

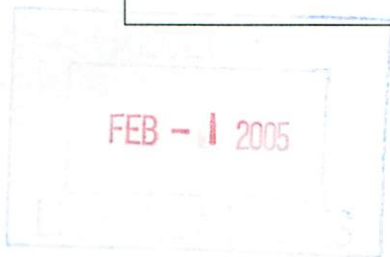
LSC Use Only No: LSC Action-Date:	UWUCC USE Only No. <i>04-469</i>	UWUCC Action-Date: <i>Apr 3/22/05</i>	Senate Action Date: <i>Apr 4/26/05</i>
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Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person Mr. Philip Rivers	Email Address privers@iup.edu
Proposing Department/Unit Safety Sciences	Phone 7-3275

Check all appropriate lines and complete information as requested. Use a separate cover sheet for each course proposal and for each program proposal.

1. Course Proposals (check all that apply)		
<input type="checkbox"/> New Course	<input type="checkbox"/> Course Prefix Change	<input type="checkbox"/> Course Deletion
<input checked="" type="checkbox"/> Course Revision	<input checked="" type="checkbox"/> Course Number and/or Title Change	<input type="checkbox"/> Catalog Description Change
SAFE 412 Hazard Prevention Management		SAFE 412 Hazard Prevention Management II
<u>Current</u> Course prefix, number and full title		<u>Proposed</u> course prefix, number and full title, if changing
2. Additional Course Designations: check if appropriate		
<input type="checkbox"/> This course is also proposed as a Liberal Studies Course.	<input type="checkbox"/> Other: (e.g., Women's Studies, Pan-African)	
<input type="checkbox"/> This course is also proposed as an Honors College Course.		
3. Program Proposals		
<input type="checkbox"/> New Degree Program	<input type="checkbox"/> Program Title Change	<input type="checkbox"/> Other
<input type="checkbox"/> New Minor Program	<input type="checkbox"/> New Track	
<u>Current</u> program name		<u>Proposed</u> program name, if changing
4. Approvals		Date
Department Curriculum Committee Chair(s)	<i>Lon Ferguson</i>	<i>1/12/05</i>
Department Chair	<i>Lon Ferguson</i>	<i>1/21/05</i>
College Curriculum Committee Chair	<i>Elizabeth Palmer</i>	<i>1/28/05</i>
College Dean	<i>Carleen P. Zoni</i>	<i>2-1-05</i>
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate: (include title)		
UWUCC Co-Chairs	<i>Gail Schust</i>	<i>3-22-05</i>



Course Revision: SAFE 412 Hazard Prevention Management II

Part II. Description of the Curriculum Change

1. Syllabus of Record.

The new syllabus of record for this revised course is attached in Appendix A.

2. A summary of the proposed revisions:

a. Remove course objectives A – D which are now being addressed in the new course SAFE 212 Hazard Prevention Management I:

- List program elements within the safety function and state one specific procedure contained in each element.
- Describe the responsibility of each manager for hazard prevention and identify who was responsible for preventing hazards that occurred.
- Develop a safety policy for a company and determine whether a safety committee is needed.
- Determine what programs are needed, develop goals for the programs, and write procedures that will achieve the goals of needed programs.

b. Remove the following specific content areas which are now being covered in the new course SAFE 212 Hazard Prevention Management I:

- Scope of the Safety Function
- Principles of Hazard Prevention
- Safety Policy Development
- Hazard Prevention Programming

c. Based on the changes in course objectives and content discussed above, reduce the lecture hours from three to two.

3. Justification/rationale for the revision.

The above changes were necessary because with the proposed revised B.S. in Safety Sciences Curriculum we have proposed there will now be two Hazard Prevention Management courses in the program rather than the one course we had previously. Recommendations to add this second Hazard Prevention Management course were based on recommendations from the department's advisory committee meeting and Department Faculty.

4. The old syllabus of record.

The old syllabus of record is attached in Appendix B.

5. Liberal Studies course approval.

These changes do not affect the Liberal Studies requirements.

Part III. Letters of Support or Acknowledgement

These course changes will not affect other departments, therefore letters of support from other departments were not obtained.

Appendix A: New Syllabus of Record

I. Catalog Description

SAFE 412 Hazard Prevention Management II	2 class hours
	3 lab hours
Prerequisites: MATH 217 and MGMT 311	3 credit hours (2c-31-3cr)

Examine various safety management techniques to identify and prevent the occurrence of hazardous behavior and conditions. Develop methods capable of extracting accurate, meaningful data, methods of collecting, codifying and processing hazard and loss incident information, and utilizing data retrieval systems to be used in cost/benefit decision-making for hazard prevention, safety program and performance evaluation.

