Program Proposals

Catalog Description Change | Program Revision | Program Title Change | New Track

New Degree Program | New Minor Program | Liberal Studies Requirement Changes | Other

Proposed program name, if changing:

Approvals

	Signature	Date
Department Chair(s)	Dr. Lon Ferguson	9-15-2017

Course Revision: SAFE 220 Hazardous Materials

Part II. Description of Curricular 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. The course title and description were changed to reflect additional coverage of emergency management topics.

   b. Course content topic hours were adjusted to reflect additional coverage of emergency management topics. Course content was also changed to reduce redundancy of course

the new courses has been developed. This scope of the current revision ensures that the

business must incorporate when they deal with hazardous materials. In addition, emergency management topics have become increasingly important to the safety field; thus, the course content was revised to reflect this emphasis.

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

This course is required for all SAFE majors and minors and does not affect other departments. Therefore, letters of support from other programs was not requested.

Appendix A: New Syllabus of Record

I. Catalog Description

SAFE 220 Hazardous Materials and Emergency Management

Prerequisite: CHEM 101, SAFE 101 or instructor permission

3 class hours
0 lab hours
3 credits
(3c-01-3cr)

[redacted]

III. Course Outline

A. Introduction and Overview 5 hours

[redacted]

a. What is a hazardous material?
b. Where are hazardous materials used in manufacturing processes and in other commercial applications?
c. Examples of hazardous materials accidents and an overview of the hazards that

[redacted]

d. Brief overview of the rules and regulations that will be used to help guide our thinking about hazardous materials including the DOT, OSHA, and the EPA.

B. Chemical Management Systems 6 hours

a. Presentation of relevant definitions and terminologies used in discussions of hazardous materials.
b. Review of key elements addressed in a hazardous materials management system. The United States Department of Energy Hazardous Materials Handbook is used as a guide to facilitate this discussion.

C. Hazard Communications and the Properties of Hazardous Materials 12 hours

a. Requirements of the OSHA hazard communications standard.
b. Safety data sheets (SDS) overview.
c. A detailed look into the sections of an ANSI formatted SDS with an emphasis on what types of information is contained in each section and how this information can be used by the safety professional.
d. Conversion of gallons of a chemical to pounds and vice versa which is

c. Review of all elements within the scope of the standard, for example: process safety information; operating procedures; training; hazard analysis; incident investigation; management of change; hot work; etc.

[redacted]

a. Coverage of the Department of Transportation's (DOT) Hazardous Materials Regulations (HMR).

[redacted]

V. Example Grading Scale

[redacted]

Historical References

Hallenbeck, W.H. (1993). *Quantitative Risk Assessment for Environmental and Occupational Health, 2nd edition.* Boca Raton, FL: CRC Press.

Harrison, L. (1995). *Environmental, Health, and Safety Auditing Handbook, 2nd edition.* New York, NY: McGraw-Hill.

Howard, P.H. & Neal, M. (1992). *Dictionary of Chemical Names and Synonyms.* Boca Raton, FL: Lewis Publishers.

Catalog Description

0 lab hours
3 credits
(3c-0l-3cr)

