

# Resources

## Resources from the Guidance Document

### 1. School & Program – Safety and Health Management System (SHMS)

#### A. Management Leadership

- Recommended Practices for Safety & Health Programs in Construction (OSHA)  
[https://www.osha.gov/shpguidelines/docs/8524\\_OSHA\\_Construction\\_Guidelines\\_R4.pdf](https://www.osha.gov/shpguidelines/docs/8524_OSHA_Construction_Guidelines_R4.pdf)  
The OSHA guide comprehensively describes core elements essential to an effective Safety & Health Program, and provides the framework for the recommendations in this guidance document. CTE construction programs that reflect these core program elements will keep their students safe at school and expose them to the highest industry standard in safety and health protections.
- Injury and Illness Prevention Program eTool for Construction Work (Cal/OSHA Consultation)  
<https://www.dir.ca.gov/dosh/etools/09-031/construction.htm>  
This etool will help programs to get started on their Injury and Illness Prevention Program (referred to in this guidance document as the Safety and Health Management System), or to review the plan they have in place.
- Injury and Illness Prevention Programs White Paper (OSHA)  
<https://www.osha.gov/dsg/InjuryIllnessPreventionProgramsWhitePaper.html>  
This website lists states that require a written safety and health program.
- State Plans Frequently Asked Questions (OSHA)  
<https://www.osha.gov/dcsp/osp/index.html>  
This FAQ reviews OSHA-approved State Plans. After reviewing this site check with your state OSHA program for specific requirements related to your state.

#### B. Regular Inspections to Identify Hazards

- Noise Exposure Resources
  - Hazard Alert: Noise (CPWR)  
[http://www.cpwr.com/sites/default/files/publications/Noise\\_2013\\_1.pdf](http://www.cpwr.com/sites/default/files/publications/Noise_2013_1.pdf)
  - Noise, Radiation, and Other Exposures for Construction Self-Inspection Checklist (NIOSH)  
<https://www.cdc.gov/niosh/docs/2004-101/chklists/r1n69c~1.htm>
  - Buy Quiet Program (NIOSH)  
<https://www.cdc.gov/niosh/topics/buyquiet/posters.html>
  - Sound Level Meter App (NIOSH)  
<https://www.cdc.gov/niosh/topics/noise/app.html>

- Noise & Hearing Loss Prevention Webpage (NIOSH)  
<https://www.cdc.gov/niosh/topics/noise/default.html>
- Welding Fumes Resources
  - Hazard Alert: Welding Fumes and Gases (CPWR)  
[http://www.cpwr.com/sites/default/files/publications/Fumes\\_and\\_Gases\\_web-post\\_0.pdf](http://www.cpwr.com/sites/default/files/publications/Fumes_and_Gases_web-post_0.pdf)
  - Welding, Cutting, and Brazing General Requirements Self-Inspection Checklist (NIOSH)  
<https://www.cdc.gov/niosh/docs/2004-101/chklists/r1n64w~1.htm>
- Compiled Ergonomic Guides & Checklists (CPWR)  
<http://www.cpwr.com/research/ergonomics-guides-checklists>  
A resource list of various ergonomics guides and checklists compiled by CPWR.
- Safety Checklist Program for Schools (NIOSH)  
<https://www.cdc.gov/niosh/docs/2004-101/default.html>  
This Safety Checklist Program can help schools and programs get into compliance even when they have little safety and health experience, a busy schedule, and many unanswered questions.
- Safety Checklist Program for Schools -Chapter 4: Safety Checklists and Indexes (NIOSH)  
<https://www.cdc.gov/niosh/docs/2004-101/chap4.html>  
Chapter 4 of the Safety Checklist Program provides information via checklists and indexes that can help schools and programs get into compliance, specifically one for the construction trades.

### **C. An Active Reporting System to Identify Hazards**

- eTool Identified Hazards and Correction Record Sample Form (Cal/OSHA Consultation)  
<https://www.dir.ca.gov/dosh/etools/09-031/IndHazCorRec.pdf>  
A web-based form that can be completed by anyone to report safety and health issues, including hazards as well as close calls/near misses.

### **D. All Injuries, Incidents, and Near Misses are Investigated to Identify Underlying Hazards**

- Incident [Accident] Investigations: A Guide for Employers (OSHA)  
[https://www.osha.gov/dte/IncInvGuide4Empl\\_Dec2015.pdf](https://www.osha.gov/dte/IncInvGuide4Empl_Dec2015.pdf)  
The purpose of this Incident Investigation Guide is to provide employers a systems approach to help them identify and control the underlying or root causes of all incidents in order to prevent their recurrence.
- How to Conduct an Incident Investigation (National Safety Council)  
<http://www.nsc.org/JSEWorkplaceDocuments/How-To-Conduct-An-Incident-Investigation.pdf>  
The document describes steps in an incident investigation process, including what to document.

