

2009 Mississippi Curriculum Framework

Postsecondary Occupational Safety and Health Technology

Program CIP: 15.0701

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Standards in this document are based on information from the following organizations:

Council on Certification of Health, Environmental and Safety Technologists

Council on Certification of Health, Environmental and Safety Technologists (CCHEST), Occupational Health and Safety Technologist (OHST)/ Certified Loss Control Specialist (CLCS) Examination Blueprint, Domains, (2008). Used with permission. Retrieved November 7, 2008, from www.cchest.org

Related Academic Standards

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21st Century Skills

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Preface

Postsecondary Occupational Safety and Health Technology Research Synopsis

Articles, books, Web sites, and other materials listed at the end of each course were considered during the revision process. These references are suggested for use by instructors and students during the study of the topics outlined.

The community college instructor worked closely with industry and the instructional design specialist in the development of the program and the curriculum framework. The program was developed in response to the number of job openings related to safety that are available and projected for the future in the area near the college in a variety of industries. The courses were developed based on similar programs in numerous other states.

Curriculum

The following national standards were referenced in each course of the curriculum.

- CTB/McGraw-Hill LLC *Tests of Adult Basic Education, Forms 7 and 8* Academic Standards
- *21st Century Skills*
- *Council on Certification of Health, Environmental and Safety Technologists (CCHEST), Occupational Health and Safety Technologist (OHST)/ Certified Loss Control Specialist (CLCS) Examination Blueprint*

Industry and instructor comments, along with current research, were considered by the curriculum development team during the development process. Specific work with the curriculum included:

- A course outline was developed for a two-year program.
- Competencies and objectives were developed based on certification guides and industry needs and were written to a variety of levels of Bloom's taxonomy.
- References were suggested for each course.
- A Recommended Tools and Equipment list was developed.

Assessment

Students will be assessed using the *Postsecondary Occupational Safety and Health Technology MS-CPAS2 Test*.

Professional Learning

It is suggested that instructors participate in professional learning related to the following concepts.

- How to use the program Blackboard site
- Differentiated instruction – To learn more about differentiated instruction, please go to http://www.paec.org/teacher2teacher/additional_subjects.html and click on Differentiated Instruction. Work through this online course and review the additional resources.

Articulation

No articulated credit will be offered upon implementation of this curriculum by the college.

Foreword

As the world economy continues to evolve, businesses and industries must adopt new practices and processes in order to survive. Quality and cost control, work teams and participatory management, and an infusion of technology are transforming the way people work and do business. Employees are now expected to read, write, and communicate effectively; think creatively, solve problems, and make decisions; and interact with each other and the technologies in the workplace. Vocational-technical programs must also adopt these practices in order to provide graduates who can enter and advance in the changing work world.

The curriculum framework in this document reflects these changes in the workplace and a number of other factors that impact on local vocational-technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and vocational skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U.S. Department of Education and Labor, provide vocational educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Referenced throughout the courses of the curriculum are the 21st Century Skills, which were developed by the Partnership for 21st Century Skills, a group of business and education organizations concerned about the gap between the knowledge and skills learned in school and those needed in communities and the workplace. A portion of the 21st Century Skills addresses learning skills needed in the 21st century, including information and communication skills, thinking and problem-solving skills, and interpersonal and self-directional skills. The need for these types of skills has been recognized for some time and the 21st Century Skills are adapted in part from the 1991 report from the U.S. Secretary of Labor's Commission on Achieving Necessary Skills (SCANS). Another important aspect of learning and working in the 21st century involves technology skills, and the International Society for Technology in Education, developers of the National Educational Technology Standards (NETS), were strategic partners in the Partnership for 21st Century Skills.

Each postsecondary program of instruction consists of a program description and a suggested sequence of courses which focus on the development of occupational competencies. Each vocational-technical course in this sequence has been written using a common format which includes the following components:

- Course Name – A common name that will be used by all community/junior colleges in reporting students.
- Course Abbreviation – A common abbreviation that will be used by all community/junior colleges in reporting students.
- Classification – Courses may be classified as:
 - Vocational-technical core – A required vocational-technical course for all students.

- Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs.
 - Vocational-technical elective – An elective vocational-technical course.
 - Related academic course – An academic course which provides academic skills and knowledge directly related to the program area.
 - Academic core – An academic course which is required as part of the requirements for an Associate degree.
- Description – A short narrative which includes the major purpose(s) of the course and the recommended number of hours of lecture and laboratory activities to be conducted each week during a regular semester.
- Prerequisites – NONE try to stay with sequence
- Corequisites – A listing of courses that may be taken while enrolled in the course.
- Competencies and Suggested Objectives – A listing of the competencies (major concepts and performances) and of the suggested student objectives that will enable students to demonstrate mastery of these competencies.

