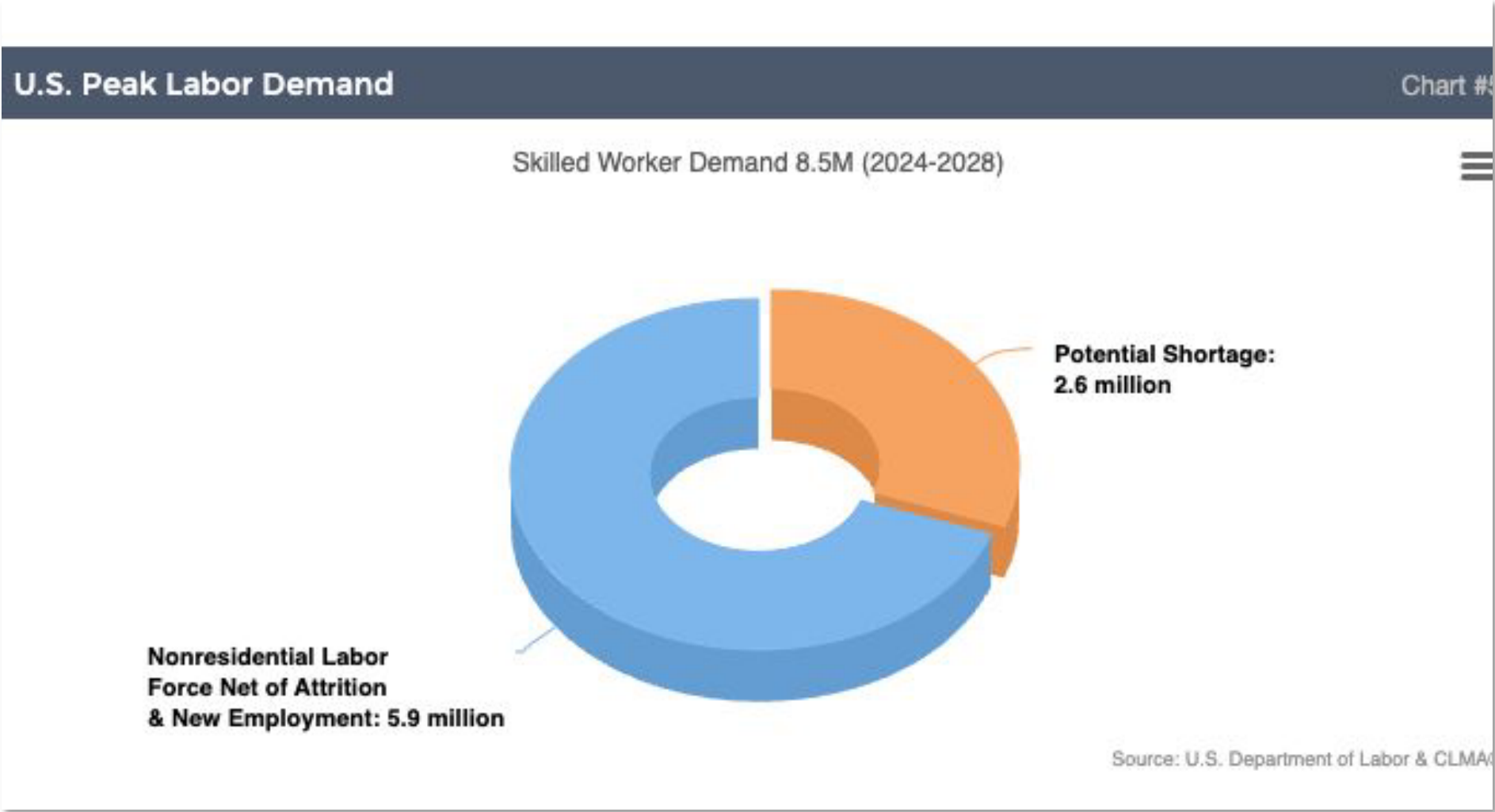
Craft	Demand	Craft	Demand
Craft Laborer	2,449,419	Electrician	624,900
Carpenter	1,547,824	Boilermaker	544,095
Mason	868,324	Roofer	368,647
Heavy Equipment Operator	661,439	Pipefitter	328,855
Ironworker	655,402	Painter	323,336

*Craft Professional Demand through December 2026: Data updated quarterly*

# Skilled labor supply/demand gap

Some estimates predict shortages of **skilled craft professionals** to be as high as...

**2.6 million**  
**by 2028**



Anticipated Peak Non-Residential Labor Demand	8.5 M
Current Non-Residential Labor Force (BLS) – Adjusted for attrition and growth	5.9 M
Potential Shortage	2.6 M

