



## CONSTRUCTION & SKILLED TRADES CAREER PATHWAY (CST)

The **Construction & Skilled Trades Career Pathway (CST)** prepares learners for hands-on trade, field operations, inspection, fabrication, and supervisory progression roles across residential, commercial, industrial, and prefabrication environments. Instruction emphasizes jobsite safety, trade fundamentals, construction math, blueprint interpretation, equipment awareness, materials handling, quality standards, documentation practices, and coordination between field crews, fabrication shops, supervisors, and inspectors.

The pathway consists of multiple technical specialization certificates and one advanced supervisory certificate. Learners may enter through field-trade, equipment operations, inspection, or fabrication specialization and may progress into the advanced supervisory certificate upon successful completion of a technical certificate or documented equivalent experience.

### SOC CODES

#### A. Field Construction Occupations

- 47-2031 — Carpenters
- 47-2061 — Construction Laborers
- 47-2073 — Operating Engineers and Other Construction Equipment Operators
- 47-2111 — Electricians
- 47-2141 — Painters, Construction and Maintenance
- 47-2152 — Plumbers, Pipefitters, and Steamfitters
- 47-3010 — Helpers, Construction Trades
- 47-4011 — Construction and Building Inspectors

#### B. Construction & Industrial Fabrication Occupations

- 51-4012 — CNC Machinists

#### C. Supervisory & Advancement Roles (with experience)

- 47-1011 — First-Line Supervisors of Construction Trades and Extraction Workers
- 51-1011 — First-Line Supervisors of Production and Operating Workers
- 11-9021 — Construction Managers

## CST CAREER PATHWAY CERTIFICATES

### CONSTRUCTION TRADE TECHNICIAN (TECHNICAL TRACK)

This certificate prepares learners for entry-level and developing roles across core construction trades. Training emphasizes jobsite fundamentals, safe work practices, blueprint awareness, tool and material handling, and field coordination—equipping learners to support skilled trades and progress into apprenticeship or specialty training pathways.

### SOC CODES

- 47-2031 — Carpenters
- 47-2111 — Electricians
- 47-2152 — Plumbers, Pipefitters, and Steamfitters
- 47-2141 — Painters, Construction and Maintenance
- 47-2061 — Construction Laborers
- 47-3010 — Helpers, Construction Trades



### **CORE COURSES**

CST 101 — Construction Industry Fundamentals  
CST 102 — Jobsite Safety & Hazard Controls  
CST 103 — Construction Documentation & Daily Reporting

### **OCCUPATIONAL COURSES**

CST 201 — Blueprint Reading & Trade Drawings Basics  
CST 202 — Tools, Equipment & Materials Handling  
CST 205 — Trade Skills Fundamentals (Carpentry, Concrete, Masonry & MEP Basics)  
CST 209 — Construction Math, Layout & Basic load Fundamentals

### **INDUSTRY CREDENTIAL**

OSHA 10-Hour Outreach Training — Construction Industry  
*\*Conducted over two (2) scheduled in-person training days*

### **CONSTRUCTION EQUIPMENT & FIELD OPERATIONS SUPPORT (TECHNICAL TRACK)**

This certificate prepares learners to support construction and industrial operations involving heavy equipment and machinery. Training emphasizes equipment awareness, operating zones, safe interaction around moving machinery, documentation practices, and field coordination between crews and equipment operators.

### **SOC CODES**

47-2073 — Operating Engineers and Other Construction Equipment Operators  
47-2061 — Construction Laborers

### **CORE COURSES**

CST 101 — Construction Industry Fundamentals  
CST 102 — Jobsite Safety & Hazard Controls  
CST 103 — Construction Documentation & Daily Reporting

### **OCCUPATIONAL COURSES**

CST 202 — Tools, Equipment & Materials Handling  
CST 203 — Field Operations & Jobsite Coordination  
CST 204 — Construction Equipment & Heavy Machinery Awareness  
CST 212 — Equipment Operating Zones, Excavation & Safety Compliance

### **INDUSTRY CREDENTIAL**

OSHA 10-Hour Outreach Training — Construction Industry  
*\*Conducted over two (2) scheduled in-person training days*

### **CONSTRUCTION INSPECTION & QUALITY SUPPORT (TECHNICAL TRACK)**

This certificate prepares learners to support inspection, quality control, and compliance activities on construction projects. Training emphasizes blueprint interpretation, workmanship standards, documentation accuracy, and coordination between inspectors and field teams.