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:

- The content of the courses in this document reflects approximately 75 percent of the time allocated to each course. The remaining 25 percent of each course should be developed at the local district level and may reflect:
 - Additional competencies and objectives within the course related to topics not found in the State framework, including activities related to specific needs of industries in the community college district.
 - Activities which develop a higher level of mastery on the existing competencies and suggested objectives.
 - Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed/revised.
 - Activities which implement components of the Mississippi Tech Prep initiative, including integration of academic and vocational-technical skills and coursework, school-to-work transition activities, and articulation of secondary and postsecondary vocational-technical programs.
 - Individualized learning activities, including worksite learning activities, to better prepare individuals in the courses for their chosen occupational area.
- Sequencing of the course within a program is left to the discretion of the local district. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors.

- Programs that offer an Associate of Applied Science degree must include a minimum 15 semester credit hour academic core. Specific courses to be taken within this core are to be determined by the local district. Minimum academic core courses are as follows:
 - 3 semester credit hours Math/Science Elective
 - 3 semester credit hours Written Communications Elective
 - 3 semester credit hours Oral Communications Elective
 - 3 semester credit hours Humanities/Fine Arts Elective
 - 3 semester credit hours Social/Behavioral Science Elective

It is recommended that courses in the academic core be spaced out over the entire length of the program, so that students complete some academic and vocational-technical courses each semester. Each community/junior college has the discretion to select the actual courses that are required to meet this academic core requirement.

- Technical elective courses have been included to allow community colleges and students to customize programs to meet the needs of industries and employers in their area.

In order to provide flexibility within the districts, individual courses within a framework may be customized by:

- Adding new competencies and suggested objectives.
- Revising or extending the suggested objectives for individual competencies.
- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the State Board for Community and Junior Colleges [SBCJC] of the change).

In addition, the curriculum framework as a whole may be customized by:

- Resequencing courses within the suggested course sequence.
- Developing and adding a new course which meets specific needs of industries and other clients in the community or junior college district (with SBCJC approval).
- Utilizing the technical elective options in many of the curricula to customize programs.

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Program Description

Occupational Safety and Health Technicians, (OSHT) also known as safety and health practitioners or occupational health and safety inspectors, help to prevent harm to workers, property, the environment, and the general public. They promote occupational health and safety within organizations by advising management on how to increase worker productivity in the 21st Century Workforce through raising morale and reducing absenteeism, turnover, and equipment downtime while securing savings on insurance premiums, worker's compensation benefits, and litigation expenses. In addition, OSHT assist employers in complying with Occupational Safety and Health Act (OSHA) regulations and standards. Employment opportunities are available at all levels of government agencies and with public and private businesses.

Upon completion of the two-year program the student will be awarded the Associate of Applied Science Degree.

Industry standards referenced are from the *Council on Certification of Health, Environmental and Safety Technologists (CCHEST)*, *Occupational Health and Safety Technologist (OHST)/ Certified Loss Control Specialist (CLCS) Examination Blueprint*.

FIRST YEAR

SECOND YEAR

* Students who lack entry level skills in math, English, science, etc. will be provided related studies.

Occupational Safety and Health Technology Courses

Course Name: Introduction to Safety and Health

Course Abbreviation: HST 1113

Classification: Vocational-Technical Core

Description: This course is an introduction to general safety and health concepts and terms, historical development, program concepts and terms, legislative overview, worker's compensation, and problem identification. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|---|
| 1. | Explore career opportunities in the occupational safety and health profession. <ol style="list-style-type: none"> Assess the occupational safety and health profession (OSHP) using resources such as the text and computers. Analyze the employment outlook for the OSHP. Evaluate the benefits of becoming an occupational safety health professional and the benefits of certification. Discuss the need for the OSHP to continue professional development to keep current on relevant trends and information within the safety/health industry. Compile a brief description of OSHP certifications available to a professional within the field. |
| 2. | Understand the historical perspectives of the OSHP. <ol style="list-style-type: none"> Analyze the philosophy and social change of the industrial revolution, U.S safety and health movement, accomplishments, and current issues with the field. Summarize the progressive movements of the OSHP to date. Evaluate the current issues and problems within the OSHP. |
| 3. | Discuss the scope of the safety health and environmental professional position as identified by the American Society of Safety Engineer's (ASSE) job description. <ol style="list-style-type: none"> Identify/appraisal of incident/loss producing conditions and practices and evaluation of the severity of the problem. Discuss the development of incident prevention and loss control methods, procedures, and programs. Communicate incident and loss control information to those directly involved. Measure and evaluate the effectiveness of the incident and loss control system and the needed modifications to achieve optional results. |
| 4. | Identify the safety culture/ management system in the 21st Century work place. <ol style="list-style-type: none"> Explore the benefits and problems within the industrial environment. Understand the basic roles of management and safety professional in implementing an effective safety culture/management system. |
| 5. | Investigate the Occupational Safety and Health Act 1970 and the Mine Safety and Health Act of 1977. <ol style="list-style-type: none"> Summarize the major provisions of both acts of legislation. |

| | |
|----|---|
| b. | Explore the federal agencies that administer and enforce both major acts of legislation. |
| c. | Evaluate a work place scenario citation before it becomes a final agency action. |
| 6. | Understand the basics of a worker's compensation program. |
| a. | Compile the objectives of a worker's compensation program. |
| b. | Define the benefits of a worker's compensation program. |
| c. | Demonstrate the best practices of administration and management of a worker's compensation program. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS1 Global Awareness
- CS2 Financial, Economic, and Business Literacy
- CS3 Civic Literacy
- CS4 Information and Communication Skills
- CS5 Thinking and Problem-Solving Skills
- CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

The American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/>

Board of Certified Safety Professionals. (n.d.). Retrieved November 5, 2008, from <http://www.bcsp.org/>

Career guide to the safety profession (3rd ed.). (2007). Des Plaines, IL: The American Society of Safety Engineers.

