

# COURSE MODIFICATION

1. **Existing Course Subject/Number** EHSM 130  
  
**Existing Title** Health Effects of Hazardous Materials
2. **Initiated By** Julie Godfrey, CE/EHSM  
(Instructor, Division/Department)
3. **List below only the items being changed in both the present and proposed format** (allows for easy comparison of items being modified).

**ATTACH THE COURSE OUTLINE WITH EDITS SHOWN**  
(Underline for changes and addition, strike-through for deletion of text)

|   | PRESENT   | PROPOSED |
|---|---|----------|
| <i>(Note: If entries are too lengthy for space provided, type "see attached outline")</i> |   |          |
| Subject   | _____   | _____    |
| Number  | _____   | _____    |
| Title   | _____   | _____    |
| Lecture Hours   | _____   | _____    |
| Lab Hours   | _____   | _____    |
| Units   | _____   | _____    |
| Prerequisite  | _____   | _____    |
| Corequisite   | _____   | _____    |
| Recommended Preparation   | _____   | _____    |
| Catalog Description   | Fill in proposed, see attached outline with edits |          |

Study of the acute and chronic health effects produced by exposure to chemical, physical, and biological agents. Topics include routes of entry, toxic effects, risk evaluation, permissible exposure limits, medical surveillance, control methods for reducing exposure, and using Safety Data Sheets (SDS) to develop strategies to reduce worker exposure.

**4. CHECK ADDITIONAL ITEM(S) TO BE MODIFIED:**

- |   |   |
|---|---|
| <input type="checkbox"/> *Course Content        | <input type="checkbox"/> Instructional Facilities |
| <input type="checkbox"/> *Course Objectives     | <input type="checkbox"/> Special Materials        |
| <input type="checkbox"/> *Method of Evaluation  | <input type="checkbox"/> Work Experience Hours    |
| <input type="checkbox"/> *Method of Instruction |   |

\*Curriculum Committee may review these modifications for General Education certification

**5. DOES THIS COURSE MODIFICATION AFFECT AND/OR DUPLICATE ANOTHER COURSE, ASSOCIATE DEGREE OR CERTIFICATE?** At Cuyamaca College  Yes  No At Grossmont College  Yes  No

If yes, identify the division or department to whom a Course Alignment form or Letter of Intent has been sent, with the accompanying proposed course outline and evidence of response in order that articulation may be arranged. In cases where it affects a program or certificate at Cuyamaca College, please notify the applicable chair/coordinator and submit a Modification of Program. Attach the original Course Alignment form or Letter of Intent showing the response from the division or department. The Curriculum Committee will not review any proposal that affects Grossmont or any division or department at Cuyamaca unless the completed Course Alignment form or Letter of Intent is attached.

|                     |         |           |               |
|---------------------|---------|-----------|---------------|
| Division/Department | College | Date Sent | Date Returned |
|---------------------|---------|-----------|---------------|

**6. REASON FOR MODIFICATION:** Provide a statement explaining why the course is being modified, and how it will improve the department and the campus-wide curriculum.

Industry terminology has changed therefore our catalog description was updated to reflect those changes.

**7. VOCATIONAL COURSES:** Has this course modification been reviewed and recommended by your Advisory Committee?  
 Yes  No If No, when will it be reviewed? 9/27/23

**8.** Are there any changes to items 9 through 14? If yes, continue with items 9 through 14. If no, proceed to the signature and date.

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**9. TITLE 5 CLASSIFICATION:** Have any of the Title 5 course standards been affected by this modification that would require a change in the course classification (i.e., Associate Degree Credit or Nondegree Credit)?  Yes  No

If yes, please identify the standards that have been affected: \_\_\_\_\_

**10. LOWER DIVISION BACCALAUREATE LEVEL DESIGNATION**  Yes  No

A lower division baccalaureate level course is one which an accredited four-year college or university will accept for transfer as a GE course or part of a lower division requirement for a major or as a general elective. Please list a representative four-year college that offers a comparable lower division course (see Articulation Officer for recommendation).

University of Wisconsin, Whitewater SAFETY Electives  
(Representative Four-Year Institution)

**11. LIBRARY RESOURCES AND INFORMATION COMPETENCY SUPPORT:** If the modification is substantial enough that additional library resources would be necessary, attach the supplementary *Library Resources & Information Competency Support* form. This form must be signed by a librarian. You may obtain a copy of the form at [www.cuyamaca.net/library](http://www.cuyamaca.net/library)

**12.** If this course is recommended for cross-listing, please attach rationale for approval by the Curriculum Committee. List the matching course: \_\_\_\_\_  
(example: CADD 115/ENGR 115)

**13. GENERAL EDUCATION:** If the course is being proposed to satisfy general education requirements for the Associate Degree, the CSU or UC system, it must meet the appropriate GE guidelines (attach the appropriate GE form).


|   | PRESENT | PROPOSED                 |
|---|---------|--------------------------|
| a. <input checked="" type="checkbox"/> Not requesting GE credit for this course   |         |                          |
| b. <input type="checkbox"/> General Education - Associate Degree Area _____ Section _____<br>(refer to "A.S. or A.A. General Education Degree Requirements" in catalog) |         | Area _____ Section _____ |
| c. <input type="checkbox"/> General Education - CSU Certification Area _____ Section _____<br>(refer to "GE Breadth Requirements for CSU" in catalog)                   |         | Area _____ Section _____ |
| d. <input type="checkbox"/> General Education - IGETC Area _____ Section _____<br>(refer to "IGETC Transfer Curriculum" in catalog)                                     |         | Area _____ Section _____ |

**14. MAJOR OR CERTIFICATE:** If this course is being proposed to satisfy part of a major of an associate degree or certificate, please provide the following information. (If this course is being recommended as part of a major or certificate, please submit the appropriate Program Modification/Addition form.)