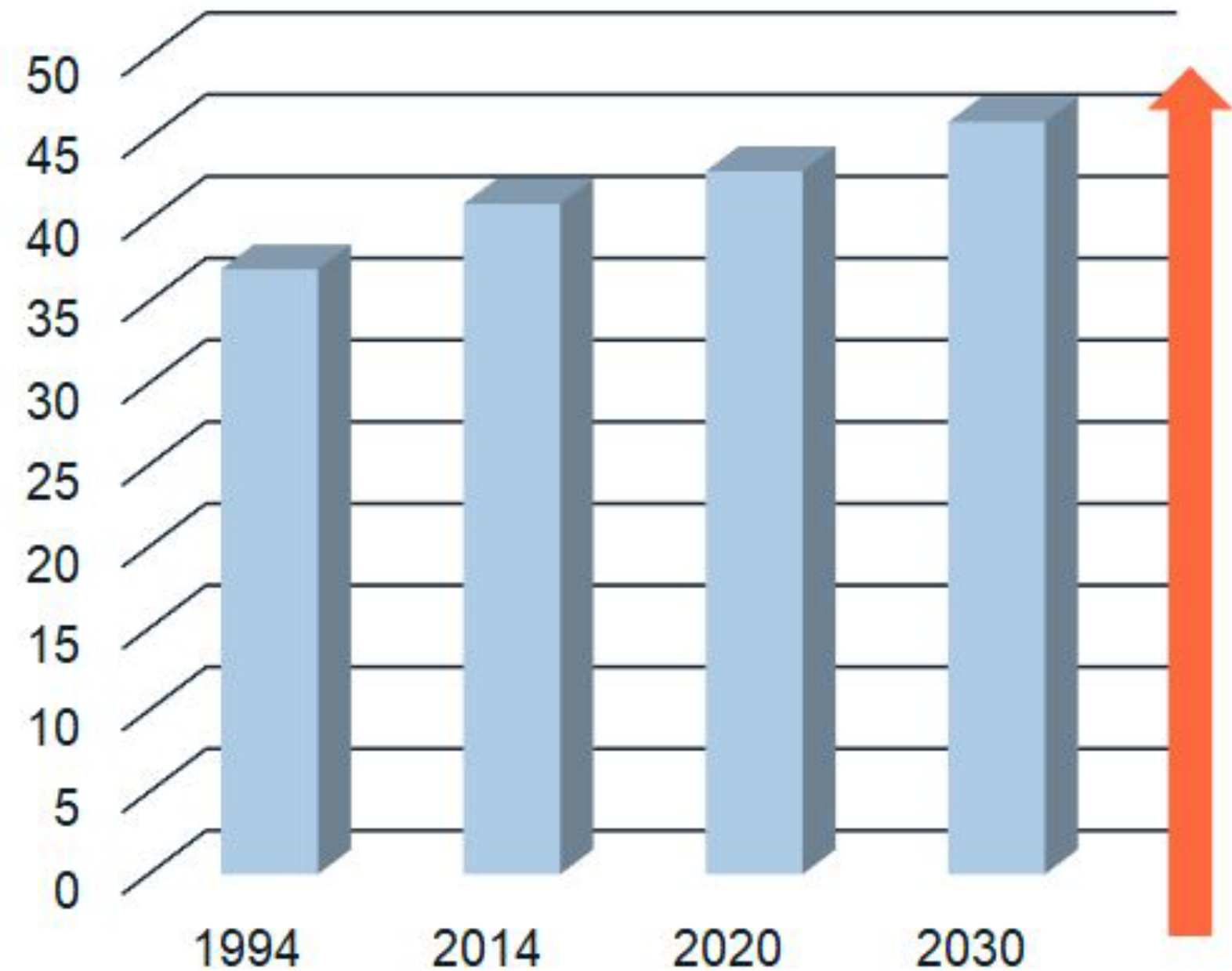


# Workplace age progression

In 2030, the average age  
of the workforce will be  
greater than

**46 years.**

Aging Workforce



Sources: <https://www.ncoer.org/media/2023/03/construction-workforce-age-progression.pdf>

Video link: <https://www.youtube.com/watch?v=4aJvSITlzyg>



# Aging workforce & attrition

2029:

Last of Baby Boomer Generation turns 65

U.S. Age Demographics Data (Craft Disciplines)

Craft Title	Mobile %	Mobile Threshold	Average Age	Attrition in 2 yrs	Attrition in 5 yrs	Attrition in 10 yrs	Attrition in 15 yrs	Attrition Threshold
Boilermaker	54.7%	75 mi.	42	13.5%	20.5%	31.1%	44.6%	60 yrs
Boilermaker Welder	50.3%	75 mi.	39	6.7%	11.8%	17.9%	30.6%	60 yrs
Carpenter (Scaffold Builder)	31.9%	75 mi.	36	5.6%	9.2%	16.7%	26.2%	58 yrs
Electrician	54.3%	50 mi.	42	4.5%	8.3%	18.9%	29.6%	65 yrs
Instrumentation Technician	62.1%	75 mi.	43	8.1%	12.0%	25.2%	35.9%	65 yrs
Insulator	46.5%	75 mi.	42	18.3%	24.8%	37.1%	48.5%	58 yrs
Ironworker (Reinforcing)	17.1%	75 mi.	42	14.7%	21.5%	34.5%	48.2%	58 yrs
Ironworker / Welder (Structural)	8.6%	75 mi.	43	18.7%	25.6%	37.7%	51.0%	58 yrs
Millwright	2.3%	75 mi.	43	12.0%	19.5%	32.7%	45.2%	62 yrs
Operator (Heavy Crane)	54.1%	75 mi.	47	9.8%	17.0%	34.4%	49.2%	65 yrs
Operator (Heavy Equipment)	50.4%	75 mi.	44	13.2%	20.6%	34.2%	45.4%	62 yrs
Pipefitter	61.1%	75 mi.	42	14.2%	20.6%	30.8%	43.6%	60 yrs
Pipefitter / Combo Welder	46.0%	75 mi.	40	11.9%	16.9%	23.4%	35.7%	60 yrs
Rigger / Signalperson	40.9%	50 mi.	45	15.5%	23.7%	36.1%	49.8%	62 yrs
Sheet Metal Worker	18.5%	75 mi.	47	25.5%	31.7%	49.0%	59.3%	60 yrs
Total / Average (Select Industrial Crafts)*	16.6%	73 mi.	43	15.6%	22.4%	34.4%	47.3%	59 yrs
Total / Average	8.6%	71 mi.	43	14.2%	21.8%	35.3%	48.3%	59 yrs
Construction Manager	25.2%	75 mi.	52	33.5%	43.4%	58.2%	72.0%	62 yrs
Engineer (Field)	37.4%	75 mi.	42	12.2%	14.4%	23.7%	36.0%	65 yrs
Inspector / Quality Assurance / Quality Control	33.8%	75 mi.	46	11.3%	16.0%	25.8%	38.5%	65 yrs
Safety Specialist / Representative	22.6%	75 mi.	46	10.9%	15.7%	25.0%	36.7%	65 yrs
Superintendent	34.0%	75 mi.	47	13.8%	21.3%	36.5%	50.9%	62 yrs
Total / Average (Engineering / PM Disciplines)	29.8%	75 mi.	47	16.0%	22.5%	35.4%	48.3%	63 yrs



# #1

## **Gap in the market and the employers need for workers**

Adult Education solves this  
problem and serves as a talent  
pipeline for employers.







# #2

NCCER is the leading credentialing organization in the trades and COABE is partnering with NCCER to roll out their curriculum and services.



# #3

NCCER products are easy to use, affordable, and align with GED/HSE. They are that step toward an industry approved Integrated Education Training.

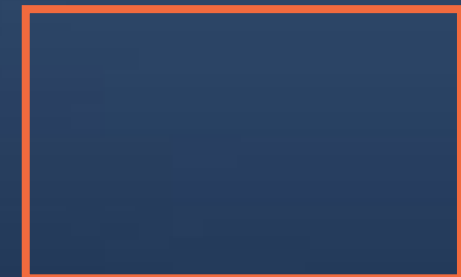






# #4

IET's contextualize and accelerate the training for adult learners, providing skill based training for a career pathway while the learner receives adult ed services.





