

revised 8/19/04
revised 1/4/07
revised 8/17/09
revised 8/17/10
revised 8/15/11
revised: 8/15/12
revised: 8/14/14
revised: 8/11/15
revised: 8/20/19 (ANSAC)

Safety Management 501

Safety Function Integration

Fall, 2018

Dr. Gary Winn

Class meets: T, Th: 11:00 – 12:15

Room: 105 ESB

Instructor: Gary L. Winn, Ph.D., CHST

Office Hours: Office hours are posted: 345E MRB or
293-9476 or gary.winn@mail.wvu.edu

Required Textbooks: The required 501 textbooks are:

1. Techniques of Safety Management- A Systems Approach. D. Petersen (4th Edition). The book has gone out of print, so it's ok to get a used one online
2. "The Deming Management Method", by Mary Walton, 1986, by Perigee Press.
3. Course Pack available at Towers Bookstore
4. recommended: "Well-Made in America", by Peter Reid, 1990, by McGraw-Hill.

Methods of Instruction: This course is taught through primarily through lecture and readings in the reserved textbooks.

In General: This fundamental SAFM course will familiarize graduate students with the history and need for integrating the safety management function into the overall company mission and subsequently, all levels of a company or enterprise.

See Objectives and Student Outcomes, below.

Generally, at the conclusion of this course, the successful student will be familiar with traditional approaches to safety including integration and management principles, techniques of the safety manager, new trends in safety management and the growing, close relationship of quality management to safety management.

The successful student will also be familiar with quantitative and qualitative techniques encountered in the safety function. This introduction will give the student a good basis from which to work in an entry-level safety position.

Course Objectives and Student Outcomes:

SAFM 501 - Safety Management Integration
Revised objectives for coursepack: post ABET review, 2015

Mission of the Safety Function: To develop leaders who preserve and protect the people, property and efficacy resources of an organization

Course Learning Objectives (CLO):

1. Describe the safety mission of any organization
2. Describe the historical development of modern safety management (C8-3)
3. Name and describe typical roles of personnel involved in safety management
4. Describe the basis of major management theories which have influenced the practice of safety management
5. Describe safety-performance drivers in the various roles in a typical organization (C8-2)
6. Describe models of accountability in safety management which can be used to integrate the function, including SMBO, TQM and behavior-based safety systems (C3-2)
7. Identify measures of safety performance which can be used to evaluate the performance of persons involved in the various safety-functional roles (C3-3)
8. Describe current examples of safety management and variants in industry today

Drawing from the University's mission, the program mission, the needs of our constituents, and ABET ASAC Criteria 2020 the following program educational objectives were developed for the Masters of Science Safety Management Program:

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 X, 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

Grading:

Grading is based on a system of points accumulated on a variety of measures including written tests, class projects, class participation and attendance. At the end of the term, cumulative points are transformed

into percentages, and applied to this formula:

92 per cent - 100 per cent earns:	A
82 per cent - 91 per cent earns:	B
72 per cent - 81 per cent earns:	C
62 per cent - 71 per cent earns:	D
61 per cent and below earns:	F

Attendance and Preparation:

Class attendance is required, since this is graduate school and probably represents your last big opportunity to learn something about your chosen field before you become entrenched in the day-to-day world.

Also consider that you will soon be expected to be a leader and train subordinates in safety science. You will almost immediately have a staff, a budget and a list of high-expectations from your boss.

I urge you to take full advantage of this opportunity here in graduate school. Students are expected to be prepared to discuss the lecture of the day. "Achieving" students are on-time, in class and prepared. "Non-achievers" are otherwise.

Students are expected to make measurable progress in becoming a young professional entering the field of safety management.

The IMSE policy on attendance is available in the IMSE Secretary's office; likewise, the "Student Emergency" policy.

Homework is due *one week after is assigned* and will not be accepted after that class period.

Developing as a Graduate student (The Thayer Method)

You are responsible to read the material for the next lecture and if called upon, be able to discuss the material with the class.

Examinations:

Mid-term:	35 points
Final Exam	35 points
Presentation on "best practice"	20 points
Attendance, class preparation,	10 points
TOTAL POINTS *	100 points

* Students may propose their own extra credit projects which will be approved in advance by the Instructor on a case-by case basis. Maximum points: 10

Calendar of Classes:

Week 1 and 2: Introduction to course and the SAFM program

How this course fits with the SAFM program:

The SAFM mission

Program goal for this course; course objectives

Becoming a professional in Safety Management (Dr. Winn's "five improvements")

Transitioning from "safety policeman" to "safety leader"

Growth of the Safety Movement in America

5 precursors to the modern safety movement

The relationship of English Common Law on current safety systems

Why even modern safety programs still fail

Assignment: Next week: take the student survey on WVU's Simple forms (details provided)

Homework: Developing a Resource File (textbooks)

Locate three current textbooks on general management theory (not pop psychology) or on the history of management or safety management theory. List these by title and publisher, call numbers, ISBN, and location. Describe the contents of each text in a 50 word (maximum) paragraph, as this list will become a valuable resource in years to come. These are available at Evansdale Library, Colson, Wise and even the Law or NIOSH Library. This is not a Net job since you can read the actual textbook). You should also begin thinking about how to establish a resource file on your computer. We'll discuss this in class.

