Mel and Enid Zuckerman College of Public Health  
University of Arizona  

SYLLABUS  
Environmental and Occupational Diseases CPH 583 (#61963)  
Fall 2011: Tuesday, August 23-December 6

Time: Tuesday, 3:00-5:50 pm  
Location: Drachman Hall, Room A118

Instructor/Course Coordinator: Wayne Peate, MD, MPH  
MEZCOPH/CEP  
Email: wpeate@wellamerica.net  Phone: 834-4700

Office Hours: By appointment. The best way to get in touch with me is via email.

Teaching Assistant: n/a

TA Office Hours: By appointment.

Course Description: Students gain a basic knowledge of occupational and environmental hazards, develop an index of suspicion for the environmental or work-relatedness of a disease, know the essential elements of a screening history, and learn to conduct an effective on-site evaluation of hazards.

Course Prerequisites: None.

Course Learning Objectives: At the end of this course, students will be able to:

1. Be able to take an environmental and occupational medicine history and to be able to:
   a. Establish characteristics of the condition/illness/injury.
   b. Define the environmental or occupational exposure.
   c. Demonstrate correlation between exposure and condition.
   d. Interpret available information and determine need for additional data

2. Be able to do an ergonomic survey/site visit and make basic recommendations.

3. Be able to serve as an entry level occupational/environmental consultant using 1. and or 2. above on a capstone project to be presented at the end of the semester.

MPH Competencies Covered:

<table>
<thead>
<tr>
<th>ANALYTICAL SKILLS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defines a problem</td>
</tr>
<tr>
<td>Determines appropriate uses and limitations of data</td>
</tr>
<tr>
<td>Selects and defines variables relevant to defined public health problems</td>
</tr>
<tr>
<td>Evaluates the integrity and comparability of data and identifies gaps in data sources</td>
</tr>
<tr>
<td>Understands how the data illuminates ethical, political, scientific, economic, and overall public health issues</td>
</tr>
<tr>
<td>Understanding basic research designs used in public health</td>
</tr>
<tr>
<td>Makes relevant inferences from data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMMUNICATION SKILLS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicates effectively both in writing and orally (unless a handicap precludes one of those forms of communication)</td>
</tr>
<tr>
<td>Interpreting and presenting accurately and effectively demographic, statistical, and scientific</td>
</tr>
</tbody>
</table>
Information for professional and lay audiences adapting and translating public health concepts to individuals and communities

Soliciting input from individuals and organizations

Advocating and marketing for public health programs and resources, including political lobbying, grant writing, collaboration building, and networking

Leading and participating in groups to address specific issues, including ability to work in teams, span organizational boundaries, and cross systems

Using all types of media to communicate important public health information

Demonstrating cultural competency in all of the above and community development

**BASIC PUBLIC HEALTH SCIENCE SKILLS:**

Defining, assessing, and understanding the health status of population, determinants of health and illness, factors contributing to health promotion and disease prevention, and factors influencing the use of health services

Understanding research methods in all basic public health sciences

Applying the basic public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries

Understanding of the historical development and structure of state, local, and federal public health agencies

**CULTURAL SKILLS:**

Understanding the current forces contributing to cultural diversity in the Southwest

Interacting competently, respectively, and professionally with persons from diverse backgrounds

Identifying and examining the role of cultural, social, ethnic, religious, spiritual, and behavioral factors in determining disease prevention, health promoting behavior, and health service organizational and delivery

Developing and adapting approaches to public health problems that take into account cultural differences

Determining health related consequences of social structure

Understands the dynamic forces contributing to cultural diversity

**Recommended Text/Readings:**


**Course Requirements:** You are expected to respond to questions, submit homework and assignments on time, take exams on the specified dates, coordinate research and presentation tasks with your assigned group and successfully complete any unscheduled quizzes given during scheduled classes. You must have a University of Arizona e-mail address. Check your e-mail frequently.