EHS Today: The Magazine for Environment, Health, and Safety Leaders. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>

Hagan, P. F., Montgomery, J. F., & O'Reilly, J. T. (2009). *Accident prevention manual for business and industry: Administration and programs* (13th ed.). Itasca, IL: National Safety Council.

Mine Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Course Name: Governmental Regulatory Agencies

Course Abbreviation: HST 1213

Classification: Vocational-Technical Core

Description: This course focuses on Federal government organization, regulatory process, regulations and standards as established by the Occupational Safety and Health Administration, Minerals Management Services, United States Coast Guard, and Environmental Protection Agency. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives |
|--|
| 1. Define actions found within the <i>Federal Register</i> <ul style="list-style-type: none">a. Examine the following actions found within the <i>Federal Register</i>: semiannual agenda, advance notice of proposed rule making, proposed rule, and extension of the comment period, comments, notice of public hearing, correction, interim rule/emergency rule, termination of proceedings, and final rule.b. Discuss the relevance of the defined actions listed within the <i>Federal Register</i>. |
| 2. Evaluate the proposed rule changes of governmental regulatory agencies that effect business and industry <ul style="list-style-type: none">a. Predict the effect of a proposed rule change on business and industry.b. Summarize the effects of a proposed rule change after reviewing the existing rule section.c. Construct major proposed rule change using predictions and summations as seen in the 21st Century Work Place. |
| 3. Using the current Code of Federal Regulations (CFR), identify and code safety violations common in the 21st Century Work Place. <ul style="list-style-type: none">a. List several safety violations that are commonly found.b. Codify the safety violations.c. Discuss the many different categories of safety violations listed and codified. |
| 4. Evaluate the federal executive branch of government's impact on the regulatory process. <ul style="list-style-type: none">a. Analyze the presidents' impact on the regulatory process from President Jimmy Carter to present.b. Discuss the federal executive orders on the regulatory process.c. Summarize the effects of each presidential policy on the regulatory process. |
| 5. Discuss the relevance of a semiannual agenda. <ul style="list-style-type: none">a. Locate a semiannual agenda.b. Summarize a semiannual agenda. |
| 6. Discuss the relevance of the Administrative Procedure Act in the title V of the U.S. Code. <ul style="list-style-type: none">a. Locate the Administrative Procedure Act.b. Summarize the Administrative Procedure Act. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
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Board of Certified Safety Professionals. (n.d.). Retrieved November 5, 2008, from
<http://www.bcspp.org/>

EHS Today: The Magazine for Environment, Health, and Safety Leaders. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>

Mine Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Course Name: Supervisor Safety

Course Abbreviation: HST 1313

Classification: Vocational-Technical Core

Description: This course examines the roles and responsibilities of the first-line supervisor pertaining to safety and health/accident prevention and loss control. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|---|
| 1. | Explain the role of the first-line supervisor in implementing an effective company safety program. <ol style="list-style-type: none"> Compile a list of supervisor's duties. Analyze the duties of a first-line supervisor in implementing safety duties and responsibilities. Assess the duties of a first-line supervisor via role playing. Summarize the roles of an effective first line supervisor in implementing an effective safety program. |
| 2. | Identify potential hazards workers may encounter, how to prevent them, and/or what safeguards and personal protective equipment are needed, how to use them, and how to enforce their use. <ol style="list-style-type: none"> Compile a list of potential hazards. Apply prevention techniques. Analyze the effectiveness of the prevention techniques. Evaluate effectiveness of the prevention techniques. Summarize the outcome of the evaluation of the prevention techniques. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)

- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
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- EHS Today: The Magazine for Environment, Health, and Safety Leaders.* (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>
- Finch, W. H. (2008). *Pocket digest of OSHA construction standards*. Chicago, IL: CCH.
- Finch, W. H. (2008). *Pocket digest of OSHA standards*. Chicago, IL: CCH.
- Laing, P. M. (2002). *Supervisors' safety manual* (9th ed.). Itasca, IL: National Safety Council.
- Mine Safety and Health Administration.* (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>
- Occupational Safety and Health Administration.* (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Teeple, J. (2008). *What every supervisor must know about OSHA—construction*. Chicago, IL: CCH.

Teeple, J. (2008). *What every supervisor must know about OSHA—federal*. Chicago, IL: CCH.

Teeple, J. (2008). *What every supervisor must know about OSHA—general industry*. Chicago, IL: CCH.

