Course number and title: 26-OCCM-786 Basics of Occupational Medicine
Graduate Credits: 2
Instructor(s) in-charge: Sue Ross, MD, JD and Jeffrey Hess, MD.,MS (alternate years)
Course type (underline all that apply): Lecture  Laboratory  Field Projects:
Required or Elective: R

Course Schedule:
Lecture: ___1_ hours per week  _10_meetings
Discussion: ___1_ hours per week ___10_sessions
___ hours for informal discussion
Field Work _____ hours per week _____ hours per survey/project
Outside Study: ___4_ hours per week
Office Hours: __as needed________________

Course Assignments:
Homework: ___10_assignments
Exams: ___1_midterms / finals
Reports: _____ required
Project _____ required

Grading Policy: pass/fail, based on attendance (25%), class participation (25%), final examination (50%)

Course Prerequisites: none

Catalog Description: A course designed to be an entry level, overview of occupational medicine for physicians, industrial hygienists, nurses and other health professionals

Textbook and Any Related Course Materials: A reading list will be provided.

Materials also provided as handouts: A detailed listing of topics and reading will be provided at the first class.

Blackboard: Used for messages: No
Topics Covered:

Introduction to occupational health and wellness issues
Noise and hearing conservation
Occupational health law and regulations
Respiratory protection overview
History of occupational medicine
Occupational ophthalmology
Medical surveillance
Ethics
Infectious disease and occupational medicine
Occupational dermatology
Occupational pulmonary disease
Occupational allergy

Course goals (and Program Outcomes): 
Demonstrate knowledge of health outcomes that result from occupational exposure (A1, C1, C2),
Demonstrate ability to discuss prevention exposures/outcomes (C1, D4)
Demonstrate knowledge of relevant laws and regulations (H1)
Discuss ethics of the various disciples for a specific scenario (I1, J1)

NOTE: The ABET Program outcome is shown as a capital letter; the number designates the program specific outcome.

Evaluation Criteria: Attendance, Discussion, Exam (see weighting above in grading policy)

Relation to Program Educational Objectives:
This is a required course. The course contributes to the following Program Educational Objectives, as shown:

<table>
<thead>
<tr>
<th>Fundamental Knowledge</th>
<th>Hygiene Science</th>
<th>30%</th>
<th>Basic Science</th>
<th>40%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Design Skills</td>
<td>5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professional Skills</td>
<td>10%</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Life-long Learning</td>
<td>5%</td>
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</tbody>
</table>

NOTE: EOH faculty define Hygiene Science as all the Knowledge Elements other than the Basic Sciences; Design skills are those necessary to solve real world problems. Professional skills are those that involve teams, management, leadership, written and oral communication, approach to stakeholders and ethics; life-long learning is demonstration of the need for continuing professional development.

Is there a TA? Yes No

Is computer use expected? Yes 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.)
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:

   Describe the underlying processes of the generation of hazards in occupational and environmental 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

   Compare and contrast 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:

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

   Describe occupational hygiene aspects of emerging technologies

   Describe the basic principles of conducting sampling and analysis for exposure assessment

   Describe the basic principles of evaluating engineering and non-engineering controls to reduce exposure

   Develop and implement an exposure assessment plan to evaluate potential hazards and existing controls

   Gather, manage and analyze quantitative (e.g., measurements of exposure or system performance) and qualitative (e.g., written programs) data to evaluate potential hazards and existing controls in order to reduce risk

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 oral and written reports, including 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 interpreting qualitative and quantitative data for exposure assessment for risk characterization

I. Understand fundamental aspects of safety and environmental health

- Apply the professional code of ethics to a scenario

J. Attain recognized professional certification

- Explain 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
- Describe the requirements to obtain professional certification

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 to investigate and propose a solution to an exposure hazard in a workplace
## 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><strong>Course Goals/outcomes</strong></td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
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<tr>
<td><strong>Lecture notes, assignments</strong></td>
<td>y</td>
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<tr>
<td><strong>Samples of homework and correct answers</strong></td>
<td>-</td>
<td>-</td>
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<td><strong>Samples of reports, graded</strong></td>
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<tr>
<td><strong>Samples of exams and correct answers</strong></td>
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<td>-</td>
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<tr>
<td><strong>Course evaluation from students</strong></td>
<td>y</td>
<td>y</td>
<td>y</td>
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<tr>
<td><strong>Instructor response/actions to evaluation comments</strong></td>
<td>beginning 2010</td>
<td>Beginning 2010</td>
<td>Beginning 2010</td>
<td>Beginning 2010</td>
<td>Beginning 2010</td>
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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 and the Division as part of the requirements for graduation. All students are urged to participate fully in each of these activities in order to improve the educational experience.