

SAFM 552: Safety and Health Training

West Virginia University Benjamin M. Statler College of Engineering and Mineral Resources
Department of Industrial Management and Systems Engineering
Safety Management Program

Semester

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Instructor

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SAFM 552. Safety and Health Training. 3 Hours.

Analysis of safety and health performance discrepancies, developing and conducting training programs to eliminate those discrepancies and the evaluation of program effectiveness in terms of cost effectiveness and organizational impact.

General Course Information

The Mission of the Safety Management program is to develop Safety Leaders to preserve and protect the people, property, and efficacy of the organization.

Training is essential for an effective and efficient safety, health, and environmental [SHE] effort. Therefore, professionals who have SHE responsibilities must be knowledgeable of the various training approaches and techniques to improve the safe behavior of the organization's work force and how these techniques can be used to control losses and provide business continuity. They must be able to identify SHE performance discrepancies and decide if those discrepancies are the result of inadequate knowledge and/or skills that can be improved by training. When safety and health training programs are needed to improve the workers' performance.

Course Goals

1. Safety Leaders must be able to develop needs-based training projects to address performance discrepancies and provide effective and cost beneficial business continuity.
2. To assure that safety, health and environmental related human performance discrepancies and training needs are identified and appropriate techniques are employed to improve the safety, health and environmental knowledge, skills, and performance of the work force.

Course Learning Objectives

At the end of the course, students will be able to:

1. Demonstrate knowledge of established techniques and approaches to safety, health, and environmental, [SHE] training that lead to improved safety, health, and environmental performance.
2. Describe the steps in developing a SHE training program. (SLO C3 #2)
3. Conduct a SHE – oriented needs assessment. (SLO C3 #2)
4. Determine if SHE needs are correctable by training or if they should be corrected by administrative, engineering or other changes (Performance Analysis). (SLO C3 #3 – C8 #4)
5. Ensure the development of effective performance-based training objectives (PBOs). (SLO C3 #2)
6. Ensure the development of appropriate criterion referenced tests (CRTs) (SLO C3 #2)
7. Demonstrate skills necessary to develop and conduct effective SHE training sessions, seminars, or toolbox talks. (SLO C3 #4 - C8 #4,5)
8. Demonstrate the ability to evaluate others' training, development, and presentation efforts.
9. Plan an evaluation procedure that measures the effectiveness of the training program. (SLO C3 #4)
10. Plan and perform a cost benefit analysis of training. (SLO C8 #4, 5)

Grading

Grading is based on a point system. Points are earned from a variety of activities including participation, assignments, project, and a digital presentation.

NOTE: All assignments expected to be turned in on time. Late assignments will be discounted a minimum of 10% the first day, and additional discounts thereafter. There are NO special extra credit activities. However, bonus points MAY be awarded for exemplary performance on assignments and projects.

Graded Activity

- Assignments (7 assignments – 50 pts each = 350 points)
- Journals (3 Journals – 50 pts each = 150 pts)
- Discussion (8 discussions – 25 pts each = 200 pts)
- Class participation (8 discussions responses – 15 pts each = 120)

- Safety & Health Training Manual – **(700 points)**
 - Phase 1- Needs assessment –**150 pts**
 - Phase 2 – Objectives –**100 pts**
 - Phase 3 – Training evaluation –**200 pts**
 - Phase 4 – Budget –**150 pts**
 - **Completed Manual – 100 pts**

- Training / Lecture PowerPoint slides with speaker notes and references – (200 pts)

Discussion Board Instructions and Grading – Creating a Thread to Posted Topic

Each week a discussion topic will be posted within the module/discussion board.

Your role is to develop a discussion response to the topic that is posted. To ensure the discussion is productive, answer any follow up questions that other students may have posted to your discussion thread. Remember that the goal is to answer or elaborate on the module’s discussion topics and prompt further discussion; so, your response to the topic must be significant enough to encourage responses, debate, sharing of stories, elaboration, further questions, etc.