Course Name: Safety and Health Program Development

Course Abbreviation: HST 1413

Classification: Vocational-Technical Core

Description: This course focuses on developing the essential components of a company safety and health program. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--|
| 1. | Research the major components of a company safety and health program. <ol style="list-style-type: none"> Distinguish general safety, company safety, and contractor safety. Discuss loss prevention and accident/incident reporting. Identify biological agents/pathogens and carcinogens. Research procedures related to chemical storage, confined spaces, electrical safety, ergonomics, fire protection, first aid, hazardous waste, hearing conservation, hot work, housekeeping, laboratory safety, lead, lockout/tagout, medical surveillance, process safety management, and respiratory protection. Discuss hazard communications/right-to-know program. |
| 2. | Organize and write safety and health manuals. <ol style="list-style-type: none"> Organize and write a company safety and health manual. Organize and write an employee safety manual. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
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- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
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- L3 Paragraph Development (topic sentence, supporting sentence, sequence)

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- Mine Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>
- Nwaelele, O. D. (1997). *Your company safety and health manual: Programs, policies, and procedures for preventing accidents and injuries in the workplace*. Lanham, MD: Government Institutes.
- Occupational Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>
- Professional Safety: Journal of the American Society of Safety Engineers*. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>
- Written safety plans manual*. (n.d.). Neenah, WI: J. J. Keller & Associates.

Course Name: Safety and Health Program Management

Course Abbreviation: HST 1423

Classification: Vocational-Technical Core

Description: This course focuses on the application of proven management principles and techniques to the management of safety and health and loss control programs. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|---|
| 1. Explain the key elements of a safety and health management program. | <ul style="list-style-type: none"> a. Discuss responsibility and authority for safety and health management programs. b. Discuss general programs and policies and specific programs required by Occupational Safety and Health Administration (OSHA). c. Describe procedures related to personal protective equipment and preventive maintenance. d. Explain the importance of safety and health committees. e. Discuss methods for setting priorities, training and education, and progressive discipline. |
| 2. Explain the importance of planning, developing, staffing, budgeting, and managing. | <ul style="list-style-type: none"> a. Identify procedures and resources available for planning, developing, staffing, budgeting, and managing. b. Describe medical case management and return to work. c. Discuss job hazard analysis. |
| 3. Explain the difference between reactive safety management and pro-active safety management. | <ul style="list-style-type: none"> a. Distinguish between reactive and pro-active safety management. b. Discuss accident investigation and injury and illness records and reports. |
| 4. Explain methods used in selling safety and health to management. | <ul style="list-style-type: none"> a. Discuss why it is important to sell safety and health to management. b. Describe methods to sell safety and health to management. |
| 5. Explain the process necessary to prepare and respond to an OSHA inspection. | <ul style="list-style-type: none"> a. Discuss the role of OSHA. b. Discuss the OSHA visit action plan. c. Discuss the OSHA visit and citations. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

OHS1 Work Assessment
 OHS2 Hazard and Loss Prevention
 OHS3 Verification

OHS4 Disaster Planning and Emergency Response
OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS1 Global Awareness
- CS2 Financial, Economic, and Business Literacy
- CS3 Civic Literacy
- CS4 Information and Communication Skills
- CS5 Thinking and Problem-Solving Skills
- CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

The American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/>

Board of Certified Safety Professionals. (n.d.). Retrieved November 5, 2008, from <http://www.bcspp.org/>

EHS Today: The Magazine for Environment, Health, and Safety Leaders. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>

Kaletsky, R. (2006). *OSHA inspections: preparation and response*. Itasca, IL: National Safety Council.

Mine Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>

Moran, M. M. (2008). *The OSHA answer book* (9th ed.). Orange Park, FL: Safety Certified.Com, Inc.

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Course Name: Loss Control

Course Abbreviation: HST 1513

Classification: Vocational-Technical Core

Description: This course examines incident/accident reporting, investigation, cost factors, and remediation factors. (3 sch: 3 hrs. Lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|--|
| 1. Discuss aspects of safety philosophy. | <ul style="list-style-type: none"> a. Discuss the history of safety philosophy. b. Distinguish accident versus incident, and identify key elements of an accident. c. Explain the importance of publicizing safety efforts. |
| 2. Discuss investigating and reporting. | <ul style="list-style-type: none"> a. Explain the scope of a professional safety position. b. Explain the objectives and components of a hazard control program. c. Use the forms used by a safety professional to comply with OSHA. |
| 3. Explain important aspects of a Supervisor's Safety Training Program. | <ul style="list-style-type: none"> a. Discuss why safety is important. b. Explain what management expects from supervisors. c. Describe supervisor's responsibility for loss control. d. Explain a typical accident investigation procedure. e. List nine key axioms of safety. |
| 4. Explain aspects related to human relations. | <ul style="list-style-type: none"> a. Discuss social needs. b. Discuss safety incentive programs. c. Discuss supervisor as a leader. d. Discuss accident-prone and safety-prone persons. e. Identify basic aspects of human behavior that affect safety. |
| 5. Discuss Job Safety Analysis (JSA) and Job Instructional Training (JIT) methods of training. | <ul style="list-style-type: none"> a. Discuss how JSA and JIT can be used together. b. Discuss methods of organizing a training program. |
| 6. Discuss various aspects of loss control. | <ul style="list-style-type: none"> a. Discuss aspects of loss control and how they relate to safety. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

