University of Cincinnati  
Department of Environmental Health

Division of Environmental and Occupational Hygiene  
Course Objectives and Outcomes Form

Course number and title: 26-EIH-981 Current Topics in Occupational Hygiene  
Graduate Credits: 1 per quarter, 3 total

Instructor(s) in-charge: Kermit Davis

Course type (underline all that apply): Lecture  Laboratory  Field Projects

Required or Elective: Required

Course Schedule:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours per week</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>1</td>
<td>8 to 10</td>
</tr>
<tr>
<td>Discussion</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Field Work</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Outside Study</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Office Hours: Available when needed

Course Assignments:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>0</td>
</tr>
<tr>
<td>Exams</td>
<td>0</td>
</tr>
<tr>
<td>Reports</td>
<td>0</td>
</tr>
<tr>
<td>Project</td>
<td>0</td>
</tr>
</tbody>
</table>

Grading Policy: Grades are based on the attendance for seminars (100%) with the requirement of presenting at least once over a 2-year period.

Course Prerequisites: None

Catalog Description: A seminar series that has speakers who present about current topics in the Environmental and Occupational Hygiene field. Students also present on internships and develop critical article evaluation skills though group discussions of published articles.

Textbook and Any Related Course Materials: Materials will sometimes be past out during the seminars

Blackboard:

Topics Covered / Duration: Each quarter there are at least 5 sessions in which speakers are recruited from the students, faculty, industry, and government. The topics reflect items that students listed in the fall quarter ranging from faculty research, practice sessions for conference presentations (students), human resource information for Industrial Hygienists, current issues in the news (e.g. world trade center, environmental accidents, industrial exposures), and other relevant topics. Also, article critiques will be completed by teams of students.

Course goals/objectives:
1. Disseminate information about the field of Industrial Hygiene and Occupational Safety and Ergonomics. A.1, B.1, C.1, C.2, D.1, D.2, D.3, H.1, H.2, I.1, J.1, J.2,
2. Enhance students’ presentation skills G.1

Evaluation Criteria:
1. Each student participates in developing a list of topics (Fall) that are requested to be covered in the coming year.
2. Attendance is mandatory with sign in sheet and students encouraged to ask questions
3. Students will present at least one time in the class during a two-year period where feedback is provided through speaker evaluations.

Relation to Program Educational Objectives: This is a required course for all Comprehensive Practice majors. The course contributes to the following Program Educational Objectives, as shown:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamental Knowledge</td>
<td>30%</td>
</tr>
<tr>
<td>Hygiene Science</td>
<td>30%</td>
</tr>
<tr>
<td>Basic Science</td>
<td></td>
</tr>
<tr>
<td>Design Skills</td>
<td></td>
</tr>
<tr>
<td>Professional Skills</td>
<td>20%</td>
</tr>
<tr>
<td>Life-long Learning</td>
<td>20%</td>
</tr>
</tbody>
</table>
NOTE: EOH faculty define Hygiene Science as all the Knowledge Elements in our list other than the Basic Sciences; Design skills are the technical skills in our list, while the Professional skills are those that involve teams, management, leadership, written and oral communication, approach to stakeholders and ethics—refer to listing in What We Teach).

Is there a TA? No
Is computer use expected? No

Program outcomes and how they are covered in this course

For each ABET IH Program Outcome (A through L), the EOH Educational Outcomes are shown below. Upon completion of this course, students will have had the opportunity to acquire knowledge (K), skills (S) and attitudes (A) associated with each of the Educational Outcomes, as noted by underlining. Where the educational measurable outcome contributes strongly to the ABET Program Outcome, the K/S/A is shown in upper case; where the contribution is average, the k/s/a is shown in lower case letters. (Note, use the Contribution to Knowledge and Professional Skills estimates above to guide your decision. If the % is 50 or more, use upper case.)