The point allocation/grading scheme is as follows:

<table>
<thead>
<tr>
<th>Task</th>
<th>Potential Points</th>
<th>% of Grade</th>
<th>Grades Awarded</th>
<th>Accumulated Point Range for Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio</td>
<td>100</td>
<td>20%</td>
<td>A</td>
<td>&gt;450</td>
</tr>
<tr>
<td>In-Class Projects</td>
<td>100</td>
<td>20%</td>
<td>B</td>
<td>375 to &lt;450</td>
</tr>
<tr>
<td>Capstone Project</td>
<td>100</td>
<td>20%</td>
<td>C</td>
<td>325 to &lt;375</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
<td>20%</td>
<td>E</td>
<td>&lt;325</td>
</tr>
<tr>
<td>Class Participation</td>
<td>100</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total points</strong></td>
<td><strong>500</strong></td>
<td><strong>100%</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Due Dates for assignments are designated on the syllabus. Do not rely on dropbox dates and times. These are sometimes inaccurate. All late assignments will be penalized 10% per day. The lowest score can be dropped for the portfolio, and in class project. If absent, the class project score will be a zero and may be dropped as the lowest score.

Examination: Students will be expected to demonstrate that they have met the course objectives through class work, homework assignments, and examinations. It is your responsibility to clear your calendar and take the exam at the scheduled time and place. Except for emergency situations (e.g., medical, supported by appropriate documentation), make-up exams will not be given and zero credit will be awarded for the exam.

Class Attendance/Participation: You are expected to attend class and participate. All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean’s designee) will be honored.

How do I get an A?
To get an A you must contribute to the intellectual vitality of the class. To receive an A, it is not sufficient to show up at class and turn in class assignments.

Grading:
1. Personal portfolio is 20%
   a. Self occupational history.
   b. Self Haddon Matrix (HM).
   c. Self survey of computer work stations.
   d. Interview and completion of EOH/ survey of one high risk occupation

2. In class projects are 20% of grade
   e. Group participation in class Haddon Matrix for an incident.
   f. Your submitted questions and in class interviews of:
      1. Fukushima Daiichi Nuclear Plant responder.
      2. Health and Safety Fire Chief
      3. Worksite psychologist
      5. MRSA survivor
      6. Health and safety chief.
   g. Work station ergonomic revisions.

3. Capstone project and presentation is 20%
This is your opportunity to serve as an environmental/occupational medicine consultant. The goal is to expand on the interview and your EOH/survey of the high risk occupation you did in 2.d. above

Examples:
   Adequate nutrition is considered to be of high value for physically demanding occupations. Using data provided by firefighter clinic, compare before and after lipid levels, glucose, % body fat after a one-on-one nutritional consultation. Make suggestions for improvements.
b. Hydration in the workplace.
   Compare numbers and severity of dehydration events before and after urine poster intervention by Tucson Fire. Make suggestions for program improvements
c. Infections:
Ultraviolet light has been proposed as a user friendly method to reduce pathogens in the workplace. Collaborate with research team as they assess the efficacy of UV light disinfection of a paramedic vehicle. Evaluate data and efficacy.

4. Class participation is 20% of grade. Full credit is given if you ask two or more questions/make comments per class. Design your own in consultation with class instructor.

5. Final exam is 20%. A review session will be provided before exam.

**Course Schedule:**

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC &amp; EXPERIMENTAL/ CORE COMPETENCIES</th>
<th>READING/RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>BASIC SKILLS SECTION</strong></td>
<td></td>
</tr>
<tr>
<td>Aug. 23</td>
<td>1. What will I know by the end of course?; What do I need to do to get an A?; Environmental and Occupational History (OEH); Haddon Matrix (HM)</td>
<td>Norma Rae DVD; Exposure history form; Haddon Matrix handout</td>
</tr>
<tr>
<td></td>
<td>1. Complete an exposure history form on yourself (environmental and occupational history, exposures, risks).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Complete a HM of an exposure or injury you are familiar with. Use fake names to preserve anonymity.</td>
<td></td>
</tr>
</tbody>
</table>