Also read: Petersen: Part I; Safety Concepts (Ch. 1 - 3)

Week 3: Philosophical Foundations

Ten principles of modern safety management (Petersen, p. 10)

That nebulous word, "accident" from course pack

An operant and technical definition of "accident" (Brauer)

The changing scene (Petersen, Ch. 2)

Developing a philosophy of safety (Mark Friend handout in coursepack)

Developing a Conceptual Model for Integration

The grid of safety management integration from coursepack

What ASSE says a safety manager does

Homework: Locate five professional journals (not texts) which relate to safety management. List them as before, and add them to your growing resource file. Hand in the list.

Homework: e-reserve readings, “Management” and “Theory”; also coursepack

Week 4: Managing Safety's various players: 4 basic theories

Calculating Incidence rate; Lost Work Day rate; Vehicle Mile traveled rate

The Scientific [Mechanistic] School of Management (Taylor)

Theory X and Theory Y (McGregor)

Satisfiers and Dissatisfiers (Herzberg)

Management by Objective (Oridorne)

Total Quality Management (Deming)

Safety Management by Objectives (Petersen)

Homework: Continue reserved readings: “Management” and “Theory”

Read: Petersen: Ch. 4

Week 5: Tradition and non-traditional roles in safety management:

Upper management, middle management, the supervisor, the

employee and the safety manager: the basic roles in industry (see Petersen)

Homework: finish reserved readings: “Management” and “Theory (various).”

Petersen, Ch. 5

Week 6: Performance Drivers in Safety Management

What enhances safety performance and what doesn't work

Progressive discipline from coursepack

Homework: Petersen: Ch. 6

Week 7: Measuring Safety Performance #1: Quantitative Techniques

Why measuring safety performance is important

Loss control as a model

Safety measurement techniques for supervisors, upper and middle management, plus employees

Best Practice topics determined today for presentation in Week 13 and 14

Homework: prepare for midterm exam

Note: Don't forget homework due after Midterm: Paradigms reading and discussion

Week 8: Mid-term exam

Also: Read: Ch 1 - 3. in Kuhn, T. "The Structure of Scientific Revolutions", 1969. Hand in a 1 page discussion of how Kuhn defines the word "paradigm". Also read the e-reserve readings about paradigms

Week 9: The nature of paradigms related to safety management

Video: Joel Barker's "Paradigms"

Is the engineering paradigm relevant today? Are there competing models?

Homework: Petersen: Changing behavior (Ch. 7)

Reserved readings: Behavioral Safety

Week 10: Measuring Safety Performance

Developing a behavior observation program from coursepack

Homework: Petersen, Ch. 8

Also: Begin reading Walton text

Also: Begin reserved readings: "Quality"

Week 11: Accountability : Total Quality Management and Safety

Begin discuss Walton and Statistical process control

Statistical techniques anyone can use (even upper management)

Homework: Project 3: Using Deming's 14 Obligations of management (the famous 14 points) take each point and create a safety analog of the point. That is, make each quality point into a safety point. Hand in your version of the "14 Safety Points".

Week 12 and 13: TQM and variations of TQM in safety management

Normal and special causes of variation (Shewhart)

Harley and Honda do the TQM thing, but they're different!

The Harley Davidson productivity triad

Homework: Petersen: Ch. 13 (OSHA)

Week 14:

Student presentations on best practice:

In the last two weeks of class, each student (or group) will make a 10 minute presentation with a required handout on a pre-approved topic about a best practice in corporate management (not just safety). You will research larger corporations in the U.S. and then pick one to discuss in your paper and presentation. How do you characterize their management philosophy.

Address these questions at minimum:

* was the previous practice inadequate or ineffective?

* what data show the inadequacy?

* describe this better alternative.

* what data suggest the new "best practice" is really better?

- * Is the new "best practice" cost effective?
- * Is there legislation as impetus to change to it?
- * a brief bibliography (reference list; APA style)

Week 15: Final Exam

Final exams, projects and late homeworks will be available, graded, a week after the final exam. Please do not contact me about final grades until the University's finals week is over.

*** Academic Integrity Statement**

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, instructors will enforce rigorous standards of academic integrity in all aspects and assignments of their courses. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University [Academic Standards Policy](http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification) (<http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification>). Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see your instructor before the assignment is due to discuss the matter.

Academic Standards Policy, including Academic Dishonesty

The WVU Catalog contains the full [Academic Standards Policy](#).

- [Resources for Faculty and Students for Reporting and Appealing Violations of Academic Standards](#)

Adverse Weather Statement

In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact your instructor as soon as possible. Similarly, if your instructor(s) are unable to reach the class location, they will notify you of any cancellation or change as soon as possible, using agreed upon methods to prevent students from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, instructors will make allowances relative to required attendance policies, as well as any scheduled tests, quizzes, or other assessments. [adopted 9-8-2014]

Attendance Policy

The WVU Catalog contains the full [Attendance Policy](#).