II. Course Objectives

The students will be able to:

- A. use Fishbone diagrams, control charts, and force field analysis to determine action to prevent recurrence of hazardous behavior and conditions.
- B. determine who was responsible for allowing the condition to be created in the workplace and state the action corrective action needed to prevent recurrence.
- C. determine the causes of each unsafe act.
- D. analyze hazardous behaviors to determine obstacles to safe behavior and develop a safe behavior reinforcement program.
- E. write training behavioral objectives, determine teaching methods, and write lesson plans to train employees to remove these causes of hazardous behavior.
- F. describe methods to calculate and collect costs resulting from the occurrence of hazards.
- G. measure the effectiveness of a company's safety programs.

III. Course Outline

- A. Responsibilities for Hazard Prevention (2 hours)
 1. Staff and Line Department Responsibilities in Hazard Prevention Programming

- B. Cause and Effect Sequencing (3 hours)
1. Fishbone Diagrams
 2. Run Charts
 3. Control Charts
 4. Pareto Charts
 5. Scatter Diagrams
 6. Force Field Analysis
 7. Universal Model
 8. Pope's Systems Safety Management
- C. Hazardous Condition Prevention (2 hours)
1. Systems Safety Management Loss Incident Sequence Model
 2. Using Inspections
 3. Measuring the Effectiveness of Programs
- D. Cause Analysis of Hazardous Behavior (2 hours)
1. Hazardous Act Analysis Model
 2. Causes of Hazardous Behavior
 3. Hazardous Behavior Antecedents
- E. Safe Behavior Reinforcement (2 hours)
1. Performance Discrepancies
 2. Defining Safe Behavior
 3. Job Specific Critical Behavior Inventories
 4. Safety Sampling
- Midterm (1 hour)
- F. Training to Prevent Hazardous Behavior (4 hours)
1. Training Methods
 2. Performance Analyses
 3. Behavioral Objectives
 4. Lesson Plans
- G. Loss Incident Costs (3 hours)
1. Medical and Workers Compensation
 2. Facility and Equipment Rental and Replacement
 3. Labor to Repair, Replace or Clean-up
 4. Product Damage
 5. Government Fines, and Legal Fees
 6. Costing Rates
 7. Cause and Cost Data Collection Procedures

H. Safety Program Evaluation (3 hours)

1. OSHA and MSHA Injury Rates
2. Safe-T-Score Technique
3. Criteria to Measure Program Effectiveness.

I. Management Performance Evaluation (3 hours)

1. Data to Measure Individual Managers for Accountability Purposes

J. Loss Management Information Systems (3 hours)

1. Categories of Data from Loss Incident Investigations
2. Using Computer Program to Investigate and Analyze
3. Cost-Benefit Analysis

Culminating Activity (2 hours)

Title of Laboratory Exercises	# of Hours	Lecture Units Covered
Defining a System for Analysis	3	A,B,C
Developing Programs	3	A,B,C
Assessing Programs via Cause and Sequencing Analysis	3	B
Analyzing Hazardous Conditions	3	C
Analyzing Hazardous Behavior	3	D,E,F
Reinforcing Safe Behavior	3	D,E
Devising Training Programs	3	F
Creating Training Devices and Sessions	3	F
Analyzing Decisions via Cost/Benefit	3	G
Evaluating Safety Programs	6	H,I
Measuring Management Accountability	3	H,I
Developing a loss incident scenario and placing the incident data into LoMIS	6	J

IV. Evaluation Methods

The faculty person assigned to teach this course could be one of several faculty within the Safety Sciences Department. What follows is an example of the evaluation methods and weighting used for this course:

Your final grade in this class will be a compilation of the following:

A. Examinations	40%
B. Homework	25%
C. Laboratory Reports	25%
D. Course Portfolio	5%
E. Class Participation	5%

Examinations: The examinations will be short answer, multiple choice, true/false and matching with material coming from lecture notes, the text and handouts.

Homework: Homework will include specific assignments related to material covered in the specific unit, many of which are case studies and small group projects.

Laboratory Reports: Students will complete a laboratory report after each laboratory session. The format for these reports as well as a grading rubric will be provided during the first laboratory class.

Course Portfolio: All students will be required to complete a course portfolio. The specific requirements for the portfolio will be provided during the first class meeting.

Class Participation: This includes but is not limited to individual participation in whole class and small group discussions and other brief class presentations.