**Before Aug. 30 class:**

2. Read hard copy of Murky Science Mars Radiation Response. WSJ 8.16.22
4. Using the readings and video, type three questions about the disaster response that you will ask our guest John Holtrop who served on the Japan disaster team. Turn questions in at the beginning of class for him to review. Examples of sample questions below:

**Aug. 30**

2. Environmental and Occupational History: Ask about characteristics of the medical condition; Define the environmental or occupational exposure; Demonstrate correlation between exposure and condition; Interpret available information and determine need for additional data.
   1. On what basis were decisions made about evacuations based on radiation exposures?
   2. How would the age of the exposed affect evacuation and return to exposed areas?
   3. What measures should be taken to improve evacuation decisions in the future?

**Before Sep. 6 class:**

1. Read ergonomic articles that will be provided during the 8.30 class
2. Take a digital picture of your computer work area or any other work station you are familiar with. Complete an ergonomic survey of that work station. Turn both in at beginning of class.

**Sep. 6**

3. Ergonomics/worksite assessments
   1. University work station(s) will be revised by class.
   2. Turn in your suggested revisions at the end of class

Ergonomics survey form, Ergonomics the Risk Manager (Peate, Lunda): How to do a worksite visit
OCCUPATIONAL GROUPS AT HIGH RISK

Feb. 2 4. Healthcare/hospice workers; Public safety workers; Military
OFFSITE (no class):
1. Choose one of the following occupations or one of your choice with instructor approval:
   -Cindy Rider, RN, Administrator Heartland Hospice W. 325-2790
   -Deputy Chief Ed Nied, Tucson Fire. 837-7100
   -Pani Ellinas, MD, MPH Lt. Colonel USA Medical Corps 520-234-0846
2. Conduct an interview with that individual and complete an EOH survey for that work place. Your focus is the exposures of that population, not those specific to the interviewee. E-mail me your survey on or by 9/17/11.

Before Sep. 20 class:
Read three articles on firefighter occupational risks. Copies will be emailed to you on 9.13.11. Write three questions to turn in at beginning of class to ask Ret. Chief Gerry Bates about worksite wellness/fitness for firefighters. E.g., “What challenges did you face convincing firefighters to participate in wellness/fitness programs?”

Sep. 20 5. In depth EOH/survey of an occupational group that is exposed to numerous occupational and environmental hazards
1. Interview with Ret. Health and Safety Chief Gerry Bates
2. Firefighter gear

Before Sep. 27 class:
Read articles that will be provided to you on 9.20 and bring three questions to ask the clinic staff about they assess wellness/fitness. Turn in to clinic VP of Operations Heather Parks.

Sep. 27 6. Wellness/fitness programs; Keeping the worker healthy
1. WellAmerica Clinic 1951 N. Wilmot Rd. 795-1098
   -Health risk appraisal and other assessments. No grade.
   For your information only. Dinner Included (free)

Before Oct. 4 class:
Read selected chapters in Occupational Health in Developing Countries (on reserve).

Oct. 4 7. (Case) International Occupational & Environmental Health
1. Case study PNG mine
2. Interview and presentation day by Dr. Marvin Clark, Papua
3. New Guinea Freeport Mine

BODYSYSTEMS AT HIGH RISK

Oct. 11 8. Hearing and vision; Faculty meeting with each student on capstone presentation
1. Audiogram at the Speech and Hearing lab

Oct. 18 9. Lung diseases
1. Pulmonary function labs EP Beeler

Oct. 25 10. Skin diseases
1. Melanoma screening guide
Before Nov. 1 class:
Read Mental challenges program. Write three questions to ask Dr. Dowdall about what challenges she might face in implementing a worksite mental health program, and difficulties in gaining worker and management acceptance and utilization of services.