# The ABE Connection: Integrated Education & Training

IET Requirements:



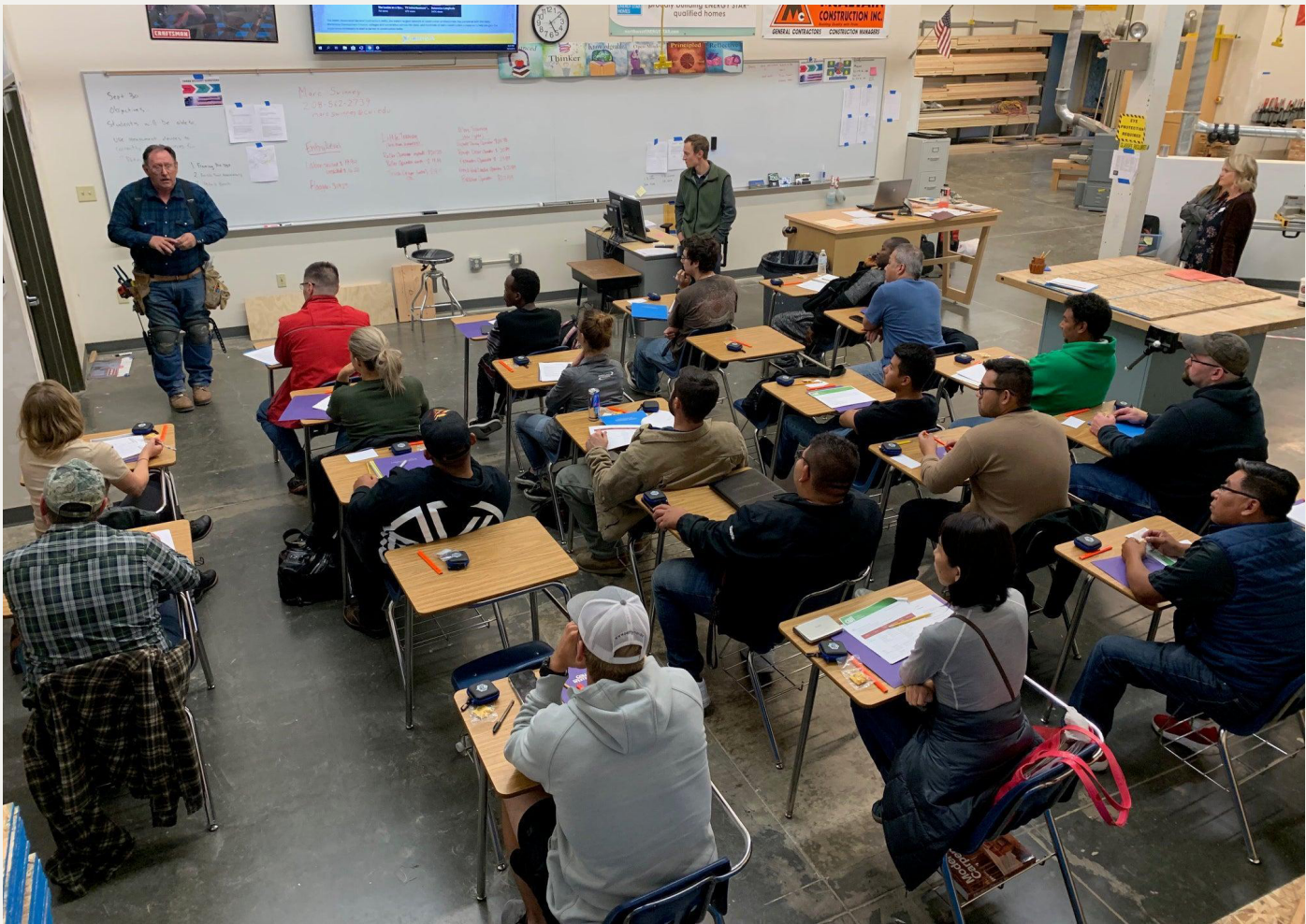
Adult Education Literacy Activities



Workforce Preparation



Workforce Training



# The ABE Connection: Integrated Education & Training

IET Requirements:



## Adult Education Literacy Activities

Adult Education

Literacy

Workplace adult education & literacy

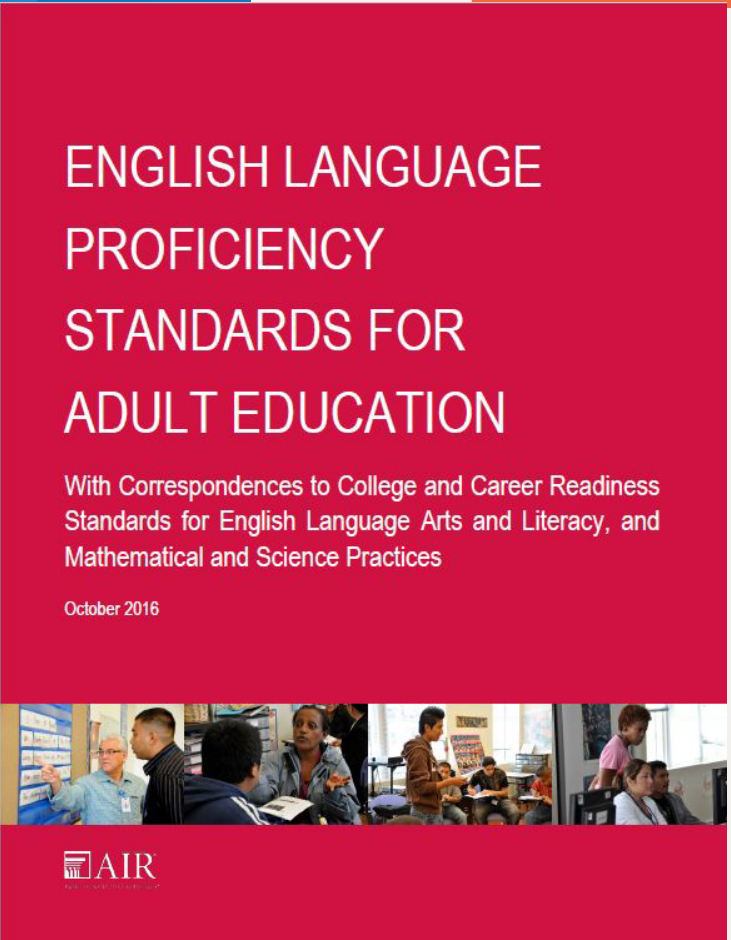
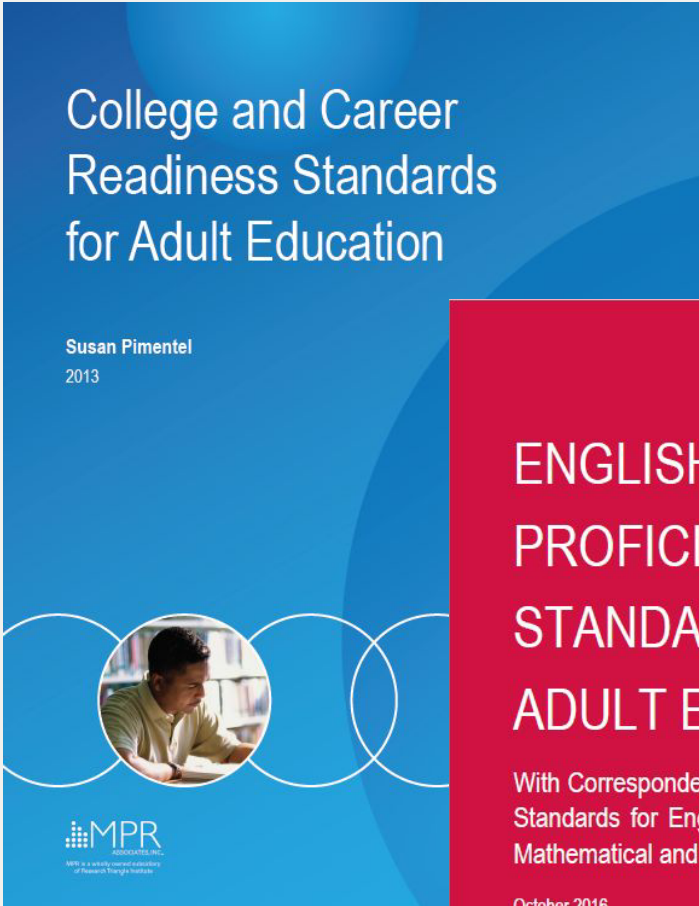
Family literacy activities