V. Example Grading Scale

The grading scale is as follows:

A	90%-100%
B	80%-89%
C	70%-79%
D	60%-69%
F	< 60%

VI. Attendance Policy

The attendance policy for this course conforms to the University's Undergraduate Course Attendance Policy; in that all students are expected to attend and participate in class to enhance their learning.

VII. Required Textbooks, Supplemental Books and Readings

Required and supplemental readings will come from the following list:

Pope, William C. (1990). Managing for Performance Perfection: The Changing Emphasis. Weaverville, NC: Bonnie Brae.

Lack, Richard (ed). (2000). Essentials of Safety and Health Management. Boca Raton, FL: CRC Press.

VIII. Special Resource Requirements

None

IX. Bibliography

Fanning, F. (1998). Basic Safety Administration: A Handbook for the New Safety Officer. Des Plaines, IL: American Society of Safety Engineers.

Gellar, S. (2002). The Participation Factor. Des Plaines, IL: American Society of Safety Engineers.

Hansen, M. (2002). Out of The Box--Skills for Developing Your Own Career Path. Des Plaines, IL: American Society of Safety Engineers.

Historical Bibliographies:

Chekanski, R. Philip. (1974). A loss control information system: techniques for its implementation. Occupational Hazards – Focus Section: Journal of the National Safety Management Society, April.

Brassand, Michael. (1989). The Memory Jogger Plus: Featuring the Seven Management and Planning Tools. Methuen, MA: GOAL/QPC.

Coyle, Ian R., et al. (1995) Safety Climate. Journal of Safety Research 26 (4).

Geller, E. Scott, et al. (1989). Behavior Analysis Training for Occupational Safety. Newport, VA: Make-A-Difference, Inc. (also companion Workbook and Discussion Workbook)

Krause, Thomas R., et al. (1990). The Behavior-based Safety Process: Managing Involvement for an Injury-free Culture. New York, NY: Van Nostrand Reinhold.

- Mager, Robert F. and Peter Pipe. (1993) Analyzing Performance Problems: Or You Really Oughta Wanna, 3rd ed. Belmont, CA: Lake Publishing.
- Manuele, Fred A. (1995). Guidelines: Designing for Safety. (A technical paper from Marsh & McLennan M&M Protection Consultants).
- Peterson, Dan. (1989). Safe Behavior Reinforcement. Goshen, NY: Aloray.
- Pierce, F. David. (1995). Total Quality for Safety and Health Professionals. Rockville, MD: Government Institute, Inc.
- Nolden, Carol. (1983). The work order system: key to effective maintenance management," Plant Engineering, October.
- Police, Jacquelyn Marie. (1979). The 'systems' approach in accident reporting. Occupational Hazards – Focus Section: Journal of the National Safety Management Society.
- Samson, Thomas M. and Brian O. Hurt. (1995) Managing health and safety data. Occupational Health and Safety. December.
- Wright, R. Loss Management: International Management Audit System and LOMIS Incident Report Code Manual. Toronto: Gulf Oil of Canada, Ltd.

Appendix B: Old Syllabus of Record

I. Catalog Description

SAFE 412 Hazard Prevention Management	3 class hours 3 lab hours
Prerequisites: MATH 217 and MGMT 311	4 credit hours (3c-31-4cr)

Examine various safety management techniques to identify and prevent the occurrence of hazardous behavior and conditions. Develop methods capable of extracting accurate, meaningful data, methods of collecting, codifying and processing hazard and loss incident information, and utilizing data retrieval systems to be used in cost/benefit decision-making for hazard prevention, safety program and performance evaluation.

II. Course Objectives

The students will be able to:

- A. List program elements within the safety function and state one specific procedure contained in each element.
- B. Describe the responsibility of each manager for hazard prevention and identify who was responsible for preventing hazards that occurred.
- C. Develop a safety policy for a company and determine whether a safety committee is needed.
- D. Determine what programs are needed, develop goals for the programs, and write procedures that will achieve the goals of needed programs.
- E. Use Fishbone diagrams, run charts, control charts, Pareto charts, scatter diagrams, and force field analysis to determine action to prevent recurrence of the hazardous behavior and conditions.
- F. Determine who was responsible for allowing the condition to be created in the workplace and state the action needed to prevent recurrence of the hazardous condition and who will take action. Also, using the same data, measure the effectiveness of the company's hazard prevention procedures.
- G. Determine the causes of each unsafe act as being: lack of training, lack of motivation, and from creating an environment that does not fit the mental and physical capabilities of the employees.
- H. Analyze hazardous behaviors to determine obstacles to safe behavior and ways to remove those obstacles and develop a safe behavior reinforcement program.