### **SOC CODE**

47-4011 — Construction and Building Inspectors



## **CORE COURSES**

- CST 101 — Construction Industry Fundamentals
- CST 102 — Jobsite Safety & Hazard Controls
- CST 103 — Construction Documentation & Daily Reporting

## **OCCUPATIONAL COURSES**

- CST 201 — Blueprint Reading & Trade Drawings Basics
- CST 203 — Field Operations & Jobsite Coordination
- CST 206 — Quality Control & Field Inspection Basics
- CST 211 — Construction Codes, Green Building & Compliance Awareness

## **INDUSTRY CREDENTIAL**

- OSHA 10-Hour Outreach Training — Construction Industry
- \*Conducted over two (2) scheduled in-person training days*

## **CONSTRUCTION SUPERVISION & MANAGEMENT SUPPORT (ADVANCED TRACK)**

This certificate prepares learners for supervisory and management support roles within construction and production-related environments. Training emphasizes crew leadership fundamentals, coordination and scheduling support, documentation practices, and quality oversight. Learners develop competencies that support progression from frontline supervision into project coordination and operations management roles within construction environments.

## **SOC CODES**

- 11-9021 — Construction Managers
- 47-1011 — First-Line Supervisors of Construction Trades and Extraction Workers
- 51-1011 — First-Line Supervisors of Production and Operating Workers

## **PREREQUISITE**

Completion of one (1) Technical Track Certificate OR documented equivalent technical experience. Resume experience verification required. Supplemental manufacturing or modeling competency modules may be required based on applicant background.

## **OCCUPATIONAL COURSES**

- CST 206 — Quality Control & Field Inspection Basics
- CST 207 — Construction Supervision & Crew Leadership Basics
- CST 208 — Construction Project Coordination & Scheduling Support
- CST 212 — Construction Estimating & Cost Awareness Fundamentals

## **ADVANCED TECHNICAL COURSES**

- CST 301 — Advanced Blueprint Interpretation & Field Layout
- CST 302 — Structural Systems & Building Assemblies
- CST 303 — Advanced Construction Materials & Installation Systems
- CST 304 — Prefabrication & Modular Construction Systems
- CST 305 — Jobsite Logistics & Multi-Trade Coordination
- CST 306 — Advanced Equipment Coordination & Site Operations

## **ENTRY-LEVEL MANAGEMENT COURSES**

- CST 401 — Construction Leadership & Workforce Management



- CST 402 — Construction Safety Leadership & Risk Oversight
- CST 403 — Construction Project Planning & Resource Coordination
- CST 404 — Construction Cost Control & Budget Awareness
- CST 405 — Construction Quality Assurance & Compliance Management
- CST 406 — Construction Contract Administration & Documentation Control
- CST 407 — Construction Operations & Production Management

### **INDUSTRY CREDENTIAL**

OSHA 30-Hour Outreach Training — Construction Industry  
*\*Conducted over four (4) scheduled in-person training days*

### **CST CORE COURSES**

#### **CST 101 — Construction Industry Fundamentals**

This course introduces the structure of the construction industry, including major sectors, common trades, and jobsite organization. Learners examine how construction projects move through planning, execution, and closeout, and how multiple trades coordinate work on active jobsites.

#### **Upon successful completion, the trainee will be able to:**

- Describe major construction sectors and trade roles
- Explain basic project phases from planning to closeout
- Identify responsibilities of workers, supervisors, and managers
- Recognize expectations for professionalism and reliability on jobsites

#### **CST 102 — Jobsite Safety & Hazard Controls**

This course focuses on identifying and controlling common hazards found on construction jobsites. Learners gain practical awareness of safe work practices, personal protective equipment (PPE), and the role of communication and reporting in preventing injuries.