English language acquisition

Integrated English Literacy & Civics Education

Workforce preparation

Integrated Education & Training





# The ABE Connection: Integrated Education & Training

IET Requirements:



## Workforce Preparation Activities

Utilizing resources

Using information

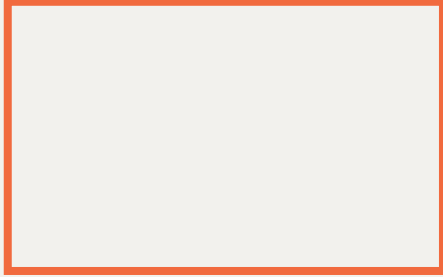
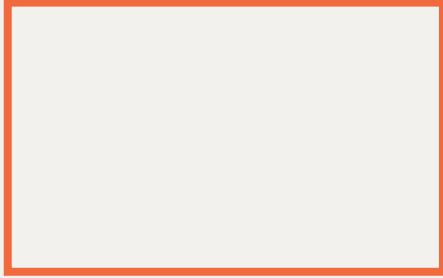
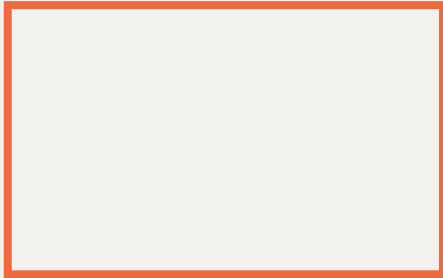
Working with others

Understanding systems

Transition to and complete post-secondary education

Transition to employment

Other employability skills



# The ABE Connection: Integrated Education & Training



## Workforce Preparation Activities



<https://lincs.ed.gov/state-resources/federal-initiatives/employability-skills-framework>

### Critical Thinking Skills

Critical thinking skills are evident in homework, group work, project-based tasks, and presentations.

### Thinks creatively

Students create innovative and novel ideas/solutions and display divergent thinking. This can be seen in oral presentations and creative writing assignments, open-ended tasks, and project design.

### Thinks critically

Students display analytical and strategic thinking. This can be seen in debating an issue, converging on an understanding, assessing a problem, and questioning (playing devil's advocate).

### Makes sound decisions

Students differentiate between multiple approaches and assess options (could be linked to thinking critically).

### Solves problems

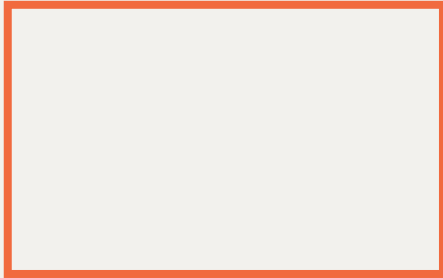
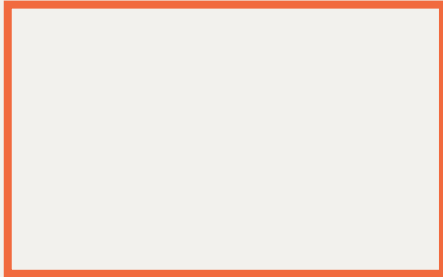
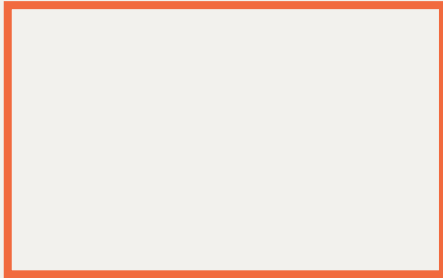
Students assess problems involving the use of available resources (personnel and materials) and review multiple strategies for resolving problems (could be linked to thinking creatively).

### Reasons

Students negotiate pros/cons of ideas, approaches, and solutions and analyze options using "if-then" rationale.

### Plans/organizes

Students plan steps, procedures, and/or approaches for addressing tasks. This occurs naturally in most assignments, ranging from solving one problem to completing a long-term project.





# The ABE Connection: Integrated Education & Training

IET Requirements:



## Workforce Training

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| In-classroom or online instruction   | Skills upgrading and retaining       |
| On-the-job training                  | Entrepreneurial training             |
| Incumbent worker training            | Transitional jobs                    |
| Apprenticeship or pre-apprenticeship | Job readiness training               |
| Private sector training              | Pre-employment training by employers |



# The ABE Connection: Integrated Education & Training

IET Requirements:



Adult Education Literacy Activities



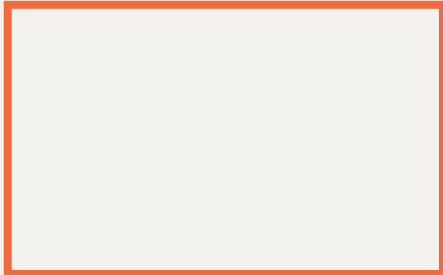
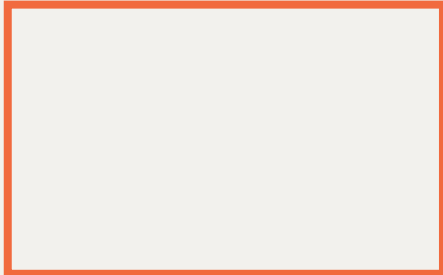
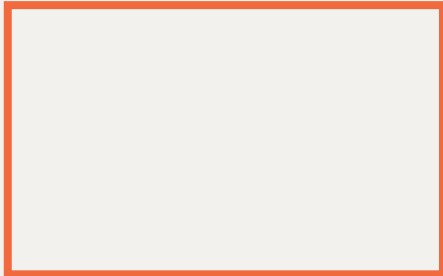
Workforce Preparation