Prerequisites: SAFE 101

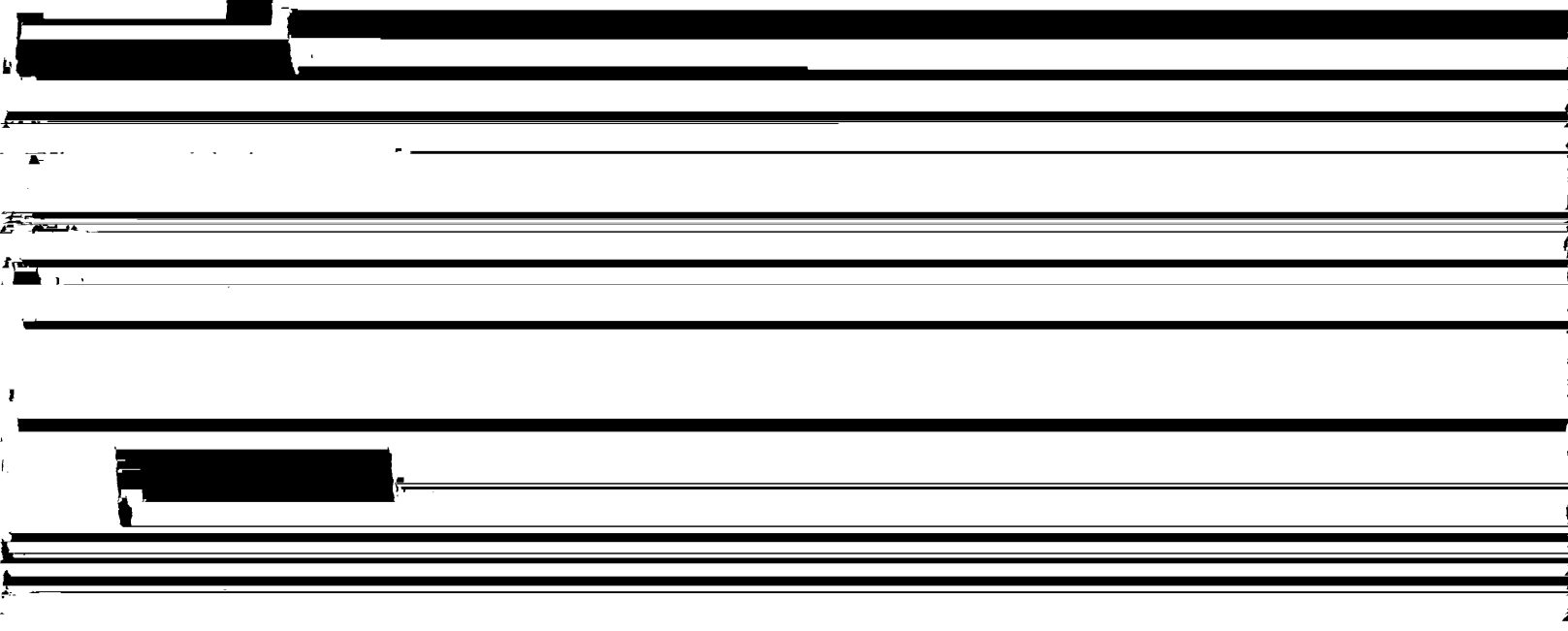
Provide the student a basic understanding of the storage, transportation and use of hazardous

B. Principles of Hazardous Materials (6 hours)

1. Fate and transport characterization
2. Ecosystems and communities
3. Bio Hazards

C. Properties of Hazardous Materials (12 hours)

1. Categories of hazardous materials properties
2. Federal regulations



4. Human Toxicology
5. Determination of properties of hazardous materials

Midterm (1 hour)

D. Transportation of Hazardous Materials (9 hours)

1. DOT Regulations
2. Labeling of Hazardous Materials
3. Placarding of Hazardous Materials

E. Emergency Preparedness (9 hours)

1. Assessment of risk
2. Planning considerations
3. Developing an Emergency Plan
4. Evaluation of plan
5. Resources for emergency preparedness

Final Examination (2 hours)

IV. Evaluation Methods

The faculty person assigned to teach this course could be one of several faculty within the Safety

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

Homework/Projects: Homework and projects will be assigned based on the material covered in the specific unit, many of which are case studies and small group projects involving the recognition, evaluation and control of hazardous materials.

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

In general, the following scale will be used in assigning letter grades, related to the evaluation of student performance based on a "percentage" grading scale:

A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F = Below 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.

National Safety Council. (2002). Accident Prevention Manual: Environmental Management, National Safety Council, Itasca, IL, 2nd edition.

Springfield, W. (2000). Emergency Planning and Management. Government Institutes.

National Safety Council. (2002). 7 Elements of a Successful Environmental Program. National Safety Council, Itasca, IL.

Appendix C: Proposed Revised Catalog Description

SAFE 220 Hazardous Materials and Emergency Management **3c-01-3cr**

Prerequisite: CHEM 101, SAFE 101 or instructor permission

Provides a basic understanding of the storage, transportation and use of hazardous materials in business. Includes a discussion on hazardous materials, specifically their definitions, categories, properties, regulations, and evaluation. Critical principles of emergency management, including both private and public sector elements, are included.