#### **Upon successful completion, the trainee will be able to:**

- Identify common construction hazards
- Apply basic hazard control methods
- Demonstrate safe work practices and PPE awareness
- Understand the importance of safety communication and reporting

#### **CST 103 — Construction Documentation & Daily Reporting**

This course introduces documentation used to record work activities, safety issues, and jobsite progress. Learners develop accuracy and consistency in completing reports that support communication, quality control, and compliance.

#### **Upon successful completion, the trainee will be able to:**

- Complete basic daily reports and logs
- Document work activities and incidents accurately
- Understand the role of documentation in quality and compliance
- Support communication between field and management teams



## **CST OCCUPATIONAL COURSES**

### **CST 201 — Blueprint Reading & Trade Drawings Basics**

This course introduces construction drawings used to guide trade work across multiple disciplines. Learners focus on reading symbols, notes, and layouts while understanding how drawings communicate scope and installation requirements.

**Upon successful completion, the trainee will be able to:**

- Interpret basic construction drawings
- Identify symbols and notes relevant to trade work
- Follow plans to support jobsite tasks
- Recognize discrepancies between drawings and field conditions

### **CST 202 — Tools, Equipment & Materials Handling**

This course covers safe use and handling of construction tools, equipment, and materials commonly found on jobsites. Learners build awareness of equipment hazards, storage practices, and efficient material movement.

**Upon successful completion, the trainee will be able to:**

- Identify common construction tools and equipment
- Apply safe handling and storage practices
- Recognize equipment hazards
- Support efficient materials movement on jobsites

### **CST 203 — Field Operations & Jobsite Coordination**

This course focuses on how daily job-site activities are coordinated between crews, supervisors, and inspectors. Learners develop communication and organizational skills that support smooth field operations.

**Upon successful completion, the trainee will be able to:**

- Support daily jobsite coordination activities
- Communicate work status and issues
- Follow sequencing and task assignments
- Assist with crew and site organization

### **CST 204 — Construction Equipment & Heavy Machinery Awareness**

This course introduces common construction equipment and heavy machinery used on jobsites. Learners focus on equipment awareness, operating zones, signaling practices, and safe interaction around moving machinery.

**Upon successful completion, the trainee will be able to:**

- Identify common construction equipment
- Understand equipment operating zones
- Recognize spotter and signaling roles
- Support safe equipment operations



### **CST 205 — Trade Skills Fundamentals (Carpentry, Electrical, Plumbing, Painting)**

This course provides an overview of foundational tools, materials, and tasks used across major construction trades. Learners focus on safety, basic trade processes, and supporting skilled trades under supervision.

#### **Upon successful completion, the trainee will be able to:**

- Recognize basic trade-specific tools and materials
- Understand fundamental trade processes
- Follow basic task instructions safely
- Support skilled trades under supervision

### **CST 206 — Quality Control & Field Inspection Basics**

This course introduces quality expectations and inspection practices used to ensure construction work meets standards. Learners examine common defects, documentation methods, and corrective action processes.

#### **Upon successful completion, the trainee will be able to:**

- Recognize quality expectations in construction work
- Identify common workmanship issues
- Document deficiencies and corrections
- Support inspections and punch list activities

### **CST 207 — Construction Supervision & Crew Leadership Basics**

This course introduces leadership and coordination skills used by crew leaders and first-line supervisors. Learners focus on delegation support, performance tracking, safety oversight, and communication.

#### **Upon successful completion, the trainee will be able to:**

- Support task delegation and crew coordination
- Track attendance and work progress
- Document performance and safety issues
- Communicate effectively with management

### **CST 208 — Construction Project Coordination & Scheduling Support**

This course introduces basic scheduling concepts and coordination activities used in construction projects. Learners develop awareness of sequencing, milestones, delays, and coordination meetings.