Workforce Training



*Concurrently  
and  
Contextually*





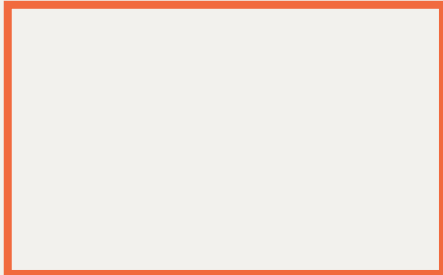
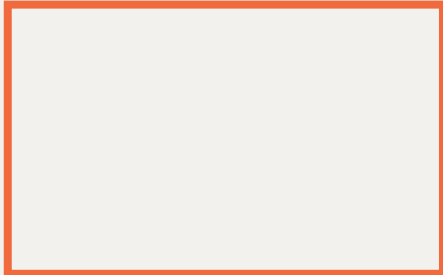
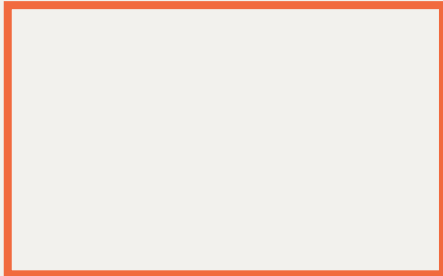
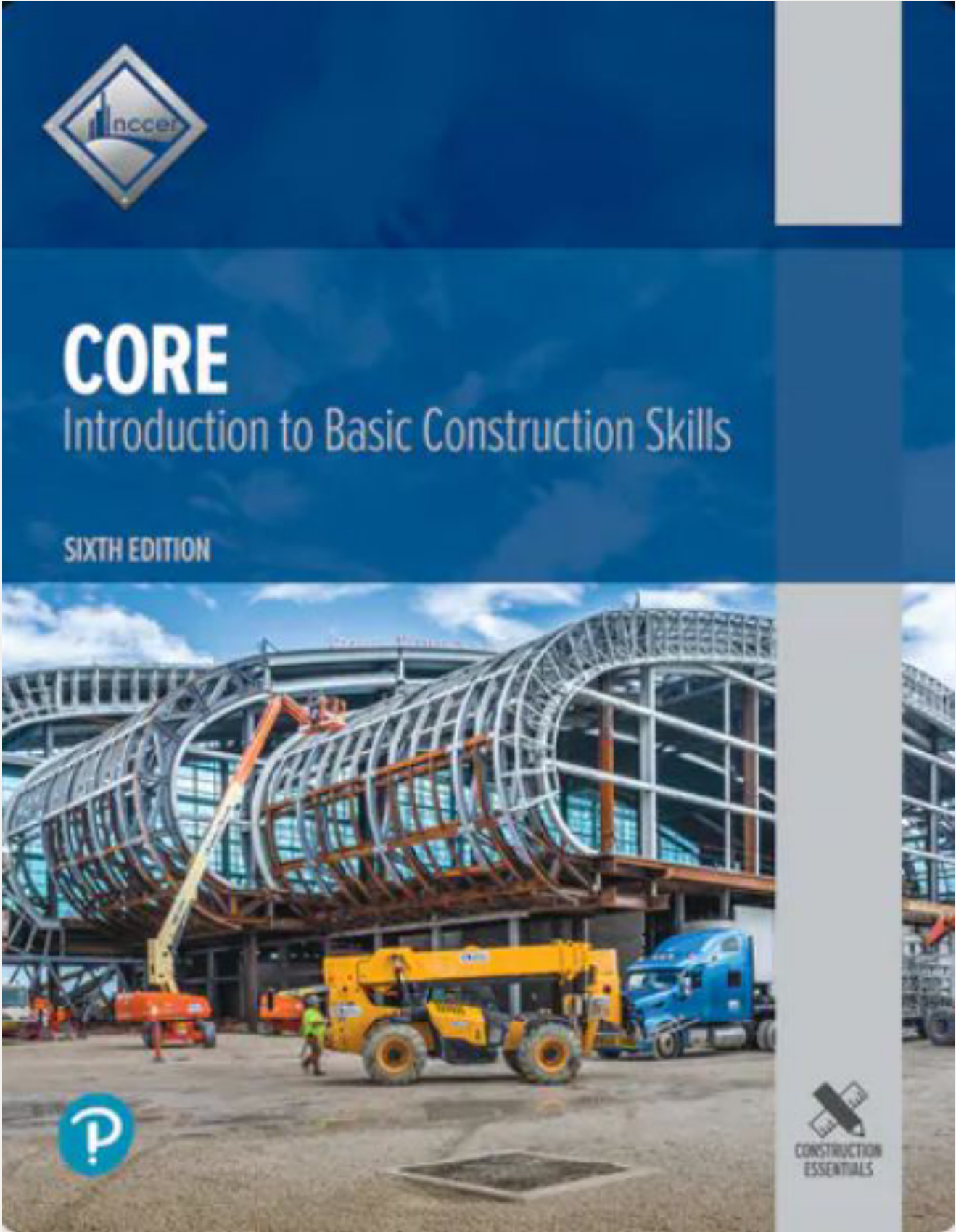
# The ABE Connection: Integrated Education & Training

IET Requirements:



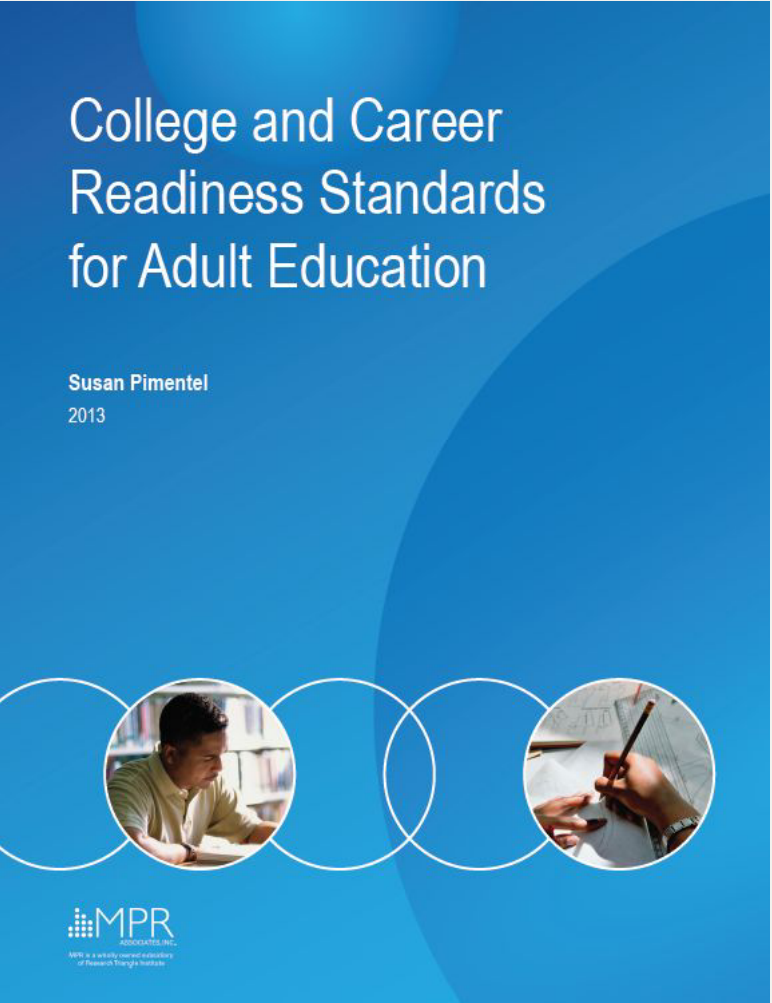
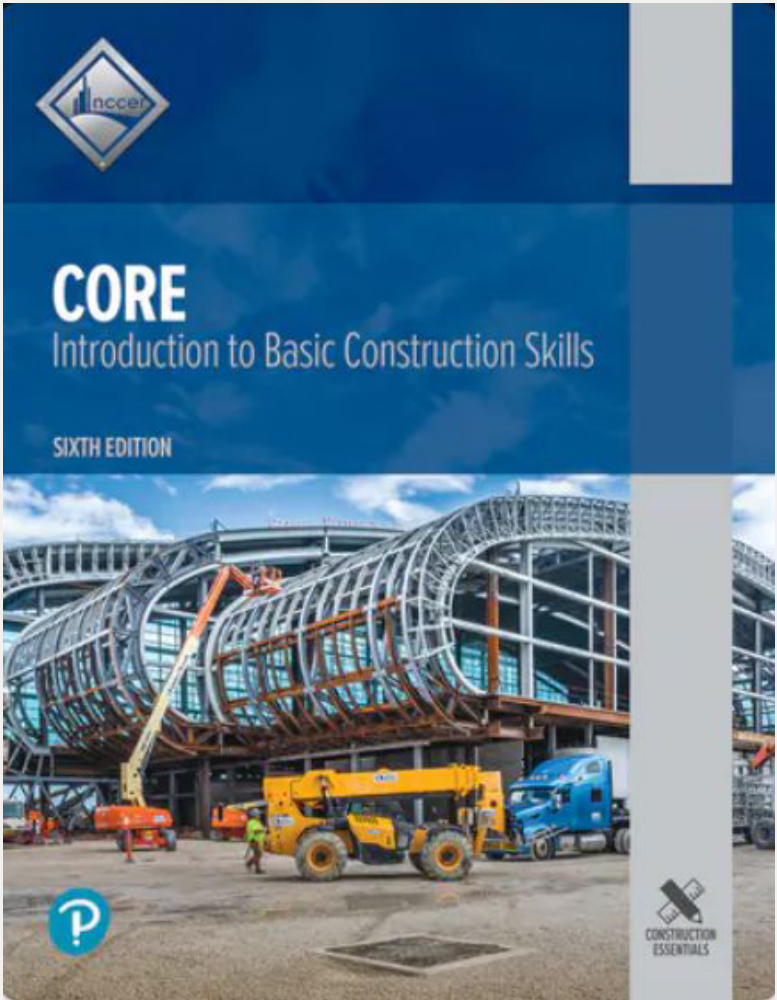
Workforce Training

In-classroom or online instruction



# The ABE Connection: Integrated Education & Training

Workforce Training Skill	Adult Literacy Skill
Describe the importance of safety, the causes of workplace incidents, and the process of hazard recognition and control.	





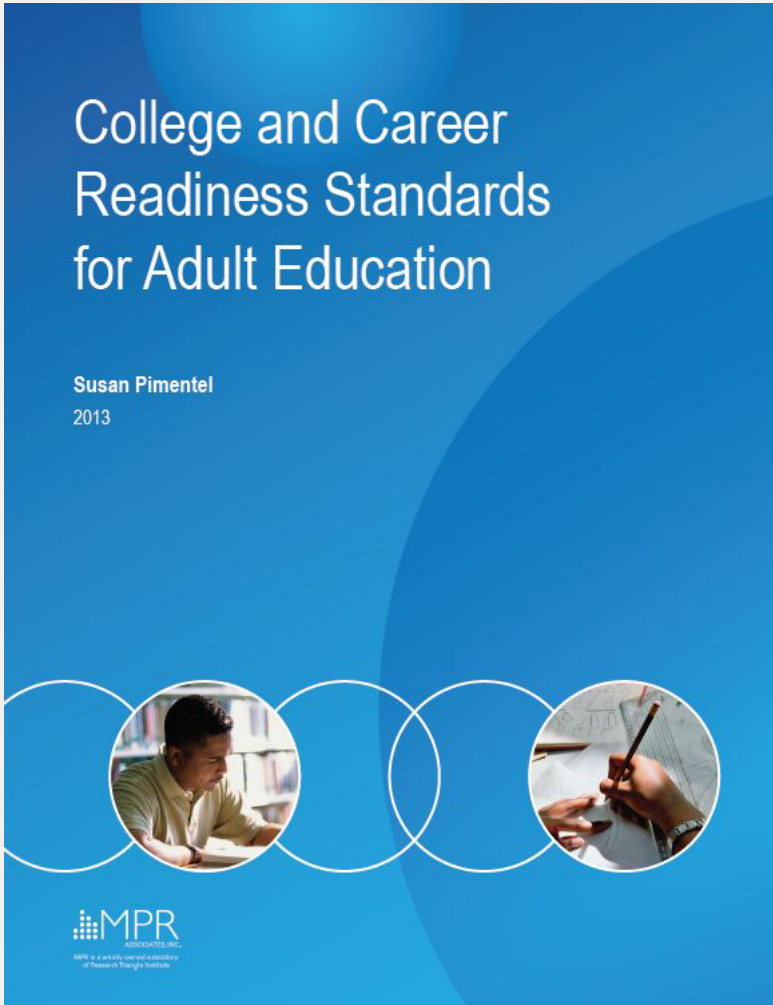
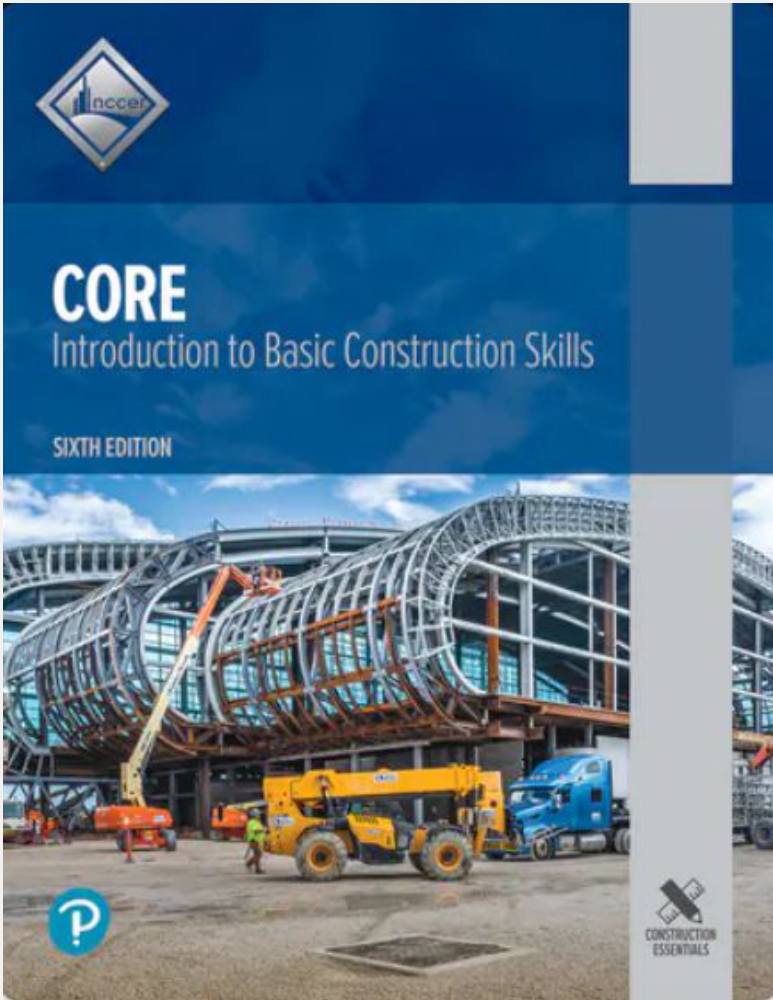
# The ABE Connection: Integrated Education & Training