- Investigation of Accidents, Injuries and Illnesses Tool (Labor Occupational Health Program)  
[http://lohp.org/wp-content/uploads/2013/12/Tools\\_1\\_Investigation\\_of\\_Accidents-1030.pdf](http://lohp.org/wp-content/uploads/2013/12/Tools_1_Investigation_of_Accidents-1030.pdf)

An incident investigation form that helps identify root causes of accidents, injuries and illnesses, and to prevent similar events from happening in the future.

#### **E. Hazards are Controlled Effectively to Prevent Injuries**

- Insurance Loss Control Specialists (EMC Insurance)  
<http://www.emcins.com/losscontrol/industries/schools.aspx>

A resource list of loss control resources for schools including online trainings, safety talks, posters manuals and more.

- On-site Consultation Program (OSHA)  
<https://www.osha.gov/dcsp/smallbusiness/consult.html>

OSHA's On-site Consultation Program offers free and confidential safety and occupational health advice to small and medium-sized businesses in all states across the country, with priority given to high-hazard worksites. On-site Consultation services are separate from enforcement and do not result in penalties or citations. Consultants from state agencies or universities work with employers to identify workplace hazards, provide advice on compliance with OSHA standards, and assist in establishing injury and illness prevention programs.

## **2. Instructor Qualifications and Support**

### **A. Instructor Field Experience**

- ApprenticeshipUSA Toolkit: Build (U.S. Department of Labor)  
<https://www.dol.gov/apprenticeship/toolkit/models-build.htm>

The tools in this toolkit include an overview of partnership models and resources to build these partnerships.

- Appendix A: Work Process Schedule, Carpenter (U.S. Department of Labor)  
[https://www.doleta.gov/OA/pdf/APPENDIX\\_A\\_CARPENTER.pdf](https://www.doleta.gov/OA/pdf/APPENDIX_A_CARPENTER.pdf)

This U.S. Department of Labor carpentry apprenticeship schedule shows the range of skills needed for the carpentry trade. It is one type of resource programs can use update program requirements for instructor experience.

### **B. Training and Support to be Effective Instructors**

- Framework for 21st Century Learning (Partnership for 21st Century Learning)  
<http://www.p21.org/our-work/p21-framework>

P21's Framework for 21st Century Learning was developed with input from teachers, education experts, and business leaders to define and illustrate the skills and knowledge students need to succeed in work, life and citizenship, as well as the support systems necessary for 21st century learning outcomes.

- CTE Teacher Coaching and Support (CAROCP: The Association of Career and College Readiness Organizations)  
[http://www.rocpinspire.org/cte\\_teachers.asp](http://www.rocpinspire.org/cte_teachers.asp)  
 The CAROCP webpage highlights California career and college readiness organizations supports CTE teachers.
- High Quality CCTE Certification Program (Association for Skilled and Technical Sciences)  
<http://www.astsonline.org/AstsCcteCertifications.asp>  
 The Association for Skilled and Technical Sciences (ASTS) has developed a High Quality CCTE certification program to meet the need for recognizing life-long achievements of educators in schools, colleges and institutions, including Industry trainers. This certificate is unlike most academic certificates in that it recognizes and rewards individuals for industry related experiences during their career path. These workshops, industry certificates, industry awards, teaching awards, and Trades Association recognitions and awards are not generally recognized by educational institutions.
- Association for Career and Technical Education (ACTE)  
<http://www.acteonline.org/>  
 ACTE is the largest national education association dedicated to the advancement of education that prepares youth and adults for successful careers, with annual national and regional conferences.
- SkillsUSA  
<http://www.skillsusa.org/>  
 SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA's mission is to help its members become world-class workers, leaders and responsible American citizens. Serves more than 4000 schools and colleges across a wide range of occupations, including construction (131 occupational specialties/pathways). A Skills University is held every summer for students, with a separate track for instructors.
- Skill Assessment Blueprints for cabinetmaking, carpentry, electrical construction wiring (residential), masonry, plumbing, and welding (among many others not related to construction) can be found here:  
<http://www.workforcereadysystem.org/wp-content/uploads/2015/07/TechDraftingTeacherGuide.pdf>  
 The assessments were created by industry to ensure relevance to entry level skills, meet Perkins IV accountability requirements, and provide credentials to students who achieve industry defined scores.
- CTE Online (Center for the Advancement of Digital Resources in Education)  
<https://www.cteonline.org/>  
 CTE Online is a place for California Educators to explore and access teacher-created curriculum. It also has tools for users to create their own curriculum and collaborate in

groups.

