revised 8/19/04
revised 1/4/07
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revised 8/17/10
revised 8/15/11
revised: 8/15/12
revised: 8/14/14
revised: 8/11/15

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 system 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, byMcGraw-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 Objectives:

1. Describe the safety mission of any organization
2. Describe the historical development of modern safety management
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
6. Describe models of accountability in safety management which can be used to integrate the function, including SMBO, TQM and behavior-based safety systems
7. Identify measures of safety performance which can be used to evaluate the performance of persons involved in the various safety-functional roles
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 2001, the following program educational objectives were developed for the Masters of Science Safety Management Program:

SAFM Program Objectives:

1. Communicate effectively, orally and in writing, including the transmission of safety data and concepts to management and employees.
2. Demonstrate knowledge and skills in the area of safety management.

3. Demonstrate knowledge of ethical and professional responsibilities
4. Demonstrate knowledge of applicable legislation and regulations.
5. Demonstrate the ability to apply decision-making processes used in safety management.

Educational Outcomes:

1. Demonstrate knowledge and skills to build a comprehensive Safety and Health Program based on loss control and regulations.
2. Demonstrate knowledge and skills to use analytical techniques in the Safety and Health function.
3. Demonstrate knowledge and skills with federal, state and non-governmental Safety and Health standards and best practices.
4. Demonstrate skills in communications, written and oral, as professionals in safety and health positions.
5. Demonstrate knowledge and skills in using management tools to implement and evaluate Safety and Health programs.

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/Dishonesty Policy:

For this and all classes I teach, I invoke WVU's Academic Integrity/Dishonesty policy which regards cheating and plagiarism. Please review this policy in the WVU Undergraduate Bulletin pp 48 - 49 or see me about specific details.

Statement on Social Justice:

West Virginia University is committed to social justice. I concur with that commitment. I expect to foster a nurturing learning environment that is 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 how to further such a positive and open environment in this class will be appreciated and given serious consideration.

Statement on Persons with Disabilities:

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, you must make appropriate arrangements through Disability Services (293-6700). They will identify the nature of the accommodation your disability requires.

Other WVU Policies can be found at https://tlcommons.wvu.edu/syllabus-policies-and-statements including these:

- Academic Integrity Statement
- Academic Standards Policy, including Academic Dishonesty
- Accessibility Statement (see Inclusivity Statement)
- Adverse Weather Statement
- Attendance Policy
- Campus Safety Statement
- Incomplete Policy
- Sale of Course Material Statement
- Sexual Misconduct Statement
- Student Evaluation of Instruction Statement

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) 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.