## Workforce Training Skill

Describe the importance of safety, the causes of workplace incidents, and the process of hazard recognition and control.

## Adult Literacy Skill

Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a topic or subject area. (RI.5.4)



# The ABE Connection: Integrated Education & Training

Workforce Training Skill	Adult Literacy Skill
Describe the importance of safety, the causes of workplace incidents, and the process of hazard recognition and control.	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a topic or subject area. (RI.5.4)
<b>Contextualized:</b> Determine the meaning of terms related to safety, workplace incidents, and hazard recognition and control presented in a text.	



# The ABE Connection: Integrated Education & Training



W e e k	D a y	Workforce Training	Adult Education & Literacy	Standards	Workforce Preparation
		List specific competencies being taught.	List specific standards and content being taught.		List specific activities.
1	1	<b>CONSTRUCTION SITE SAFETY</b> Describe the importance of safety, the causes of workplace incidents, and the process of hazard recognition and control. Describe the safe work requirements for elevated work, including fall protection guidelines. Identify and explain how to avoid struck-by and caught-in-between hazards. Identify common energy-related hazards and explain how to avoid them. Identify and describe the proper use of personal protective equipment (PPE). Identify and describe other specific job-site safety hazards.	<b>MATHEMATICS</b> Identify whole numbers and demonstrate how to work with them mathematically. a. Identify different whole numbers and their place values. b. Demonstrate the ability to add and subtract whole numbers. c. Demonstrate the ability to multiply and divide whole numbers.	4.NBT.1 4.NBT.2 4.NBT.3 4.NBT.4 4.NBT.5 5.NBT.1 5.NBT.2 5.NBT.3 5.NBT.4 5.NBT.5 5.NBT.6 5.NBT.7	1. Show the Session One PowerPoint® presentation in the NCCER Core Curriculum. 2. Use the Kickoff Activity to familiarize trainees with topics of this module. 3. Describe the construction business and the services offered by the training center.
	2	<b>CONSTRUCTION SITE SAFETY</b> Properly set up and climb/descend an extension ladder, demonstrating proper three-point contact. Inspect the personal protection equipment items and determine if they are safe to use. Properly don, fit, and remove the personal protection equipment items. Inspect a typical power cord and GFCI to ensure their serviceability.	<b>COMMUNICATION</b> Describe the communication, listening, and speaking processes and their relationship to job performance. a. Describe the communication process and the importance of listening and speaking skills. b. Describe the listening process and identify good listening skills. c. Describe the speaking process and describe good speaking skills.	SL.1.1 SL.3.1 SL.5.1 SL.8.1 SL.9-10.1	
2	1	<b>HAND TOOLS</b> Identify and explain how to use various types of hand tools. Identify and describe how to use various types of measurement and layout tools. Identify and explain how to	<b>MATHEMATICS</b> Explain how to work with fractions.	4.NF.1 5.NF.1 3.NF.3 5.NF.3	1. Explain how to enter the construction workforce.

		use various types of cutting and shaping tools. Identify and explain how to use other common hand tools.	a. Define equivalent fractions and show how to find lowest common denominators. b. Describe improper fractions and demonstrate how to change an improper fraction to a mixed number. c. Demonstrate the ability to add and subtract fractions. d. Demonstrate the ability to multiply and divide fractions.	5.NF.6 4.NF.3 6.NS.1	2. Describe critical thinking in problem solving and barriers to solving problems. 3. Describe how to solve problems using critical thinking.
	2	<b>HAND TOOLS</b> Visually inspect a minimum of five hand tools to determine if they are safe to use. Safely and properly use a minimum of three hand tools. Make a straight, square cut in framing lumber using a crosscut saw.	<b>COMMUNICATION</b> Perform a given task after listening to oral instructions.	SL.K.2 SL.K.3	
3	1	<b>POWER TOOLS</b> Identify and explain how to use various types of power drills and impact wrenches. Identify and explain how to use various types of power saws. Identify and explain how to use various grinders and grinder attachments. Identify and explain how to use miscellaneous power tools.	<b>MATHEMATICS</b> Describe the decimal system and explain how to work with decimals. a. Describe decimals and their place values. b. Demonstrate the ability to add, subtract, multiply, and divide decimals. c. Demonstrate the ability to convert between decimals, fractions, and percentages.	7.EE.3 5.NBT.7 6.NS.3	1. Show the Session Two PowerPoint® presentation in the NCCER Core Curriculum. 2. Describe problems related to planning and scheduling.
	2	<b>POWER TOOLS</b> Safely and properly demonstrate the use of three power tools.	<b>COMMUNICATION</b> Describe good reading and writing skills and their relationship to job performance. a. Describe the importance of good reading and writing skills. b. Describe job-related reading requirements and identify good reading skills.	RI/RL.1-9.1 RH.6-8.1 RST.6-8.1 RH 9-10.1 RST 9-10.1 W.3.4	



# The ABE Connection: Progress toward Milestones

## MSG Type 4: Progress Toward Milestones

A progress report documenting sufficient or better progress toward an established milestone is typically well suited for workplace education programs. Workplace education and literacy services are provided in collaboration with an employer or employee organization at a workplace or an off-site location designed to improve the productivity of the workforce. Services tend to be customized to the needs of the employer. Progress milestones for employees should be set in collaboration with an employer when establishing the workplace literacy program. The completion of established milestones can be documented through progress reports from the employer. Progress reports must document development of substantive skills that the participant has gained. [PM 17-2](#) also allows documentation of a participant's increase in pay resulting from newly acquired skills or increased performance.