Grading will follow the rubric below:

Criteria	Always True	Mostly True	Sometimes True	Rarely True
Did the student post a relevant discussion response on time?	5	3	2	-5
Was the submitted response significant enough to carry a discussion forward?	3	2	1	0
Did the student keep the conversation relevant and on track?	3	2	1	0
Did the student contribute to the continuation of the discussion by prompting follow up questions, additional comments or elaboration, or making contributions of his/her own?	5	4	2	1
Was the student able to express his/her thoughts in a way that others could understand?	1	1	0	0
Did the student monitor the discussion throughout the discussion period?	3	0	0	0
Did the student use respectful language and show an appreciation for what others had to say?	5	Zero for the Assignment	Zero for the Assignment	Zero for the Assignment

Discussion Board Instructions and Grading – Participants responding to other students Threads

Each week there will be 1-2 discussion topics posted on the Discussion Board. Each student must create a discussion thread on the topic (see above). You as a participant are required to make a minimum of 1 response to a student’s thread. Note that making the minimum number of posts will not necessarily earn you full credit for the week; you should be fully engaged in the discussion and make posts as appropriate throughout the discussion period to earn full credit.

To receive full credit, your posts must apply information and ideas from the course materials. You must add to the discussion by directly addressing the topic, elaborating on points made, raising new questions, and/or adding a different perspective on the issue. Responses such as, “I agree”, do not help move the discussion forward and will not receive full credit. Your responses can be brief (usually no more than 250 words) and can use any formatting devices that are appropriate (bullets, subtitles, etc.).

Keep in mind that the instructor will be viewing the discussions and stepping in as necessary. As you post, you should keep "netiquette" guidelines in mind.

Discussion board submissions will be graded using the rubric below. No credit will be awarded to a student who engages in inappropriate conduct on the discussion board (disrespecting fellow students, using profanity, etc.).

Criteria	Always True	Mostly True	Sometimes True	Rarely True
Did the student’s comments build on the comments of other students?	5	4	2	1
Did the student have a unique and helpful insight?	4	3	2	1
Was the student able to express his/her thoughts in a way that others could understand?	1	1	0	0
Did the student contribute throughout the discussion period?	3	2	1	0
Did the student make contributions on all aspects of the discussion?	2	1	0	0
Did the student use respectful language and show an appreciation for what others had to say?	0	Zero for the Assignment	Zero for the Assignment	Zero for the Assignment

Course Outline / Topics

Introductory Module

- Intro discussion **Opens Beg. of Class (8/21/19) Due (8/25/19)**
 - In this discussion students should introduce themselves to the class they should provide; where they are from, their occupation, a little information on their family, what makes them unique. Students should feel free to respond to their classmates.
- Major course assignment overview (Manual)
 - Overview of Safety and Health Training Manual (Complete Manual due at End of course)

Module 1: Introduction to Training **Opens Beg. of Class (8/21/19) Due (8/28/19)**

- Mod 1 Journal activity 1
 - Please introduce yourself by telling us a little bit about yourself (who you are, where you are from, what is your educational background, what is your employment experience, do you do and how long have you been in the program?). Tell us about your experiences related to training (do you have little experience or a lot of experience related to training? what types of training have you conducted and/or participated in? how do you rate the training experience; for example, good or bad and explain). We are all participating in this class for a reason. What is it? What is your goal for this course? At the end of this course, you will hope to accomplish what?
- Mod 1 Discussion 1
 - Submit your Journal #1 into your own discussion thread. To promote student to student and student to instructor interaction, students will respond to questions posted on the course discussion board and respond to other students' posts. Read and comment on at least 1 other students discussion thread for participation credit. Your response should be engaging and not just a "passerby" comment.
- Mod 1 Assignment 1
 - Describe the ways that teaching and learning styles provide training opportunities and potentially challenges for adult learners and also for the trainers providing the training.

Module 2: Safety & Health Training Requirements **Opens (8/25/19) Due (9/1/19)**

- Mod 2 Discussion 1
 - Discuss a Safety Training exercise that you have been through. List Key characteristics of why it was beneficial. (at least 3 characteristics and briefly describe them)
- Mod 2 assignment 1
 - Search the following CFRs – 29, 30, 40 and 49.
 - Identify mandated training and provide a brief description of each training requirement
- Mod 2 journal 1
 - Students will compile a list of mandated training with a brief description of each training

- requirement. (At least 6)
- Mod 2 assignment 2
 - In OSHA’s publication, Training Requirements in OSHA Standards and Training Guidelines, two methods for prioritizing training needs are discussed. What are these two methods?
 - What is the first of seven steps in developing safety training, according to the OSHA training guidelines?
 - The OSHA Training Institute’s Education Centers support OSHA’s training and education mission by providing what for OSHA?
 - What is the purpose of the OSHA Outreach 10-hour construction-industry course

Module 3: Training Needs Assessment Opens (9/1/19) Due (9/8/19)