OHS1 Work Assessment
 OHS2 Hazard and Loss Prevention
 OHS3 Verification

- OHS4 Disaster Planning and Emergency Response
OHS5 Professional Responsibility

Related Academic Standards

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- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
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Board of Certified Safety Professionals. (n.d.). Retrieved November 5, 2008, from <http://www.bcspp.org/>

EHS Today: The Magazine for Environment, Health, and Safety Leaders. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>

Hagan, P. F., Montgomery, J. F., & O'Reilly, J. T. (2009). *Accident prevention manual for business and industry: Administration and programs* (13th ed.). Itasca, IL: National Safety Council.

Lack, R. W. (2001). *The dictionary of terms used in the safety profession* (4th ed.). Des Plaines, IL: The American Society of Safety Engineers.

Mine Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Course Name: OSHA I

Course Abbreviation: HST 2223

Classification: Vocational-Technical Core

Description: This course is an investigation of general industry safety and health standards as required by the Occupational Safety and Health Act (OSHA). (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives |
|---|
| <ol style="list-style-type: none"> 1. Describe the Occupational Safety and Health Act as it applies to 29 CFR 1910. <ol style="list-style-type: none"> a. Locate and apply OSHA safety and health standards, policies and procedures as applied to 29 CFR 1910. b. Utilize OSHA standards and regulations to supplement an on-going safety and health program. c. Identify common violations of OSHA standards and propose abatement actions as applied to 29 CFR 1910. d. Describe appropriate abatement procedures for selected safety and health hazards. e. Conduct internal training on OSHA regulations as applied to 29 CFR 1910. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS1 Global Awareness
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- CS3 Civic Literacy
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SUGGESTED REFERENCES

- The American Society of Safety Engineers*. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/>
- Board of Certified Safety Professionals*. (n.d.). Retrieved November 5, 2008, from <http://www.bcspp.org/>
- Compliance audits manual*. (n.d.). Neenah, WI: J. J. Keller & Associates.
- EHS Today: The Magazine for Environment, Health, and Safety Leaders*. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>
- Finch, W. H. (2008). *Pocket digest of OSHA construction standards*. Chicago, IL: CCH.
- Finch, W. H. (2008). *Pocket digest of OSHA standards*. Chicago, IL: CCH.
- Goetsch, D. L. (2008). *Occupational safety and health for technologists, engineers, and managers* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Kaletsky, R. (2006). *OSHA inspections: preparation and response*. Itasca, IL: National Safety Council.
- Lack, R. W. (2001). *The dictionary of terms used in the safety profession* (4th ed.). Des Plaines, IL: The American Society of Safety Engineers.
- Mine Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>
- Moran, M. M. (2008). *The OSHA answer book* (9th ed.). Orange Park, FL: Safety Certified.Com, Inc.

Nwaelele, O. D. (1997). *Your company safety and health manual: Programs, policies, and procedures for preventing accidents and injuries in the workplace*. Lanham, MD: Government Institutes.

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

OSHA compliance manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Right to know compliance manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Teeples, J. (2008). *What every supervisor must know about OSHA—construction*. Chicago, IL: CCH.

Teeples, J. (2008). *What every supervisor must know about OSHA—federal*. Chicago, IL: CCH.

Teeples, J. (2008). *What every supervisor must know about OSHA—general industry*. Chicago, IL: CCH.

Course Name: Industrial Safety

Course Abbreviation: HST 2323

Classification: Vocational-Technical Core

Description: This course explores the aspects of safety and health in an industrial setting with emphasis on safety philosophy, incident/accident causation, hazard identification, prevention, safeguarding equipment and people. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|---|
| 1. | Explain how occupational safety has evolved to where it is today through knowledge of its history and growth. <ol style="list-style-type: none"> Identify component aspects of the Occupational Safety and Health Act of 1970. Identify component aspects of the Mine Safety and Health Act of 1977. |
| 2. | Explain basic program activities necessary to maintain interest in safety. <ol style="list-style-type: none"> Identify and explain key concepts used in controlling office hazards. Describe plan-of-action considerations that should be addressed when planning for all types of emergencies. Organize a comprehensive hearing conservation program complying with OSHA guidelines. Organize a comprehensive respiratory protection program complying with OSHA guidelines. Identify types of personal protective equipment needed to supervise employees working under safe and healthful working conditions. Identify problem areas usually associated with personnel facilities and industrial sanitation. |
| 3. | Identify key occupational health services necessary to provide employees a healthful working environment. <ol style="list-style-type: none"> Explain federal legislation for working with disabilities. Explain specific employee responsibilities for affirmative actions programs. Discuss the legal side of non-occupational injuries. Identify program liability areas in respect to non-occupational injuries. Explain the component parts of a product safety management program. Discuss key elements of a vehicle safety program. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response

OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
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21st Century Skills

- CS1 Global Awareness
- CS2 Financial, Economic, and Business Literacy
- CS3 Civic Literacy
- CS4 Information and Communication Skills
- CS5 Thinking and Problem-Solving Skills
- CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

The American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/>

Board of Certified Safety Professionals. (n.d.). Retrieved November 5, 2008, from <http://www.bcsp.org/>

Career guide to the safety profession (3rd ed.). (2007). Des Plaines, IL: The American Society of Safety Engineers.