## Technical Assistance Guide for Performance Accountability under the Workforce Innovation and Opportunity Act

*National Reporting System for  
Adult Education*

NOVEMBER 2024

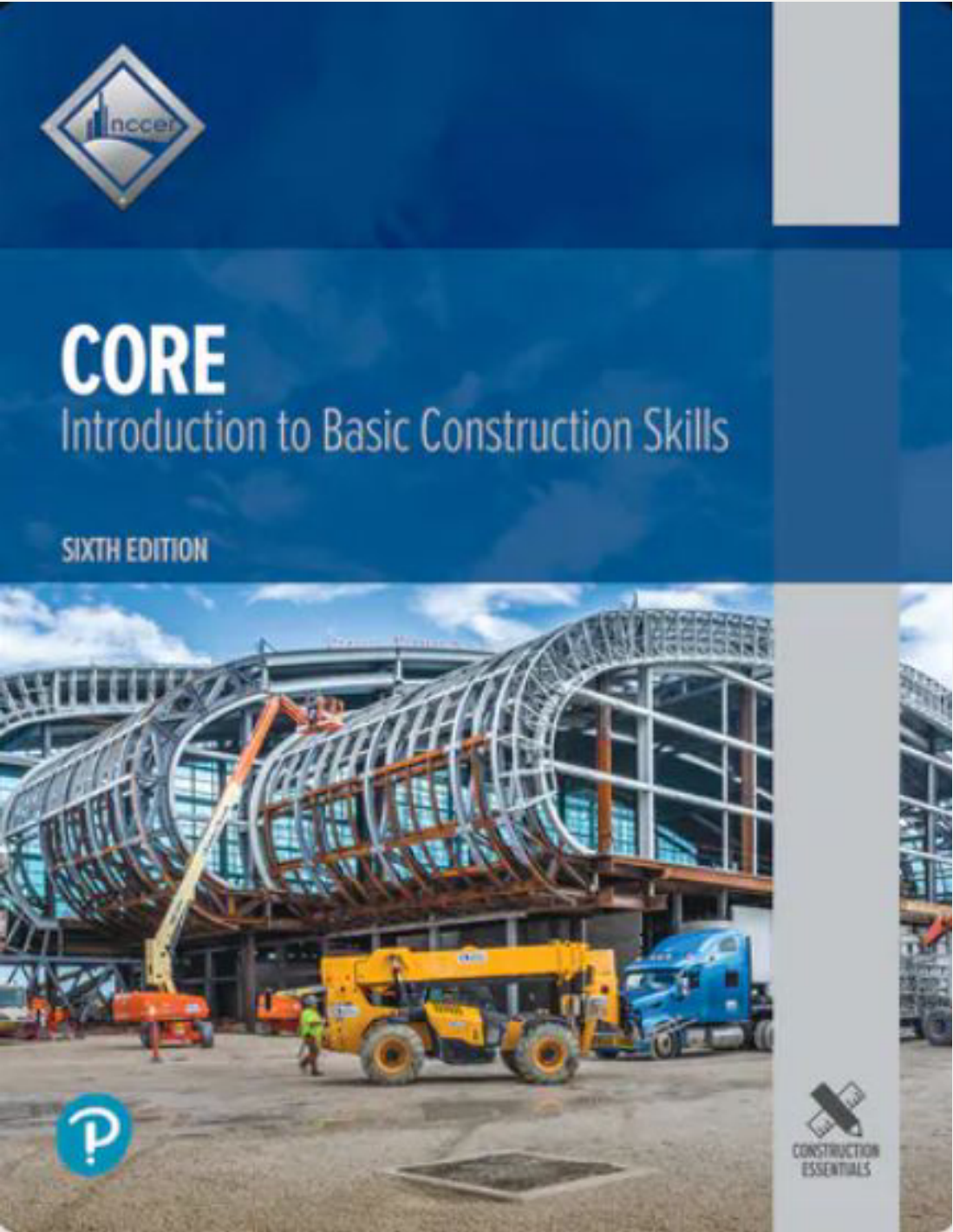
Division of Adult  
Education and Literacy, Office of  
Career, Technical, and Adult  
Education

U.S. Department of Education





# The ABE Connection: Progress toward Milestones



## Objectives

### Learning Objective 1

- Describe the importance of safety, the causes of workplace incidents, and the process of hazard recognition and control.
  - a. Define incidents and the significant costs associated with them.
  - b. Identify the common causes of incidents and their related consequences.
  - c. Describe the processes related to hazard recognition and control, including the Hazard Communication (HAZCOM) Standard and the provisions of a Safety Data Sheet (SDS).

### Learning Objective 2

- Describe the safe work requirements for elevated work, including fall protection guidelines.
  - a. Identify and describe various fall hazards.
  - b. Identify and describe equipment and methods used in fall prevention and fall arrest.
  - c. Identify and describe the safe use of ladders and stairs.
  - d. Identify and describe the safe use of scaffolds.

### Learning Objective 3

- Identify and explain how to avoid struck-by and caught-in-between hazards.
  - a. Identify and explain how to avoid struck-by and caught-in-between hazards.

### Learning Objective 6

- Identify and describe other specific job-site safety hazards.
  - a. Identify various exposure hazards commonly found on job sites.
  - b. Identify hazards associated with environmental extremes.
  - c. Identify hazards associated with hot work.
  - d. Identify fire hazards and describe basic firefighting procedures.
  - e. Identify confined spaces and describe the related safety considerations.

## Performance Tasks

### Performance Task 1 (Learning Objective 2)

- Properly set up and climb/descend an extension ladder, demonstrating proper three-point contact.

### Performance Task 2 (Learning Objective 5)

- Inspect the following PPE items and determine if they are safe to use:
  - Eye protection
  - Hearing protection
  - Hard hat
  - Gloves
  - Fall arrest harnesses, lanyards, and connecting devices
  - Approved footwear



# The ABE Connection: Progress toward Milestones



PROGRESS MILESTONES

Employee Name\_\_\_\_\_

Employer\_\_\_\_\_

Course Term\_\_\_\_\_

Adult Education Program\_\_\_\_\_

Module	Performance Task	Date Demonstrated	Supervisor's Signature
00101-15-1	Properly set up and climb/descend an extension ladder, demonstrating three-point contact.		
00101-15-2	Inspect the following PPE items and determine if they are safe to <u>use</u> : eye protection, hearing protection, hard hat, gloves, fall arrest harness and its lanyards and connecting devices, approved footwear.		
00101-15-3	Properly <u>don</u> and fit the following PPE items: eye protection, hearing protection, hard hat, gloves, fall arrest harness.		
00101-15-4	Inspect a typical power cord and GFCI to ensure their serviceability.		



# Support available to you from **COABE** and **NCCER**:



1. Discounted NCCER application fee
2. Program director training
3. Certified instructor training
4. Curriculum materials
5. Scheduled check-ins by NCCER Workforce Development Manager
6. Adult Education consultant.

**We want to hear from you!**

**Share your success  
stories with us.**

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**NCCER**  
National Center for Construction  
Education and Research

Contact

[NCCER@coabe.org](mailto:NCCER@coabe.org)

today for more details.

