



Subject Matter Experts (SME) Review New Safety Curriculum

Program/Course Reviewed: SAFE -110

College: Lorain County Community College (LCCC), 1005 N. Abbe Rd., Elyria, Ohio 44035

Reviewed By: ELSMART Associates, LLC (credentials of reviewers include Certified Safety Professional (CSP), Certified Industrial Hygienist (CIH), Certified Hazardous Material Manager (CHMM), Certified Environmental Trainer (CET), Registered Nurse (BSN-RN), Society Human Resources Manager – Certified Professional (SHRM-CP), Professional in Human Resources (PHR)) – Total years of experience for reviewers in Environmental, Safety, and Health over 100 years.

Date: 5-14-2018

Review scale definitions:

Exceptional: Review component is a “best practice” and represents a model for replication.

Very good: Review component is complete and effective.

Good: Review component is adequate but presents opportunities for improvement.

Ineffective: Review component is weak and in need of significant improvement.

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No or Insufficient Evidence: Review component was not covered or information provided in the documents was insufficient for assessment.

Curriculum Map, Career Ladder/Stackable Credential Documentation, Syllabi	Excellent	Very Good	Good	Ineffective	No/Insufficient Evidence
1. Program CIP code/s appropriate to program title and outcomes.		X			
2. Effective program structure (prerequisites, course sequence, stackable credential-structure provide a clear, logical path to completion).				X	
3. Outcomes aligned to occupational focus (industry skills and standards) and prepare students for appropriate industry certification/s.				X	
4. Outcomes are clearly stated.				X	
5. Outcomes are introduced and reinforced effectively.			X		
6. Course objectives are clearly stated and measurable.				X	
7. In multi-course programs, course objectives support one or more program or student learning outcome. In single-course programs, modules support one or more course objective.			X		

Comments or recommendations specific to each section rated:

1. Meets Requirements
2. PowerPoints, Tutorials, and Videos needs updated to include Chemical Safety Board (CSB) Material.
3. Outcomes not clearly identified. Outcomes not Specific, Measurable, Attainable, Relevant and Timely.
4. Outcomes do not meet skills, knowledge, or application needed by support personnel. Do not meet criteria specified in OSHA
5. Outcomes are listed in syllabus and PPT's support outcomes.





6. Outcomes not clearly identified. Outcomes not Specific, Measurable, Attainable, Relevant and Timely.
7. Some course objectives supported.

General comments or recommendations: Learning outcomes need to be improved and updated to current regulatory guidance. OSHA Combustible Dust Training Program (C-DuST) should be included in instruction.

Instructional Materials and Lab Resources	Excellent	Very Good	Good	Ineffective	No/Insufficient Evidence
1. Support stated course or unit learning objectives.			X		
2. Meet/reflect current industry practices and standards.				X	
3. Provide options for multiple learning styles.			X		
4. Instructional materials are cited properly.				X	
5. There is evidence of materials and resources that support on-line or technology-enabled learning.					X

Comments or recommendations specific to each section rated:

1. American Disabilities Act (ADA) information must be listed in syllabus and reinforced in assignments.
2. Course does not prepare student to be competent person for combustible dust.
3. Assignments presented do not reflect varied learning styles. Course needs activities, case studies, and real world problem solving. Should also incorporate calculations for evaluation of issues during sampling.
4. Instructional material suggestions - Consider using OSHA publications.
<https://www.osha.gov/pls/publications/publication.athruz?pType=Industry&pID=250>
5. No online or simulation software recommended or used.

General comments or recommendations:

OSHA Combustible Dust Training Program (C-DuST) should be included in instruction.





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Safety Management
Assessment Regulatory Training

Overview Table: Objectives, Modules/Units, Learning Activities and Assessments	Excellent	Very Good	Good	Ineffective	No/Insufficient Evidence
1. Modules/units are linked to course objectives.				X	
2. Learning activities promote achievement of stated module/unit objectives.					X
3. Learning activities provide opportunities for interaction and active learning.					X
4. Learning activities provide options for multiple learning styles.				X	
5. Learning activities are linked to current industry practices, standards and certifications.				X	
6. Learning activities demonstrate evidence of innovation or enhancements to support adult learner success.					X
7. Materials/resources (to include equipment, tools and software) are used in a way that students understand their purpose and use in industry settings.					X
8. Assessments measure stated learning objectives and link to industry standards.					X
9. Assessments align with course activities and instructional materials and resources.					X
10. Assessments are sequenced throughout the instructional period to enable students to build on feedback.					X
11. Assessments are varied and appropriate to content.					X
12. Assessments provide opportunities for students to measure their own learning progress.					X

Comments or recommendations specific to each section rated:

1. Objectives and course material not aligned.
2. No learning activities, exercises, or case studies assigned.
3. No learning activities, exercises, or case studies assigned.
4. Few videos offered and no learning activities, exercises, or case studies assigned.
5. See note below for updates in comments.

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- 6. No learning activities, exercises, or case studies assigned.
- 7. No applications or software presented in course. Recommend Combustible Dust Hazard Assessment Timber products Manufacturers Inc. App
- 8. No assessments in course materials
- 9. No assessments in course materials
- 10. No assessments in course materials
- 11. No assessments in course materials
- 12. No assessments in course materials

General comments or recommendations: Recommend course format be OSHA guidance, OSHA standards, OSHA enforcement, Consensus Standards and Benchmarking, and exercise. Consider presentation in addition to quizzes and exams. I would also recommend case studies to reinforce main objectives of identify and applying OSHA guidance, OSHA enforcement, Consensus Standards and Benchmarking.

Innovative or Enhanced Strategies	Excellent	Very Good	Good	Ineffective	No/Insufficient Evidence
1. Accelerate Entry into Career Programs Refine assessment, transform developmental education and add support services to meet the needs of participants					X
2. Create Clear Pathways to STEM Careers Expand access to and/or develop new stacked and latticed credentials in programs that meet employer needs					X
3. Improve Employment Attainment Collaborate with industry, WIBs, state, and community-based organizations to engage, guide and employ participants					X

Comments or recommendations specific to each section rated:

- 1. Does not increase cognitive ability to support safety improvement of management
- 2. Course does not reinforce Hierarchy of Controls, or basic concepts used by EHS personnel.
- 3. Course did not discuss partnerships or facility solutions to combustible dust.

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General comments or recommendations: This course should be updated to include:

The Hazard Communication Standard's classification requirements apply to "chemicals," 29 CFR 1910.1200(d)(1), which is defined as "any substance or mixture of substances," 1910.1200(c). The word "product" in this memorandum is intended to be understood as a synonym of "chemical" as defined in the standard. While the GHS requires dust explosion hazards to be noted on the safety data sheet, it does not include a chapter or classification criteria for combustible dusts.

ASTM E1226: Standard Test Method for Explosibility of Dust Clouds.

ASTM E1515: Standard Test Method for Minimum Explosible Concentration of Combustible Dusts.

NFPA 61: Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities.

NFPA 68: Standard on Explosion Protection by Deflagration Venting.

NFPA 484: Standard for Combustible Metals.

NFPA 499: Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas.

NFPA 654: Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids.

NFPA 704: Standard System for the Identification of Hazardous Materials for Emergency Response.

NFPA 664: Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities.

FM Global Property Loss Prevention Data Sheet 7-76: Prevention and Mitigation of Combustible Dust Explosion and Fire.