A. Identify agents, factors and stressors generated by and/or associated with defined sources, unit operations and/or processes:

Identify potential health hazards of workplace processes and operations

B. Describe qualitative and quantitative aspects of generation of agents, factors and stressors:

Understand and describe the underlying processes of the generation of hazards in occupational settings

Describe qualitative and quantitative aspects of hazards associated with specific occupational or environmental sources

C. Understand physiological and/or toxicological interactions of physical, chemical, biological and ergonomic agents, factors and stressors with the human body:

Understand the relation between exposures and health outcomes

Recognize the potential for differences in response to hazards due to personal factors among some subjects at risk of exposure and the subsequent need to modify programs and practices

D. Assess qualitative and quantitative aspects of exposure assessment, dose-response, and risk characterization based on applicable pathways and modes of entry:

Understand how to evaluate potential adverse outcomes of chemical or physical exposures, based on similarity of the exposure to documented hazards

Examine occupational hygiene aspects of emerging technologies

Understand the basic principles of exposure assessment and evaluation of engineering and non-engineering controls
Develop and implement an exposure assessment plan to evaluate potential hazards and controls that are in place.

Gather, manage and analyze quantitative (e.g., measurements of exposure or system performance) and qualitative (e.g., written programs) data.

E. Calculate, interpret and apply statistical and epidemiological data:
   - Apply epidemiologic and/or statistical concepts to the interpretation of exposure data.

F. Recommend and evaluate engineering, administrative and personal protective equipment controls and/or other interventions to reduce or eliminate hazards:
   - Identify and recommend appropriate methods to reduce exposure (using engineering controls, personal protective equipment or administrative controls), or deficiencies in written programs and policies.
   - Design work process/practice interventions.

G. Demonstrate an understanding of applicable business and managerial practices:
   - Produce accurate written descriptions of occupational processes and activities, exposure assessment plans and evaluation of occupational and environmental work settings.
   - Describe approaches to interact with higher-level decision makers in various management structures.
   - Manage resources effectively.
   - Display effective leadership.

H. Interpret and apply applicable occupational and environmental regulations:
   - Understand, interpret and apply occupational and environmental regulations.
   - Apply guidelines, standards and laws in the interpretation of quantitative and qualitative data.

I. Understand fundamental aspects of safety and environmental health
   - Apply the professional code of ethics to a scenario.

J. Attain recognized professional certification
   - Understand the importance of ethics in the practice of occupational and environmental hygiene.
   - Understand the need for and resources available for continuing professional development after graduation.
K. **Conduct a research activity resulting in a report that demonstrates mastery of the subject and high level of professional and public communication skills**

- Design a research question, develop a plan and conduct research
- Communicate effectively with a variety of stakeholders (e.g., labor, management, government, peers, safety and health professionals, allied professionals)
- Produce a technical scientific report on research

L. **Demonstrate advanced qualitative and quantitative problem-solving skills**

- Function effectively as part of a multidisciplinary team

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**COURSE MATERIAL AND AVAILABILITY**

<table>
<thead>
<tr>
<th>Course Objectives/outcomes</th>
<th>Students</th>
<th>Instructor(s)</th>
<th>TA</th>
<th>Division</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture notes, assignments</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples of homework and correct answers</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples of reports, graded</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples of exams and correct answers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course evaluation from students</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Instructor response/actions to evaluation comments</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**NOTE:** Students provide feedback on individual courses through the end-of-class Department and Division evaluation survey instrument. This instrument provides feedback on the course material, organization and presentation, and perceived contribution of the course to the achievement of Program Outcomes. In addition, feedback is received from the continuing, semi-annual Question-feedback process during which students identify Best Learning Experience, Session/presentation that was an endurance test, What would make life as a student better?, If I could do it over, I would…. Opportunities I would like to have but don’t seem to be available, Opportunities I would like more of, Aspects of the program the faculty should consider eliminating, Worst part of the UC program, Best part of the UC program, Other comments. A Ph.D. and M.S. student participate in Division faculty meetings. Exit surveys are conducted by the University at graduation and results are forwarded to the Chair of the Department for follow-up. All students are urged to participate fully in each of these activities in order to improve the educational experience.