- Mod 3 Discussion 1
 - What in your experience is one of the most effective ways to promote safety in the workplace?
- Mod 3 Journal 1
 - Reference a safety and health publication (<http://ohsonline.com/Home.aspx>, <http://ehstoday.com/>, <http://www.asse.org/professional-safety/archive/> (you have to be a student member to access).
 - Identify and summarize a safety and health article as it relates to a needs assessment, training needs assessment, or performance discrepancy and provide the who (industry, worker type), the what (the problem, hazard), the why (the importance / significance) and how (corrective action / solution).
- Mod 3 Assignment 1
 - Describe the difference between a training assessment and performance assessment.
 - You need to set up a safety training program for a department. To decide which subjects to teach, complete a training-needs assessment (List the potential hazards, knowledge and skills, and training topics).
- Mod 3 Manual Phase 1
- **General overview**

Identify a company (real or fictional but realistic). Describe the company’s overview, nature of work, working hazards/conditions, environment, etc...

Describe a situation within an organization/company where you will train workers, supervisors, managers, safety professionals and/or safety trainers on one of the instructors approved topics (message me your topic for approval). You can do this as a company trainer or as a training consultant. (at least 1 page)
- **Needs assessment**

Perform a quasi-training needs assessment on your topic within this company. What is the importance/significance/impact of this topic/subject on the company? are there laws and/or regulations relating to this topic—Federal codes (CFR Federal Register), state codes, contractual agreements, etc.; what sort of data relates to the significance of this topic. (At least 1 Page)

Module 4: Performance Based Objectives Opens (9/8/19) Due (9/15/19)

- Mod 4 discussion 1
 - Common Safety Mistakes: One of the simplest ways to keep workers safe is proper use of PPE, no employees should wear hard hats backwards, broken or cracked face shields, or improper hearing protection. Although these are very simple to correct, it indicates a bigger problem – a lack of proper safety culture. List 1 example from your experience where the “safety culture” was the problem with proper safety

- Mod 4 assignment 1
 - Explain the difference between a goal and objective.
 - You plan to conduct fire-extinguisher training. Write the course title, goal and learning objectives for the course.

- Mod 4 Manual phase 2

- Write at least 5 PBOs for your training manual.

- Provide cognitive, psychomotor and affective objectives. (with explanation of each)
- Develop at least 4 PBOs at the psychomotor level and 1 affective objective. (with explanation of each)
- Indicate performance statements, conditions, and criterions

- It's for a one-hour lecture on a safety and health training topic. Therefore, at this point, your manual should include everything from Phase 1 (general overview/scenario, needs assessment. Training topic, course goal) continuing into phase 2 (objective(s), PBO's)

Module 5: Course Evaluation and Criterion Reference Tests Opens (9/15/19) Due (9/22/19)

- Mod 5 Discussion 1
 - In your work experience, have you ever witnessed a task or job that you thought the workers should have more Safety Training on? If not, have you witnessed a task that you were glad you or workers were properly trained? In either case, describe the task or job? How did or how could training been beneficial?

- Mod 5 assignment 1
 - Describe two approaches, according to ANSI Z490.1, to evaluating training.

- Mod 5 Manual Phase 3

This should include everything from Phase 1 and Phase 2.

Create a “Process Evaluation”

- forms to determine if training program is being followed. (Design a form that will be used by the evaluator of the program– **NOT** the students) [ex. Was the instructor/trainer well organized? (Y/N), Did the instructor/trainer begin and end training session on time? Y/N]]

Minimum 5 questions)

Impact Evaluation

- Create a “Trainee Reaction Assessment” for trainees (minimum 5 questions) with summary of how to interpret / analyze the form.
- Create a Pretest and a Posttest with answers (minimum 10 questions) with summary of how to interpret / analyze the form
- Create a “Behavior Assessment” for trainees (minimum 5 questions) (typically taken 3-6 months after training) with summary of how to interpret / analyze the form
- Write at least 6 CRTs for your training manual.
CRTs mapped to specific instructional objectives [PBOs] --with answers in three column formats (PBO-CRT- Answer)

Module 6: Developing and Using PowerPoint Presentations Opens (9/22/19) Due (9/29/19)

- Mod 6 Discussion 1
 - Sometimes Safety Training or briefings have to be done in the “field”. Come up with a brief overview / outline of how you would handle an “on site” training on a topic. (Topic ex. Proper use of Fire extinguisher)
- Manual PowerPoint
 - Develop a PowerPoint slide presentation for a one-hour **lecture** on (approved) safety and health training topic.
 - Using PowerPoint, develop and submit 30 – 40 slides with full notes page (separate or on the notes view in PowerPoint) for a 1-hour presentation.
 - Submit assignment as a PowerPoint for your selected safety and health training topic.
 - Minimum Content Requirements outline within Module.