- Continuing Professional Development Plan/Record (ASTS)  
<http://www.astsonline.org/documents/ApplicationForms/ASTSPROfessionalDevelopmentPlan.doc>

This document is a sample professional development plan/record that includes safety and health teaching skills. CTE Online is a place for California Educators to explore and access teacher-created curriculum. It also has tools for users to create their own curriculum and collaborate in groups.

### **C. Training and Staying Up to Date in Safety and Health**

- Outreach Training Program: OSHA 10 and OSHA 30 (OSHA)  
<https://www.osha.gov/dte/outreach/construction/index.html>

The Outreach Training Program provides basic safety and health information and education — it does not fulfill an employer’s requirement to provide training under specific OSHA standards. The OSHA Outreach Training Program for the Construction Industry provides training for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry.

- Outreach Training Program: Construction Industry Procedures (OSHA)  
[https://www.osha.gov/dte/outreach/construction/construction\\_procedures.pdf](https://www.osha.gov/dte/outreach/construction/construction_procedures.pdf)

A document that contains information on OSHA’S Outreach Training Program’s Construction Industry Procedures for OSHA 10-Hour and OSHA 30-Hour.

- Training Institute Education Center Locations (OSHA)  
<https://www.osha.gov/dte/edcenters/map.html>

A webpage with a map of OSHA’s OTI Education Center Locations.

- How to Become an Authorized Trainer (OSHA)  
<https://www.osha.gov/dte/outreach/authorized.html>

An OSHA webpage with information on how to become an OSHA authorized trainer (OSHA Course #500/510 series) in construction and general industry.

### **D. Support for Engaging Industry Advisory Committees (IACs)**

- Program Advisory Committee Handbook (Minnesota State Colleges & Universities)  
[http://www.mnwest.edu/images/faculty-resources/prog\\_advisory\\_handbook.pdf](http://www.mnwest.edu/images/faculty-resources/prog_advisory_handbook.pdf)

The Minnesota State Colleges & Universities’ Program Advisory Committee Handbook provides useful guidance for setting up effective IACs.

- [Building Advisory Boards that Matter \(ACTE\)](https://iweb.acteonline.org/Purchase/ProductDetail.aspx?Product_code=BADVISORY)  
[https://iweb.acteonline.org/Purchase/ProductDetail.aspx?Product\\_code=BADVISORY](https://iweb.acteonline.org/Purchase/ProductDetail.aspx?Product_code=BADVISORY)

An ACTE publication that will help you develop an effective board for your CTE program. In this book, you will also learn how to effectively engage key stakeholders,

whether they are members of business and industry organizations, community groups, certification or postsecondary programs, parents, students or general citizens.

### 3. Effective Teaching and Learning

#### A. Curriculum Content is Up-to-Date and Reflects Core Safety and Health Competencies

- Training Requirements in OSHA Standards (OSHA)

<https://www.osha.gov/Publications/osha2254.pdf>

The publication provides information on what industry work processes require OSHA specific training to ensure that those OSHA training requirements are met, before those processes are carried out.

#### B. OSHA 10 Training is Included, Well-integrated, and Taught Effectively

- Outreach Training Program: OSHA 10 and OSHA 30 (OSHA)

<https://www.osha.gov/dte/outreach/construction/index.html>

The Outreach Training Program provides basic safety and health information and education — it does not fulfill an employer’s requirement to provide training under specific OSHA standards. The OSHA Outreach Training Program for the Construction Industry provides training for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry.

- How to Become an Authorized Trainer (OSHA)

<https://www.osha.gov/dte/outreach/authorized.html>

An OSHA webpage with information on how to become an OSHA authorized trainer in construction (OSHA Course #500/510 series) and the general industry.

#### C. Safety and Health Skills are Taught Effectively and Classroom Reflects Safety & Health Management System

- Job Hazard Analysis Brochure (OSHA)

<https://www.osha.gov/Publications/osha3071.pdf>

The OSHA brochure explains what a job hazard analysis is and offers guidelines to help you conduct your own step-by-step analysis.

- Tools and Techniques for Job Hazard Analysis (Oregon OSHA)

<http://osha.oregon.gov/OSHAedu/job-hazard-analysis/1-121w.pdf>

The Oregon OSHA document introduces a new approach to conducting JHAs in a way that will help design job procedures that are as safe as possible. It also highlights ways to write effective safe job procedures that may be used as lesson plans for on-the-job training.