EHS Today: The Magazine for Environment, Health, and Safety Leaders. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>

Goetsch, D. L. (2008). *Occupational safety and health for technologists, engineers, and managers* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Lack, R. W. (2001). *The dictionary of terms used in the safety profession* (4th ed.). Des Plaines, IL: The American Society of Safety Engineers.

Laing, P. M. (2002). *Supervisors' safety manual* (9th ed.). Itasca, IL: National Safety Council.

Mine Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>

Moran, M. M. (2008). *The OSHA answer book* (9th ed.). Orange Park, FL: Safety Certified.Com, Inc.

Nwaelele, O. D. (1997). *Your company safety and health manual: Programs, policies, and procedures for preventing accidents and injuries in the workplace*. Lanham, MD: Government Institutes.

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

OSHA compliance manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Right to know compliance manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Teeples, J. (2008). *What every supervisor must know about OSHA—construction*. Chicago, IL: CCH.

Teeples, J. (2008). *What every supervisor must know about OSHA—federal*. Chicago, IL: CCH.

Teeples, J. (2008). *What every supervisor must know about OSHA—general industry*. Chicago, IL: CCH.

Written safety plans manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Course Name: Safety and Health Communications/Training

Course Abbreviation: HST 2433

Classification: Vocational-Technical Core

Description: This course will explore the communications/training aspects of safety and health program planning with emphasis on organizing and conducting company orientation programs, safety meetings, safety and health training and technical seminars. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives | |
|--|---|
| 1. | Demonstrate effective safety/health related meetings. <ol style="list-style-type: none"> Explain basic communication terminology and concepts. Organize and present safety meetings. Lead group discussions and/or small meetings or conferences. Explain the five P's and factors that contribute to the success of a safety meeting. |
| 2. | Use audiovisual equipment and supplies to prepare and present presentations. <ol style="list-style-type: none"> Discuss the use of visuals/equipment. Operate presentation applications to prepare presentations. Discuss conference room and training setups. Explain productions, marketability, and copyright. Deliver presentations with supporting materials. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)

- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
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21st Century Skills

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SUGGESTED REFERENCES

- The American Society of Safety Engineers*. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/>
- Board of Certified Safety Professionals*. (n.d.). Retrieved November 5, 2008, from <http://www.bccsp.org/>
- EHS Today: The Magazine for Environment, Health, and Safety Leaders*. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>
- Kaletsky, R. (2006). *OSHA inspections: preparation and response*. Itasca, IL: National Safety Council.
- Lack, R. W. (2001). *The dictionary of terms used in the safety profession* (4th ed.). Des Plaines, IL: The American Society of Safety Engineers.
- Mine Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>
- Occupational Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>
- Professional Safety: Journal of the American Society of Safety Engineers*. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>
- Supervisor's safety meetings handbook*. (1998). Old Saybrook, CT: Business and Legal Reports.

Course Name: Safety and Health Seminar

Course Abbreviation: HST 2123

Classification: Vocational-Technical Core

Description: This course analyzes a variety of selected safety and health industry problems under the supervision of the Occupational Safety and Health Technology faculty. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives |
|--|
| <ol style="list-style-type: none"> 1. Research and present a problem or topic of interest related to occupational safety and health. <ol style="list-style-type: none"> a. Prepare a prospectus for an applied safety and health problem or project. b. Discuss the use of questionnaires and surveys to collect information. c. Gather research data for an applied safety and health problem or project by conducting a survey and using journal articles and books. d. Prepare a written report, including a report outline, for an applied safety and health problem or project. e. Prepare and present an oral report (using presentation applications and supporting materials/equipment) for an applied safety and health problem or project. f. Prepare and submit a portfolio of projects, assignments, articles and other materials required during the program. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
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- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)

- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
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Board of Certified Safety Professionals. (n.d.). Retrieved November 5, 2008, from <http://www.bcsp.org/>

Cahill, L. B. (2001). *Environmental health and safety audits* (8th ed.). Lanham, MD: Government Institutes.

Career guide to the safety profession (3rd ed.). (2007). Des Plaines, IL: The American Society of Safety Engineers.

Compliance audits manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

EHS Today: The Magazine for Environment, Health, and Safety Leaders. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>

Finch, W. H. (2008). *Pocket digest of OSHA construction standards*. Chicago, IL: CCH.

Finch, W. H. (2008). *Pocket digest of OSHA standards*. Chicago, IL: CCH.