Campus Safety Statement

The WVU Police are committed to creating and maintaining a safe learning environment for all students, faculty, and staff. Part of this mission includes educating the campus community on how to respond to potential campus threats, such as the threat of an active shooter on campus or other suspicious behaviors. Fortunately, WVU Police offer training - both online and in-person - on how to handle a variety of campus safety scenarios. All students are encouraged to visit the [WVU Police](https://police.wvu.edu/) webpage, in particular the content under the [Active Shooter](https://police.wvu.edu/training) training program. Students are also encouraged to report any suspicious behaviors on campus using the [Report a Threat](https://police.wvu.edu/emergency-management/threat-assessment) portion of the webpage. Additional materials on campus safety prepared by WVU Police, including special safety tips and training, will also be provided on our eCampus page. [adopted 10-2-17]

Inclusivity Statement

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in your classes, please advise your instructors and make appropriate arrangements with [the Office of Accessibility Services](https://accessibilityservices.wvu.edu/).

More information is available at the [Division of Diversity, Equity, and Inclusion](https://diversity.wvu.edu/) as well. [adopted 2-11-2013]

Incomplete Policy

The WVU Catalog contains the full [Incomplete Policy](#).

Sale of Course Material Statement

All course materials, including lectures, class notes, quizzes, exams, handouts, presentations, and other course materials provided to students for their courses are protected intellectual property. As such, the unauthorized purchase or sale of these materials may result in disciplinary sanctions under the [Student Conduct Code](https://studentconduct.wvu.edu/policies-and-procedures). [adopted 5-11-2015]

Sexual Misconduct Statement

West Virginia University does not tolerate sexual misconduct, including harassment, stalking, sexual assault, sexual exploitation, or relationship violence [[BOG Rule 1.6](#)]. It is important for you to know that there are resources available if you or someone you know needs assistance.

You may speak to a member of university administration, faculty, or staff; keep in mind that they have an obligation to report the incident to the [Title IX Coordinator](#).
(<https://titleix.wvu.edu/staff>)

If you want to speak to someone who is permitted to keep your disclosure confidential, please seek assistance from the [Carruth Center](#), **304-293-9355** or **304-293-4431** (24-hour hotline), and locally within the community at the [Rape and Domestic Violence Information Center](#) (RDVIC), **304- 292-5100** or **304-292-4431** (24-hour hotline).

For students at WVU-Beckley, contact the [Women's Resource Center](#) at 304-255-1585 (toll free at 1-888-825-7836) or [REACH](#) at 304-340-3676. For students at WVU-Keyser, contact the WVU-Keyser [Psychological Services Office](#) at 304-788-6976, and locally in Keyser, the [Family Crisis Center](#), 304-788-6061 or 1-800-698-1240 (24-hour hotline).

For more information, please consult [WVU's Title IX Office](#) (<https://titleix.wvu.edu/confidential-resources>).

Student Evaluation of Instruction Statement

Effective teaching is a primary mission of West Virginia University. Student evaluation of instruction provides the university and the instructor with feedback about your experiences in the course for review and course improvement. Your participation in the evaluation of course instruction is both strongly encouraged and highly valued. Results are strictly confidential, anonymous, and not available to the instructor until after final grades are released by Admissions and Records. Information about how you can complete this evaluation will be provided by your instructor. [adopted 4-14-2008]

Prepared By: Gary Winn

Date: August 20, 2019

Handout Week 1:

Upon Becoming a Professional

Defining Professional:

A person who has specialized knowledge and expertise
Is an authority recognized by a group such as ASSE
It implies having training and experience from a common body of knowledge
And having a set of generally accepted beliefs among a group of professionals

In safety management, professionals have a body of knowledge extracted from
Science (physics; chemistry; biology; anatomy)
Math (algebra; some calculus) and computer science and statistics

Safety Professionals practice in:

Compliance; hazard recognition and avoidance; training; loss control; more

To become a professional, you will need to:

Read 3 hours a week in safety applications (Evansdale, NIOSH, etc)
Read 6 hours a week in general media (WSJ, Economist) AND not Sports Illus.
Dress the part: start now to lose the undergrad look (hair, dress)

Network with students, faculty, associations (have the biggest Rolodex!)
and join ASSE; plan to go to the national ASEE or NSC conference

Strive for further development: go after the ASP and then the CSP, then the ARM

Review and live by the ASSE Code of Professional Ethics (See ASSE.org)

Join at least two student organizations: ASEE, IH, SWE, PNGE, SME, others.

To become a professional you will need to subscribe to a code of ethics. You may see others later in your professional life, but for purposes in the Safety Management Program, your code of ethics is "*A Safety Management student does not lie, cheat or steal or tolerate those who do.*" (this is the same code used at West Point (1802), the Citadel (1842) and the Virginia Military Institute (1839).

To become a professional, you will need to act like one starting in graduate school. Be prepared to take notes in your advisor's office by buying a portfolio and a good pen; get a day planner and use it; arrive early to scheduled meetings; do not bring food to class; act now as if you have professional responsibilities. Plan to be on Dr. Winn's *Achiever List*. Be prepared to succeed.