- I. Analyze the hazardous behaviors that were caused by lack of training and write behavioral objectives, determine teaching methods, and write lesson plans to train employees to remove these causes of hazardous behavior.
- J. Describe methods to calculate and collect costs resulting from the occurrence of hazards. Given cost and cause data, conduct cost/benefit analyses for hazard prevention.
- K. Measure the effectiveness of a company's safety programs and measure the accountability of each of the managers regarding their safety performance.

III. Course Outline

- A. Scope of the Safety Function (2 hours)
 - 1. Injury Prevention
 - 2. Occupational Illness Prevention
 - 3. Property Loss Prevention
 - 4. Environmental Protection
- B. Principles of Hazard Prevention (2 hours)
 - 1. Line and Staff Management Responsibility, Authority and Accountability
 - 2. Safety Manager's Role
- C. Responsibilities for Hazard Prevention (3 hours)
 - 1. Staff and Line Department Responsibilities in Hazard Prevention Programming (Engineering, Maintenance, Purchasing, Accounting, Line Management, Human Resources, and Legal).
- D. Safety Policy Development (2 hours)
 - 1. Criteria for a Safety Policy
 - 2. Constructing a Philosophy
 - 3. Developing Objectives
 - 4. Safety Committees
- E. Hazard Prevention Programming (2 hours)
 - 1. Completing a Program Analysis
 - 2. OSHA's Program Management Guidelines
 - 3. Developing Program Goals
 - 4. Developing Procedures

- F. Cause and Effect Sequencing (3 hours)
1. Fishbone Diagrams
 2. Run Charts
 3. Control Charts
 4. Pareto Charts
 5. Scatter Diagrams
 6. Force Field Analysis
 7. Universal Model
 8. Pope's Systems Safety Management
- G. Hazardous Condition Prevention (2 hours)
1. Systems Safety Management Loss Incident Sequence Model
 2. Using Inspections
 3. Measuring the Effectiveness of Programs
- H. Cause Analysis of Hazardous Behavior (3 hours)
1. Hazardous Act Analysis Model
 2. Causes of Hazardous Behavior
 3. Hazardous Behavior Antecedents
- I. Safe Behavior Reinforcement (3 hours)
1. Performance Discrepancies
 2. Defining Safe Behavior
 3. Job Specific Critical Behavior Inventories
 4. Safety Sampling
- J. Training to Prevent Hazardous Behavior (4 hours)
1. Training Methods
 2. Performance Analyses
 3. Behavioral Objectives
 4. Lesson Plans
- K. Loss Incident Costs (3 hours)
1. Medical and Workers Compensation
 2. Facility and Equipment Rental and Replacement
 3. Labor to Repair, Replace or Clean-up
 4. Product Damage
 5. Government Fines, and Legal Fees
 6. Costing Rates
 7. Cause and Cost Data Collection Procedures

L. Safety Program Evaluation (3 hours)

1. OSHA and MSHA Injury Rates
2. Safe-T-Score Technique
3. Criteria to Measure Program Effectiveness.

M. Management Performance Evaluation (3 hours)

1. Data to Measure Individual Managers for Accountability Purposes (Incident Frequency and Severity, Timeliness and Completeness of Loss Incident Investigations, Follow Through of Corrective Action and Departmental Hazard Prevention Procedure Development)

N. Loss Management Information Systems (3 hours)

1. Categories of Data from Loss Incident Investigations (Time, Date, Location, Cost and Cause Data)
2. Using Computer Program to Investigate and Analyze
3. Cost-Benefit Analysis

O. Course Examinations (4 hours)

P. Culminating Activity (2 hours)

Title of Laboratory Exercises	# of Hours	Lecture Units Covered
Defining a System for Analysis	3	A,B,C
Developing a Policy	3	D, N
Assessing Hazard Prevention Program Needs	3	E, N
Developing Programs	3	E
Assessing Programs via Cause and Sequencing Analysis	3	F
Analyzing Hazardous Conditions	3	G, N
Analyzing Hazardous Behavior	3	H, N
Reinforcing Safe Behavior	3	I

Title of Laboratory Exercises	# of Hours	Lecture Units Covered
Devising Training Programs	3	J, N
Creating Training Devices and Sessions	3	J
Analyzing Decisions via Cost/Benefit	3	K, N
Evaluating Safety Programs	3	L
Measuring Management Accountability	3	M
Developing a loss incident scenario and placing the incident data into LoMIS	3	N

IV. Evaluation Methods

The faculty person assigned to teach this course could be one of several faculty within the Safety Sciences Department. What follows is an example of the evaluation methods and weighting used by one of those faculty members.