- a.  This course is not being proposed as part of a major or certificate.
- b.  AA/AS Degree Major Occupational Safety and Health Management  
(example: Ornamental Horticulture, Emphasis: Floristry)
- c.  Certificate Major Occupational Safety and Health Technician; Laboratory Safety Technician  
(example: Ornamental Horticulture, Emphasis: Floristry)

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I have reviewed this form for completeness and recommend this course modification:

  
\_\_\_\_\_  
Department Chair/Coordinator

9/13/23  
\_\_\_\_\_  
Date

I do not recommend this course modification:

George Dowden   
\_\_\_\_\_  
Division Dean

9.14.2023  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Vice President, Instruction  
(following Curriculum Committee action)

\_\_\_\_\_  
Date

**CUYAMACA COLLEGE**  
**COURSE OUTLINE OF RECORD**

**ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 130 – ENVIRONMENTAL/OCCUPATIONAL ENVIRONMENTAL & OCCUPATIONAL HEALTH EFFECTS OF HAZARDOUS MATERIALS**

3 hours lecture, 3 units

**Catalog Description**

Study of the acute and chronic health effects produced by exposure to chemical, physical, and biological agents. Topics include routes of entry, toxic effects, risk evaluation, permissible exposure limits, medical surveillance, control methods for reducing exposure, and using Safety Data Sheets (SDS) to develop strategies to reduce worker exposure.

~~Study of the acute and chronic health effects produced by exposure to chemical, physical, and biological agents with an emphasis on hazardous materials commonly associated with industrial operations, waste disposal, and remediation sites. Topics include routes of entry, toxic effects, risk evaluation, permissible exposure limits, medical surveillance, control methods for reducing exposure, and using Material Safety Data Sheets (MSDS) (SDS) to develop strategies to reduce worker exposure.~~

**Prerequisite**

None

**Course Content**

- 1) Types of environmental health hazards
- 2) Exposure and entry routes
- 3) Routes of chemical absorption, distribution, and elimination
- 4) Dose-response relation (dose of exposure)
- 5) Duration of exposure
- 6) Action of toxic substances
- 7) Effects of exposure to air contaminants
- 8) Target organ effects
- 9) Regulations and standards
- 10) Exposure guidelines and limits
- 11) Monitoring of harmful agents
- 12) Control methods
- 13) Medical monitoring
- 14) Source of toxic information
- 15) Risk evaluation
- 16) Survey of common toxic substances

**Course Objectives**

Students will be able to:

- 1) Define common health effects and toxicology of hazardous materials.
- 2) Describe toxic effects of hazardous materials, including comparing and contrasting acute versus chronic health effects of hazardous materials.

- 3) Describe toxic actions of toxic substances and their effects on target organs.
- 4) Distinguish dose-response relation (dose exposure) of toxic substances.
- 5) Evaluate and design appropriate medical surveillance control measures for reducing exposure to hazardous materials.
- 6) Evaluate, analyze and design risk assessment programs of selected hazardous materials; identify and explain exposure guidelines and limits.

### Method of Evaluation

A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.

- 1) Quizzes, exams, and written research paper and oral presentation which measure students' ability to:
  - a. Describe toxic effects of hazardous materials and evaluate risk and permissible exposure limits.
  - b. Identify control methods for reducing exposure and sources of toxicology to toxic hazards.
  - c. Develop strategies to reduce worker exposure.

### Special Materials Required of Student

None

### Minimum Instructional Facilities

Smart classroom

### Method of Instruction

- 1) Lecture and discussion
- 2) Projects

### Out of Class Assignments

- 1) Reading assignments
- 2) Writing assignments
- 3) Projects
- 4) Reports

### Texts and References

- 1) Required (representative example): ~~Kent, Chris. *The Basics of Toxicology*. 1st edition. Wiley, 1998 (or latest edition).~~ James, R.J., Roberts, S.M., Williams, P.L. (2022). *Principles of Toxicology: Environmental and Industrial Applications*. (4th Edition). Wiley. ISBN 9781119635161.
- 2) Supplemental: *NIOSH Pocket Guide to Chemical Hazards*. U.S. Department of Health Services, Center for Disease Control (latest edition).

### Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- 1) Define common health effects and toxicology of hazardous materials including comparing and contrasting acute versus chronic health effects of hazardous materials.
- 2) Describe toxic actions of hazardous substances and their effects on target organs and distinguish dose-response relation (dose exposure) of toxic substances.
- 3) Evaluate, identify and explain exposure guidelines and limits and appropriate medical surveillance control measures for reducing exposure to hazardous materials.