- Hierarchy of Controls (NIOSH)  
<https://www.cdc.gov/niosh/topics/hierarchy/>  
The NIOSH webpage provides a description of the hierarchy of controls.
- Online Hazard Identification Training Tool (OSHA)  
<https://www.osha.gov/hazfinder/index.html>  
An interactive, online, game-based training tool for small business owners, workers and others interested in learning the core concepts of hazard identification.

## General Resources

- About the Safety Checklist for Construction (CPWR)  
[http://www.cpwr.com/sites/default/files/publications/About\\_SafetyChecklist\\_English\\_web.pdf](http://www.cpwr.com/sites/default/files/publications/About_SafetyChecklist_English_web.pdf)  
This document provides background for the Safety Checklist for Construction, including who should complete the checklist and the purpose of the checklist.
- Construction Safety Checklist (CPWR)  
[http://www.cpwr.com/sites/default/files/publications/ConstructionSafetyChecklist\\_English.pdf](http://www.cpwr.com/sites/default/files/publications/ConstructionSafetyChecklist_English.pdf)  
This checklist is a tool that can be used to find and record common construction hazards.
- Hazard Assessment Checklist (Cal/OSHA)  
<http://www.dir.ca.gov/dosh/etools/09-031/hazassesscheck.pdf>  
This checklist can be used to identify and evaluate hazards in your workplace. This checklist covers a wide variety of workplace safety and health hazards.
- Foundations for Safety Leadership (FSL) Training Module (CPWR)  
<http://www.cpwr.com/foundations-safety-leadership-fsl>  
This webpage provides information on and downloads to the Foundations for Safety Leadership (FSL) training module, which is now an official elective in the OSHA 30-Hour training course.
- Resource for Development and Delivery of Training to Workers (OSHA)  
<https://www.osha.gov/Publications/osha3824.pdf>  
This OSHA guide outlines information on developing and delivering effective training to workers.
- Best Practices for Development, Delivery, and Evaluation of Susan Harwood Training Grants (OSHA)

<https://www.osha.gov/dte/sharwood/best-practices-booklet.pdf>

This document can assist Susan Harwood grantees in developing, delivering, and evaluating training for workers and employers.

## Other Teaching Resources Identified by Instructors

- CareerSafe

<http://www.careersafeonline.com/index.php/component/content/article/9-courses/36-osha-10-hour-construction-industry>

This OSHA-approved online training program for Construction Industry provides training for entry level workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in Construction industry. The program also provides information regarding workers' rights, employer responsibilities, and how to file a complaint.

Students who successfully complete the CareerSafe OSHA 10-Hour Construction Industry course receive an OSHA 10-Hour Construction Industry wallet card from the OSHA Training Institute (OTI). The cost for the CareerSafe OSHA 10-Hour Construction Industry Training is \$25 per student. This includes the \$18 training course and the \$7 mandatory OSHA processing fees.

- National Center for Construction Education and Research (NCCER) Core Curriculum

<http://nccer.pearsonconstructionbooks.com/store/browse.aspx?st=69098>

The NCCER Core Curriculum is a prerequisite to all other Level 1 craft curriculum. Its modules cover topics such as Basic Safety, Communication Skills and Introduction to Construction Drawings. Completing this curriculum gives the trainee the basic skills needed to continue education in any craft area he or she chooses. The curriculum complies with OSHA 10-Hour Construction Industry Outreach Training Regulations when taught by an OSHA Authorized Construction Outreach Safety Instructor.

- AFL-CIO Multi-Craft Core Curriculum

<https://nabtu.org/multi-craft-core-curriculum/>

The Building Trades National Standing Committee on Apprenticeship and Training has identified courses in all building trades' apprenticeship programs that are offered in common without regard to a particular craft, a common core curriculum. The courses are: general orientation to apprenticeship; cardiopulmonary resuscitation (CPR) and first aid; the OSHA 10 hour certification course; blueprint reading; applied mathematics for construction applications; history of the construction industry and the heritage of the American worker. The general orientation course includes construction industry structure and the construction process; orientation to apprenticeship itself; tools of the various trades, and industry standards of work responsibility. The total core includes 120 hours of classroom training.

- Youth @ Work: Talking Safety



<http://www.cdc.gov/niosh/talkingsafety/>

Youth@Work: Talking Safety is a foundation curriculum in occupational safety and health developed with OSHA and NIOSH funding by the Labor Occupational Health Program at U. C Berkeley, Education Development Center, Inc. , and includes activities developed by the Occupational Health Surveillance Program of the Massachusetts Department of Public Health. This curriculum is meant to be used in a classroom or other group training setting, and has been customized for each state, Puerto Rico, Washington D. C., and the U. S. Virgin Islands to address their specific child labor rules and regulations. The entire booklet includes instructions for teachers and a step-by-step guide for presenting the material.