Nov. 1 11. Neurologic/Psychologic
1. Role play critical incident stress management (CISM) interview with C. Dowdall, PhD
2. Stress management exercise

Nov. 8 12. Musculoskeletal injuries, burns; Rough draft of capstone presentation due
1. Presentation of NIOSH grant injury risk assessment intervention

MULTISYSTEM DISORDERS

Nov. 15 13. Infectious diseases; Comments on draft of capstone presentation
1. Interview with MRSA survivor.

Nov. 22 15. Cancer
1. Interview with cancer survivor and discussion of worksite support groups

NO HOMEWORK. HAPPY THANKSGIVING

Nov. 29 16. Capstone presentations

Dec. 6 17. Final exam review occupational/environmental. Location: TBA

FINAL EXAM

Communications: You are responsible for reading emails sent to your UA account from your professor and the announcements or D2L email placed on the course website. Information about readings, news events, your grades, assignments and other course related topics will be communicated to you with these electronic methods. The official policy can be found at: http://www.registrar.arizona.edu/emailpolicy.htm

Disability Accommodation: If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (621-3268; drc.arizona.edu) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. The official policy can be found at: http://catalog.arizona.edu/2011%2D12/policies/disability.htm

Academic Integrity: All UA students are responsible for upholding the University of Arizona Code of Academic Integrity, available through the office of the Dean of Students and online: The official policy is found at: http://deanofstudents.arizona.edu/codeofacademicintegrity
Consequences for any type of academic misconduct may result in a grade of zero for assignment, or a failing grade for the course.

Pay special attention to the sections on plagiarism.

**Plagiarism:** What counts as plagiarism?
- Copying and pasting information from a web site or another source, and then revising it so that it sounds like your original idea.
- Doing an assignment/essay/take home test with a friend and then handing in separate assignments that contain the same ideas, language, phrases, etc.
- Quoting a passage without quotation marks or citations, so that it looks like your own.
- Paraphrasing a passage without citing it, so that it looks like your own.
- Hiring another person to do your work for you, or purchasing a paper through any of the on- or off-line sources.

**Classroom Behavior:** (Statement of expected behavior and respectful exchange of ideas)
The Dean of Students has set up expected standards for student behaviors and has defined and identified what is disruptive and threatening behavior. This information is available at: [http://deanofstudents.arizona.edu/disruptiveandthreateningstudentguidelines](http://deanofstudents.arizona.edu/disruptiveandthreateningstudentguidelines)

Students are expected to be familiar with the UA Policy on Disruptive Behavior in an Instructional Setting found at [http://web.arizona.edu/~policy/distuptive.pdf](http://web.arizona.edu/~policy/distuptive.pdf) and the Policy on Threatening Behavior by Students found at [http://web.arizona.edu/~policy/threatening.pdf](http://web.arizona.edu/~policy/threatening.pdf)

**Grievance Policy:** Should a student feel he or she has been treated unfairly, there are a number of resources available. With few exceptions, students should first attempt to resolve difficulties informally by bringing those concerns directly to the person responsible for the action, or with the student's graduate advisor, Assistant Dean for Student and Alumni Affairs, department head, or the immediate supervisor of the person responsible for the action. If the problem cannot be resolved informally, the student may file a formal grievance using the Graduate College Grievance Policy found at [http://grad.arizona.edu/academics/policies/academic-policies/grievance-policy](http://grad.arizona.edu/academics/policies/academic-policies/grievance-policy)

**Grade Appeal Policy:** [http://catalog.arizona.edu/2011-12/policies/gradappeal.htm](http://catalog.arizona.edu/2011-12/policies/gradappeal.htm)

**Syllabus Changes:** Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate.

**Telephone and Computer Use:** You may use your computer in class for accessing course related content. Other uses of the computer during class are distracting to fellow students and lecturers and will not be permitted. Likewise, cell phones should be set to silent or vibrate in order to not disrupt the class and disturb your fellow students and professor.