30% Exams: There will be written exams consisting of combinations of multiple choice, true/false, matching, completion, and essay questions; or other interactive exams. Make-up exams are at the discretion of the individual faculty member.

10% Quizzes: Periodic quizzes will be given. Unannounced quizzes may be used. Make-up quizzes are at the discretion of the individual faculty member.

5% Homework: Periodic out-of-classroom assignments will be given.

10% Term Papers/Projects: Each student will prepare formal papers or projects on a topic approved by the individual faculty member.

5% In-class Writing: Each student will prepare various assignments in class utilizing free-style writing techniques as scheduled by the individual faculty member.

10% Presentations: Each student will present orally a topic approval by the individual faculty member.

5% Class Participation: This includes but is not limited to individual participation in whole class and small group discussions and other brief class presentations.

25% Laboratory Exercises: Laboratory exercises are a regular requirement of this course. Students will complete fourteen (14) laboratory exercises, each of which is described, discussed, interpreted, and reported in a formal technical report.

Extra credit may be assigned to any one or more of the above evaluation methods at the discretion of the instructor.

V. Example Grading Scale

The grading scale is as follows:

A	90%-100%
B	80%-89%
C	70%-79%
D	60%-69%
F	< 60%

At the discretion of the faculty member, a grading curve that results in appropriate distribution of grades may be used in place of the scale described above.

VI. Attendance Policy

Although there is no formal attendance policy for this class, student learning is enhanced by regular attendance and participation in class discussions and the university expects all students to attend class.

VII. Required Textbooks, Supplemental Books and Readings

Required and supplemental readings will come from the following list:

Pope, William C. Managing for Performance Perfection: The Changing Emphasis. Weaverville, NC: Bonnie Brae, 1990.

Lack, Richard (ed). Essentials of Safety and Health Management. Boca Raton, FL: CRC Press, 1996.

VIII. Special Resource Requirements

None

IX. Bibliography

Brassand, Michael. (1989). The Memory Jogger Plus: Featuring the Seven Management and Planning Tools. Methuen, MA: GOAL/QPC.

Coyle, Ian R., et al. (1995) Safety Climate. Journal of Safety Research 26 (4).

Geller, E. Scott, et al. (1989). Behavior Analysis Training for Occupational Safety. Newport, VA: Make-A-Difference, Inc. (also companion Workbook and Discussion Workbook)

Krause, Thomas R., et al. (1990). The Behavior-based Safety Process: Managing Involvement for an Injury-free Culture. New York, NY: Van Nostrand Reinhold.

Mager, Robert F. and Peter Pipe. (1993) Analyzing Performance Problems: Or You Really Oughta Wanna, 3rd ed. Belmont, CA: Lake Publishing.

Manuele, Fred A. (1995). Guidelines: Designing for Safety. (A technical paper from Marsh & McLennan M&M Protection Consultants).

Peterson, Dan. (1989). Safe Behavior Reinforcement. Goshen, NY: Aloray.

Pierce, F. David. (1995). Total Quality for Safety and Health Professionals. Rockville, MD: Government Institute, Inc.

Samson, Thomas M. and Brian O. Hurt. (1995) Managing health and safety data. Occupational Health and Safety. December.

Historical Bibliographies

Chekanski, R. Philip. (1974). A loss control information system: techniques for its implementation. Occupational Hazards – Focus Section: Journal of the National Safety Management Society, April.

Nolden, Carol. (1983). The work order system: key to effective maintenance management,” Plant Engineering, October.

Police, Jacquelyn Marie. (1979). The ‘systems’ approach in accident reporting. Occupational Hazards – Focus Section: Journal of the National Safety Management Society.

Wright, R. Loss Management: International Management Audit System and LOMIS Incident Report Code Manual. Toronto: Gulf Oil of Canada, Ltd.

Appendix C: Catalog Description

SAFE 412 Hazard Prevention Management II

(2c-31-3cr)

Prerequisites: MATH 217 and MGMT 311

Examine various safety management techniques to identify and prevent the occurrence of hazardous behavior and conditions. Develop methods capable of extracting accurate, meaningful data, methods of collecting, codifying and processing hazard and loss incident information, and utilizing data retrieval systems to be used in cost/benefit decision-making for hazard prevention, safety program and performance evaluation.