Goetsch, D. L. (2008). *Occupational safety and health for technologists, engineers, and managers* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

- Hagan, P. F., Montgomery, J. F., & O'Reilly, J. T. (2009). *Accident prevention manual for business and industry: Administration and programs* (13th ed.). Itasca, IL: National Safety Council.
- Kaletsky, R. (2006). *OSHA inspections: preparation and response*. Itasca, IL: National Safety Council.
- Lack, R. W. (2001). *The dictionary of terms used in the safety profession* (4th ed.). Des Plaines, IL: The American Society of Safety Engineers.
- Laing, P. M. (2002). *Supervisors' safety manual* (9th ed.). Itasca, IL: National Safety Council.
- Mine Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>
- Moran, M. M. (2008). *The OSHA answer book* (9th ed.). Orange Park, FL: Safety Certified.Com, Inc.
- Nwaelele, O. D. (1997). *Your company safety and health manual: Programs, policies, and procedures for preventing accidents and injuries in the workplace*. Lanham, MD: Government Institutes.
- Occupational Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>
- OSHA compliance manual*. (n.d.). Neenah, WI: J. J. Keller & Associates.
- Professional Safety: Journal of the American Society of Safety Engineers*. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>
- Right to know compliance manual*. (n.d.). Neenah, WI: J. J. Keller & Associates.
- Spencer, J. W. (1992). *Health and safety audits*. Lanham, MD: Government Institutes.
- Supervisor's safety meetings handbook*. (1998). Old Saybrook, CT: Business and Legal Reports.
- Teeples, J. (2008). *What every supervisor must know about OSHA—construction*. Chicago, IL: CCH.
- Teeples, J. (2008). *What every supervisor must know about OSHA—federal*. Chicago, IL: CCH.
- Teeples, J. (2008). *What every supervisor must know about OSHA—general industry*. Chicago, IL: CCH.
- Written safety plans manual*. (n.d.). Neenah, WI: J. J. Keller & Associates.

Course Name: OSHA II

Course Abbreviation: HST 2233

Classification: Vocational-Technical Core

Description: This course will focus on the construction industry safety and health standards as required by the Occupational Safety and Health Act (OSHA). (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives |
|--|
| <ol style="list-style-type: none"> 1. Describe the Occupational Safety and Health Act as it applied to 29 CFR 1926. <ol style="list-style-type: none"> a. Locate and apply Safety and Health Standards, Policies, and Procedures as applied to 29 CFR 1926. b. Utilize OSHA Standards and Regulations to supplement an on-going safety and health program. c. Identify common violations of OSHA Standards and Proposed Abatement Actions as applied to 29 CFR 1926. d. Describe appropriate abatement procedures for selected safety hazards. e. Conduct internal training on OSHA Regulations and applied to 29 CFR 1926. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

- S1 Vowel (short, long)
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21st Century Skills

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- CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

- The American Society of Safety Engineers*. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/>
- Board of Certified Safety Professionals*. (n.d.). Retrieved November 5, 2008, from <http://www.bcspp.org/>
- Compliance audits manual*. (n.d.). Neenah, WI: J. J. Keller & Associates.
- EHS Today: The Magazine for Environment, Health, and Safety Leaders*. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>
- Finch, W. H. (2008). *Pocket digest of OSHA construction standards*. Chicago, IL: CCH.
- Finch, W. H. (2008). *Pocket digest of OSHA standards*. Chicago, IL: CCH.
- Goetsch, D. L. (2008). *Occupational safety and health for technologists, engineers, and managers* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Kaletskey, R. (2006). *OSHA inspections: preparation and response*. Itasca, IL: National Safety Council.
- Lack, R. W. (2001). *The dictionary of terms used in the safety profession* (4th ed.). Des Plaines, IL: The American Society of Safety Engineers.
- Mine Safety and Health Administration*. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>
- Moran, M. M. (2008). *The OSHA answer book* (9th ed.). Orange Park, FL: Safety Certified.Com, Inc.

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

OSHA compliance manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Right to know compliance manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Teeples, J. (2008). *What every supervisor must know about OSHA—construction*. Chicago, IL: CCH.

Teeples, J. (2008). *What every supervisor must know about OSHA—federal*. Chicago, IL: CCH.

Teeples, J. (2008). *What every supervisor must know about OSHA—general industry*. Chicago, IL: CCH.

Course Name: Safety and Health Auditing

Course Abbreviation: HST 2523

Classification: Vocational-Technical Core

Description: This course will analyze compliance audits essential to safety and health. (3 sch: 3 hr. lecture)

Prerequisite: None

| Competencies and Suggested Objectives |
|---|
| <ol style="list-style-type: none"> 1. Discuss safety and health auditing. <ol style="list-style-type: none"> a. Understand the audit process. b. Create audit/inspection forms from regulations and standards. c. Conduct safety and health audits. d. Recommend corrective action for non-compliance with safety and health regulations and standards. e. Document the audit process. |

STANDARDS

Council on Certification of Health, Environmental and Safety Technologists

- OHS1 Work Assessment
- OHS2 Hazard and Loss Prevention
- OHS3 Verification
- OHS4 Disaster Planning and Emergency Response
- OHS5 Professional Responsibility

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)

S3 Structural Unit (root, suffix)

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21st Century Skills

- CS1 Global Awareness
- CS2 Financial, Economic, and Business Literacy
- CS3 Civic Literacy
- CS4 Information and Communication Skills
- CS5 Thinking and Problem-Solving Skills
- CS6 Interpersonal and Self-Directional Skills

SUGGESTED REFERENCES

The American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/>

Board of Certified Safety Professionals. (n.d.). Retrieved November 5, 2008, from <http://www.bcsp.org/>

Cahill, L. B. (2001). *Environmental health and safety audits* (8th ed.). Lanham, MD: Government Institutes.

