University of Cincinnati  
Department of Environmental Health

Division of Environmental and Occupational Hygiene
Course Objectives and Outcomes Form

Course number and title: 26-904-819-001 Occupational Health, Hygiene, and Safety Workshop
Graduate Credits: 2
Instructor(s) in-charge: Kermit Davis with Faculty Mentors of: Sue Davis, Jay Kim, Sue Ross
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>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>1.5</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Discussion</td>
<td>1.5</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Field Work</td>
<td>3</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Outside Study</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Hours</td>
<td></td>
<td></td>
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</tbody>
</table>

Course Assignments:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>1</td>
</tr>
<tr>
<td>Exams</td>
<td>0</td>
</tr>
<tr>
<td>Reports</td>
<td>1</td>
</tr>
<tr>
<td>Project</td>
<td>1</td>
</tr>
</tbody>
</table>

Grading Policy: Grades are based on the Attend all lectures on team building with participation in exercises (5% of grade), Provide a team written report (35% of grade), Perform oral presentation (35% of grade), Provide evaluation of peers and self (15% of grade), and Provide evaluation of team presentation (10% of grade)

Course Prerequisites: 2nd year students in Safety Engineering, Occupational Health Nursing, Industrial Hygiene and Occupational Medicine

Catalog Description: Completion of an Interdisciplinary research or hazard evaluation project completed by a team of occupational safety, occupational nursing, industrial hygiene, and occupational medicine students, specifically requiring completion of a project and development of presentations and team building skills.


Blackboard:

Topics Covered / Duration: Team Seminars (individual 1.5 hour class dedicated to topic)
- Professional Health and Safety Leadership
- Interdisciplinary Teams and Team Building
- Listening and Building Relationships
- Work Smarter, Not Harder
- Conflict Management
- Presentations by teams (1.5-hour classes with each team providing a presentation each quarter)

Course goals/objectives:
1. Utilize the skill and knowledge base of Safety Engineering, Occupational Health Nursing, Industrial Hygiene and Occupational Medicine professionals to conduct an interdisciplinary project. A.1., B.1., D.3., D.4., D.5., F.1., L.1., I.1.
3. Communicate progress towards completion of the project through verbal, written and graphic formats. G.1.
4. Develop team building skills and use during the entire project. G.3, G.4, L.1
5. Analyze communication and interpersonal skills as the basis for building multi-disciplinary team relationships. G.1.
Compete evaluation form based on following criteria:


**Evaluation Criteria:**

1. Completion of acceptable inter-disciplinary project in the field, providing an evaluation to a specific workplace
2. Documentation of participation through the following:
   a. Selection of project
   b. Planning of project
   c. Progress report writing
   d. Presentation of progress report
3. Attend all of the team building seminars.
   Attendance and active participation
4. Provide a team written report—project proposal
   
   **Evaluation of Written Report by Faculty:**
   Presentation evaluations
   Magnitude of Project, Comprehensiveness, Summary, Organized, and Written Presentation
5. Perform oral presentation to the class—present proposed project and problems that have arisen
   
   **Evaluation of Oral Presentation by Faculty:**
   Comprehensiveness, Participation, Visual Aides, Questions, and Preparation
6. Provide evaluation of peers and self with respect to team building skills and roles.
   Students complete evaluation from based on following categories:
   Listening and Building Relationships, Interdisciplinary Teamwork, Working Smarter, Not Harder, Conflict Management, Quality of Individual Work, Quantity of Individual Work, Attendance at Team Meetings, Contribution to Team, Dependability, Cooperation, Initiative, and Attitude
7. Provide evaluation of team presentation
   Students complete evaluation from based on following categories:
   Presentation Style, Presentation delivery, Answering questions, and Visual Aides

**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>
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<tbody>
<tr>
<td>Fundamental Knowledge</td>
<td>15%</td>
</tr>
<tr>
<td>Hygiene Science</td>
<td>5%</td>
</tr>
<tr>
<td>Basic Science</td>
<td>10%</td>
</tr>
<tr>
<td>Design Skills</td>
<td>10%</td>
</tr>
<tr>
<td>Professional Skills</td>
<td>30%</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? Yes

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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/or 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
### COURSE MATERIAL AND AVAILABILITY

<table>
<thead>
<tr>
<th></th>
<th>Students</th>
<th>Instructor(s)</th>
<th>TA</th>
<th>Division</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Objectives/outcomes</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>Lecture notes, assignments</td>
<td>X</td>
<td>X</td>
<td></td>
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<td>X</td>
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<tr>
<td>Samples of homework and correct answers</td>
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<td>X</td>
<td></td>
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<tr>
<td>Samples of reports, graded</td>
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<tr>
<td>Samples of exams and correct answers</td>
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<tr>
<td>Course evaluation from students</td>
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<td>X</td>
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<tr>
<td>Instructor response/actions to evaluation comments</td>
<td>X</td>
<td>X</td>
<td></td>
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<td>X</td>
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</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 followup. All students are urged to participate fully in each of these activities in order to improve the educational experience.