#### **Upon successful completion, the trainee will be able to:**

- Understand basic construction schedules
- Support sequencing and logistics planning
- Track milestones and delays
- Assist with coordination meetings and follow-up

### **CST 209 — Construction Math, Layout & Basic Rigging Fundamentals**

This course develops applied construction math skills including fractions, decimals, conversions, geometry, and material calculations. Trainees also examine layout tools and basic rigging awareness for safe material movement.



**Upon successful completion, the trainee will be able to:**

- Perform measurements and unit conversions
- Apply geometry to calculate materials and layouts
- Use leveling and layout tools accurately
- Demonstrate awareness of basic rigging safety procedures

**CST 210 — Equipment Operating Zones, Excavation & Safety Compliance**

This course focuses on excavation safety basics, trench awareness, equipment staging, and compliance considerations. Emphasis is placed on safe interaction between personnel and machinery in active work environments.

**Upon successful completion, the trainee will be able to:**

- Identify excavation and trench-related hazards
- Recognize equipment operating zones and restricted areas
- Support safe staging and traffic control practices
- Understand compliance documentation basics

**CST 211 — Construction Codes, Green Building & Compliance Awareness**

This course introduces building codes, energy efficiency standards, and sustainable construction practices. Trainees examine how regulatory compliance and green building concepts influence materials selection and installation methods.

**Upon successful completion, the trainee will be able to:**

- Identify common construction code requirements
- Recognize sustainable building principles
- Understand compliance documentation processes
- Support environmentally responsible construction practices

**CST 212 — Construction Estimating & Cost Awareness Fundamentals**

This course introduces foundational estimating principles including labor, materials, equipment, and overhead cost components. Trainees learn how budgeting awareness supports scheduling and field performance.

**Upon successful completion, the trainee will be able to:**

- Calculate basic labor and material quantities
- Identify cost components within construction projects
- Understand how scheduling impacts project costs
- Recognize how inefficiencies affect budgets

**CST ADVANCED COURSES**

**CST 301 — Advanced Blueprint Interpretation & Field Layout**

This course provides advanced training in interpreting complex construction drawings and coordinating layout activities across multiple trades on active jobsites. Trainees examine structural details, dimensional accuracy, and layout coordination practices used to translate design documents into field execution.

**Upon successful completion, the trainee will be able to:**

- Interpret advanced construction drawings and structural details
- Verify measurements and dimensional accuracy in field layouts



- Identify discrepancies between drawings and field conditions
- Support coordination of layout activities across multiple trades

### **CST 302 — Structural Systems & Building Assemblies**

This course provides training on structural systems commonly used in residential, commercial, and industrial construction. Trainees examine how building components interact to create stable structural assemblies and how trades coordinate installation within structural frameworks.

#### **Upon successful completion, the trainee will be able to:**

- Identify structural components used in construction systems
- Explain basic load paths and structural behavior concepts
- Recognize structural installation sequencing requirements
- Support coordination between structural trades and field crews

### **CST 303 — Advanced Construction Materials & Installation Systems**

This course provides training on construction materials used across structural, mechanical, electrical, and plumbing systems. Trainees examine material properties, installation considerations, and quality requirements that influence performance and durability in construction environments.

#### **Upon successful completion, the trainee will be able to:**

- Identify advanced construction material types and properties
- Recognize installation requirements for major building systems
- Evaluate material suitability for different construction applications
- Support quality installation practices across multiple trades

### **CST 304 — Prefabrication & Modular Construction Systems**

This course introduces prefabrication and modular construction methods used in commercial, industrial, and large-scale building projects. Trainees examine manufacturing-based construction workflows and coordination practices between fabrication facilities and jobsite operations.

#### **Upon successful completion, the trainee will be able to:**

- Explain prefabrication and modular construction concepts
- Identify fabrication workflows used in modern construction systems
- Support coordination between fabrication shops and field crews
- Recognize quality requirements for prefabricated components

### **CST 305 — Jobsite Logistics & Multi-Trade Coordination**

This course focuses on coordination of multiple trades within active construction environments. Trainees examine workflow planning, sequencing of work activities, and communication practices that support efficient job-site operations.