Career guide to the safety profession (3rd ed.). (2007). Des Plaines, IL: The American Society of Safety Engineers.

Compliance audits manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

EHS Today: The Magazine for Environment, Health, and Safety Leaders. (n.d.). Retrieved November 5, 2008, from <http://ehstoday.com/>

Mine Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.msha.gov/>

Moran, M. M. (2008). *The OSHA answer book* (9th ed.). Orange Park, FL: Safety Certified.Com, Inc.

Nwaelele, O. D. (1997). *Your company safety and health manual: Programs, policies, and procedures for preventing accidents and injuries in the workplace*. Lanham, MD: Government Institutes.

Occupational Safety and Health Administration. (n.d.). Retrieved November 5, 2008, from <http://www.osha.gov/>

OSHA compliance manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Professional Safety: Journal of the American Society of Safety Engineers. (n.d.). Retrieved November 5, 2008, from <http://www.asse.org/professionalsafety/>

Written safety plans manual. (n.d.). Neenah, WI: J. J. Keller & Associates.

Recommended Tools and Equipment

CAPITALIZED ITEMS

1. Computers (1 per 2 students)
2. LCD Projector (1 per program)
3. Printer, networked (1 per program)

NON-CAPITALIZED ITEMS

1. Hardhat (1 per student)
2. Safety glasses (1 per student)
3. Safety signs and posters

RECOMMENDED INSTRUCTIONAL AIDS

It is recommended that instructors have access to the following items:

1. Computer
2. Printer
3. VCR/DVD Player

Appendix A: Council on Certification of Health, Environmental and Safety Technologists ¹

| | |
|------|--|
| OHS1 | Work Assessment |
| OHS2 | Hazard and Loss Prevention |
| OHS3 | Verification |
| OHS4 | Disaster Planning and Emergency Response |
| OHS5 | Professional Responsibility |

¹ Council on Certification of Health, Environmental and Safety Technologists. (n.d.) *OHST/CLCS Examination Blueprint* (2008). Retrieved on November 7, 2008 from <http://www.cchest.org/>

Appendix B: Related Academic Standards²

Reading

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

Mathematics Computation

- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations

Applied Mathematics

- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)

Language

- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

Spelling

- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

² CTB/McGraw-Hill LLC. (1994). *Tests of adult basic education, Forms 7 and 8*. Monterey, CA: Author.
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Appendix C: 21st Century Skills³

CS1 Global Awareness

- Using 21st century skills to understand and address global issues
- Learning from and working collaboratively with individuals representing diverse cultures, religions, and lifestyles in a spirit of mutual respect and open dialogue in personal, work, and community contexts
- Promoting the study of non-English language as a tool for understanding other nations and cultures

CS2 Financial, Economic, and Business Literacy

- Knowing how to make appropriate personal economic choices
- Understanding the role of the economy and the role of business in the economy
- Applying appropriate 21st century skills to function as a productive contributor within an organizational setting
- Integrating oneself within and adapting continually to our nation's evolving economic and business environment

CS3 Civic Literacy

- Being an informed citizen to participate effectively in government
- Exercising the rights and obligations of citizenship at local, state, national, and global levels
- Understanding the local and global implications of civic decisions
- Applying 21st century skills to make intelligent choices as a citizen

CS4 Information and Communication Skills

- Information and media literacy skills: Analyzing, accessing, managing, integrating, evaluating, and creating information in a variety of forms and media; understanding the role of media in society
- Communication skills: Understanding, managing, and creating effective oral, written, and multimedia communication in a variety of forms and contexts

CS5 Thinking and Problem-Solving Skills

- Critical thinking and systems thinking: Exercising sound reasoning in understanding and making complex choices, understanding the interconnections among systems
- Problem identification, formulation, and solution: Ability to frame, analyze, and solve problems
- Creativity and intellectual curiosity: Developing, implementing, and communicating new ideas to others, staying open and responsive to new and diverse perspectives

CS6 Interpersonal and Self-Directional Skills

- Interpersonal and collaborative skills: Demonstrating teamwork and leadership, adapting to varied roles and responsibilities, working productively with others, exercising empathy, respecting diverse perspectives
- Self-direction: Monitoring one's own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another
- Accountability and adaptability: Exercising personal responsibility and flexibility in personal, workplace, and community contexts; setting and meeting high standards and goals for one's self and others; tolerating ambiguity

³ 21st century skills. (n.d.). Washington, DC: Partnership for 21st Century Skills.

- Social responsibility: Acting responsibly with the interests of the larger community in mind; demonstrating ethical behavior in personal, workplace, and community contexts