Module 7: Determining the Cost & Benefit of Safety and Health Training Opens (9/29/19) Due (10/9/19)

- Mod 7 Discussion 1
 - There are many ways to evaluate the effectiveness of training programs. List 1 preferred method and explain your reasoning. (ex. Pre-Posttests, surveys, behavior assessment, accident reports, interviews, etc)
- Mod 7 assignment 1
 - Budgeting for 50 workers in house vs. contracting out the training.
- Manual Phase 4

This should include everything from Phase 1, Phase 2, and Phase 3.

- **Cost benefit analysis:** Prepare a budget for your training manual development, preparation, delivery, evaluation including all related expenses associated with the training session(s). What is

the gain [monetarily] (Calculate the costs of training, list anticipated cost benefits specify costs for a failure to train).

- **Lesson Plan:** include training times for specific objectives, sequencing of objectives, lectures, discussion and activities, appropriate audience, necessary AV equipment, required and recommended or suggested videos (can be same ones used in PowerPoint), training room layout, etc.
- **References** ---at least five in APA style format [on a separate page]. Two to four from peer-reviewed journals, at least one from a government organization, and one optional reference from a reputable web-site.

Complete Manual

- Submit complete manual (Phase 1+2+3+4) as a separate file. Submit referenced PowerPoint Lecture as a separate file. Complete manual should have Title page, Table of Contents, and have pages numbered.

Review Module Opens (9/29/19)

SOCIAL JUSTICE

West Virginia University is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non---discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to further such positive and open environment in this class will be appreciated and given serious consideration. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in class, please advise me and make appropriate arrangements with Disability Services (293---6700) No Later than the 2nd week of class.

For the WVU policy on Social Justice go to – <http://socialjustice.wvu.edu/>

CHEATING

If you cheat (copy someone else's work, knowingly allow someone to copy your work, use someone else's training manual or turn in a manual that is already developed by a company) then you may receive a failing grade in the class and could be subject to further disciplinary measures (Mountie, 1998, p.15).

Plagiarism will not be tolerated. Everything that you turn in for the class is automatically scanned by "Turn it in" software for plagiarism. In order to

protect yourself from being accused of cheating you must reference (cite) any thought, idea, or fact that is not your original thinking. This means “noting” in the body of your manual the source of the fact or idea and if you are quoting a source directly, including the page number where the quote may be found. In this course we will use the latest American Psychological Association edition as a guide for citing work.

MASTERS OF SCIENCE, SAFETY MANAGEMENT

The mission of the safety management program is to prepare program graduates to meet the safety mission of any enterprise. This is stated simply as: The safety mission of an organization is to protect, conserve, and improve the resources—people, property, and efficacy—of the organization. The Master's of Science with a major in Safety Management is accredited by the Applied and Natural Sciences Accreditation Commission (ANSAC) of ABET, <http://www.abet.org>.

PROGRAM EDUCATIONAL OBJECTIVES

Drawing from the university's mission, the program mission, the needs of our constituents, and the Applied Science Accreditation Commission Criteria of ABET, the following educational objectives were developed for the Masters of Science program in Safety Management:

A graduate of the Safety Management program will be able to:

1. Communicate effectively, orally and in writing, including the transmission of safety data to management and employees.
2. Demonstrate knowledge and skills in the area of safety management.
3. Demonstrate knowledge of ethical and professional responsibilities and knowledge of applicable legislation and regulations.
4. Demonstrate the ability to apply various research activities through the decision-making process used in safety management.

STUDENT LEARNING OUTCOMES CRITERION 3

In order to meet Program Educational Objectives of the Safety Management program, students must be able to meet the following outcomes at the time of their graduation:

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.

6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

STUDENT LEARNING OUTCOMES CRITERION 8

1. Anticipate, recognize, evaluate, and develop control strategies for hazardous conditions and work practices.
2. Demonstrate the application of business and risk management concepts.
3. Demonstrate an understanding of the fundamental aspects of safety, industrial hygiene, environmental science, fire science, hazardous materials, emergency management, ergonomics and/or human factors
4. Design and evaluate safety, health, and/or environmental programs;
5. Apply adult learning theory to safety training methodology;
6. Identify and apply applicable standards, regulations, and codes
7. Conduct accident investigations and analyses;
8. Apply principles of safety and health in a non-academic setting through an intern, cooperative, or supervised experience