#### **Upon successful completion, the trainee will be able to:**

- Coordinate work activities across multiple trades
- Identify scheduling conflicts and workflow disruptions
- Support planning of material delivery and jobsite logistics
- Assist with sequencing and coordination of construction activities



### **CST 306 — Advanced Equipment Coordination & Site Operations**

This course provides training on integrating equipment operations with construction crews and fieldwork. Trainees examine equipment staging, operating zones, communication protocols, and safety practices used to support efficient site operations.

**Upon successful completion, the trainee will be able to:**

- Identify equipment roles across construction operations
- Recognize advanced equipment hazards and operating zones
- Coordinate safe interaction between equipment operators and crews
- Support planning of equipment workflow within jobsite operations

### **CST LEADERSHIP COURSES**

#### **CST 401 — Construction Leadership & Workforce Management**

This course provides training in leadership principles used by construction supervisors and crew leaders. Trainees examine workforce coordination, communication strategies, and leadership practices that support safe and productive jobsite operations.

**Upon successful completion, the trainee will be able to:**

- Demonstrate leadership practices used in construction environments
- Support coordination and delegation of work activities among crew members
- Communicate expectations and instructions clearly to workers and teams
- Promote professionalism and accountability within construction crews

#### **CST 402 — Construction Safety Leadership & Risk Oversight**

This course provides training in leadership responsibilities related to maintaining safe work environments on construction projects. Trainees examine hazard recognition, safety oversight practices, and communication strategies used to reinforce safety culture across jobsite operations.

**Upon successful completion, the trainee will be able to:**

- Identify leadership responsibilities related to construction safety
- Support implementation of hazard control practices on jobsites
- Reinforce safe work behaviors through communication and leadership
- Assist with monitoring and reporting jobsite safety conditions

#### **CST 403 — Construction Project Planning & Resource Coordination**

This course provides training in planning and coordination activities that support construction project operations. Trainees examine scheduling awareness, labor coordination, equipment planning, and workflow organization practices used to support efficient project execution.

**Upon successful completion, the trainee will be able to:**

- Support planning of work activities and resource allocation
- Coordinate labor, equipment, and materials across jobsite operations
- Identify workflow conflicts and scheduling challenges
- Assist with communication between project teams and supervisors



#### **CST 404 — Construction Cost Control & Budget Awareness**

This course provides training in cost awareness principles used in construction project environments. Trainees examine labor costs, material tracking, productivity monitoring, and budget considerations that influence project performance.

**Upon successful completion, the trainee will be able to:**

- Identify major cost components within construction projects
- Recognize how labor productivity affects project costs
- Support tracking of materials and resource usage
- Understand how scheduling decisions impact budgets

#### **CST 405 — Construction Quality Assurance & Compliance Management**

This course provides training in quality management practices used to ensure construction work meets project specifications and regulatory requirements. Trainees examine inspection coordination, documentation practices, and compliance awareness used to support quality outcomes.

**Upon successful completion, the trainee will be able to:**

- Recognize quality assurance practices used in construction projects
- Support documentation of inspections and corrective actions
- Identify compliance requirements related to construction work
- Assist with monitoring workmanship and quality standards

#### **CST 406 — Construction Contract Administration & Documentation Control**

This course provides training in documentation and contract administration practices used in construction project environments. Trainees examine project documentation systems, communication protocols, and reporting procedures used to support project oversight.

**Upon successful completion, the trainee will be able to:**

- Understand construction contract documentation practices
- Maintain accurate project records and reporting systems
- Support communication between contractors, supervisors, and project teams
- Assist with documentation used in project administration

#### **CST 407 — Construction Operations & Production Management**

This course provides training in operational practices used to manage construction activities and production workflows. Trainees examine jobsite performance monitoring, operational coordination, and productivity management practices used to support efficient construction operations.

**Upon successful completion, the trainee will be able to:**

- Support coordination of construction production activities
- Monitor jobsite workflow and operational performance
- Identify factors affecting productivity in construction environments
- Assist supervisors with improving operational efficiency