- WISC Online

<http://www.wisc-online.com/Category.aspx?ID=40>

(Learning Objects in Technical – Safety) Wisc-Online is a digital library of Web-based learning resources called “learning objects.” The digital library of objects has been developed primarily by faculty from the Wisconsin Technical College System (WTCS) and produced by multimedia technicians who create the learning objects.

- OSHA's 11

<https://osha.washington.edu/pages/yw-curriculum-oshas-11-0>

This curriculum was developed by the Labor Occupational Health Program at U. C. Berkeley, the Education Development Center Inc. , and the OSHA Education Center at the University of Washington to teach OSHA 10-hour general industry course content in a more participatory and youth-oriented way. Contains interactive lessons and activities on foundational skills including hazard identification and control and problem-solving on the job, as well as topic-specific lessons on electrical safety, chemical hazards, bloodborne pathogens, ergonomics and workplace violence.

- Young Worker Safety and Health Training for the Construction Industry

<http://www.youngworker.gatech.edu/online-training-and-training-materials>

These materials—a 1-hour lesson plan, PowerPoint presentation, and short training videos—are designed to provide construction-specific content after students have participated in foundational OSH training activities, based in large part on the Youth@Work--Talking Safety curriculum activities.

- Basics of Occupational Safety 1st Edition by David L. Goetsch, University of West Florida and Okaloosa-Walton, 2009. Provides an up-to-date, practical teaching resource that focuses on the basic safety-related needs of people in the workplace. It is intended for use in universities, colleges, community colleges, and corporate training settings that offer programs, courses, workshops, and seminars in occupational safety and health.

# Appendix : Core Occupational Safety and Health Competencies

Review of industry and safety and health education standards and consultation with experts in the field identified the following general Core Occupational Safety and Health Competencies. Competencies that align with OSHA 10/30 objectives are notes with an asterisk.

**Curriculum is designed so that by the end of training, students achieve the following OSH competencies. Students will be able to:**

- Identify and describe major types of hazards in construction.\*  
(\* required under OSHA 10/30; others are elective choices)
  - Focus four [fall, caught-in or between, struck-by, electrocution]\*
  - Health hazards\* [noise, silica or any other construction health hazard]
  - Chemical hazards (hazard communication standard)
  - Stairways and ladders\*(only OSHA 30)
  - Tools—hand and power
  - Scaffolds
  - Materials handling, storage, use and disposal (lifting, equip, rigging, hazmat storage, disposal)
  - Ergonomics
- Demonstrate an understanding of how employers should set up the work environment and tasks to limit exposure to hazards – hierarchy of controls/ engineering controls/prevention by design.
- Demonstrate ability to protect self and others from the hazards listed above.\*
- Conduct a JOB HAZARD ANALYSIS for specific tasks (see list above), which includes:\*
  - Identify hazards.

- Describe potential impact of these hazards on worker health and safety: acute injury, cumulative trauma, and short and long term health effects .
  - Describe ways to control the hazards, focused on the hierarchy of controls.
  - Recognize employer requirements to protect workers from the hazards listed above.
- Explain worker rights and employer responsibilities under OSHA.\*
  - Explain the impact of injuries and why OSH programs are needed on every job (human suffering of employee, family, co-workers); saves money (productivity, property loss, insurance rates); creates better place to work.
  - Demonstrate/express attitudes that value safety, including taking the impact of injury seriously, believing work-related injury and illness can be prevented, and demonstrating a commitment to safe practices at all times (including not taking short cuts).
  - Explain why OSHA is important to workers (including history of workplace conditions, leading to why OSHA exists).\*
  - Discuss the use of OSHA standards and demonstrate ability to find relevant standards and other OSH information, and explain what they mean.\*
  - Demonstrate effective communication skills with co-workers and supervisors/instructors.
  - Demonstrate/express confidence in speaking up and advocating for oneself.
  - Choose and demonstrate specific strategies for solving on-the-job problems, including identifying the problem, resources, and potential solutions, as well as integration of communication skills.
  - Describe potential emergencies at work, appropriate emergency preparedness and response procedures, and employer responsibilities regarding emergency preparedness and employee training.
  - Explain/demonstrate what to do in case of injury or harm to themselves or other students, faculty, staff (training in first aid, procedures for contacting first responders, who to report the incident to, etc.).

\* = OSHA 10/30 objectives