ENV H 597/NURS 580

Case Studies in Occupational and Environmental Health

Winter 2018

Course Times: Thursdays, 2:30pm - 3:20pm

Course Location: Magnuson Health Sciences Building, Rm I-142 (*by the Rotunda*)

Instructors:

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Course Website: https://canvas.uw.edu/courses/1128722

Course Description:

This course is offered during Autumn, Winter and Spring quarters of the academic year and is a requirement for University of Washington (UW) Occupational and Environmental Medicine (OEM) residents, Madigan Preventive Medicine (PM) residents, and other students enrolled in the DEOHS OEM MPH academic degree program. The course is also open to other clinically-oriented students, including but not limited to occupational and environmental health nursing students, medical fellows in other medical subspecialties, residents in internal medicine, family medicine, emergency medicine, and rehabilitation medicine, and third and fourth year medical students. The course is also open to non-clinically-oriented students, including exposure sciences students, with permission of the instructors.

During this course, clinical cases encountered at the University of Washington Occupational and Environmental Medicine Clinic at Harborview and other occupational medicine clinics in the community will be presented and discussed. This course focuses on evaluation and management of occupational and environmental injuries and illnesses in an interactive format with students and faculty. Emphasis is placed on evidence-based clinical decision-making through analysis of the scientific literature and critical clinical reasoning.

E-mail is the standard medium used for communication in this course, and readings and other resources will be distributed via the course web site. Students are responsible for ensuring that their correct email address is on file and for informing the instructor if unable to use electronic media.

Course Learning Objectives:

By the end of this course, students should be able to:

1. Synthesize clinical and relevant exposure/hazard information and develop a differential diagnosis that includes both occupational/environmental and non-occupational/environmental conditions.
2. Apply a systematic and evidence-based approach to evaluating potentially occupationally- and environmentally-related injuries and illnesses.
3. Apply an evidence-based approach to managing occupational and environmental injuries and diseases.
4. Assess work-relatedness for potentially work-related injuries and illnesses.
5. Recommend appropriate occupational (and non-occupational) accommodations and restrictions for occupationally-related injuries and diseases.

Course Format:

Overview:

An occupational or environmental injury or disease case will be presented and discussed at each session ("*main* case presentation"). UW OEM residents will present the *main* case while Madigan PM residents and other students will prepare and review teaching points related to the case topic. Supervising attending physicians and other faculty will reinforce pertinent teaching points. Each session will also include discussion of *other* current clinical cases that contribute to achievement of learning objectives.

Session Format:

~25 min: *Main* case presentation & discussion

~10 min: Review of teaching points as questions arise during the case presentation

~15 min: Discussion of *other* current clinical cases

Remote Participation:

In situations deemed by the instructors to be necessary, students and faculty may participate remotely using the ZOOM video conferencing platform. For each weekly session, a unique login URL and login instructions will be sent via email. ZOOM is easy to use and only requires a computer or laptop with a built-in camera, microphone, and reliable wifi or Ethernet connection. First time users will be prompted to download and install a desktop client application (which may require administrative permissions if the computer is centrally managed). Users may create a free account or login as a guest each time. More detailed information can be found in "ZOOM – Getting Started on the PC and MAC." Students requesting to participate remotely must request permission from the instructors at least one week prior to the class.

Scope of Cases:

Over the course of the quarter, cases that cover a broad range of occupational and environmental diseases and injuries will be discussed, as shown in the table below. Selection of cases is described in the section below (**Course Requirements; Case presentation**).

Occupational Diseases (by Organ System)	**Occupational Diseases (by Exposure Type)**	**Occupational Injuries**
• Lung diseases • Upper respiratory tract disorders • Skin disorders • Infections • Cancer • Hematologic disorders • Cardiovascular disorders • Liver disorders • Renal disorders • Neurological disorders • Reproductive disorders • Developmental disorders • Musculoskeletal disorders	• Metals • Chemicals • Solvents • Gases and other airborne toxicants • Pesticides	• Musculoskeletal injuries • Eye injuries • Injuries caused by physical hazards o Noise o Temperature o Radiation (ionizing and nonionizing) & lasers o Atmospheric conditions & extremes of pressure o Vibration

Course Requirements:

Case presentation: At the start of the quarter, each UW OEM resident will sign up for approximately two sessions at which to orally present clinical cases. Two weeks prior to the assigned session, the UW OEM resident will work with the instructors to choose a recent case from a self-compiled list of possible cases seen in clinic. The UW OEM resident will then discuss the chosen case with the Madigan PM resident or other student (non-UW OEM Resident) assigned to develop the teaching points (see section below: **Evidence-based teaching point summary**).

Evidence-based teaching point summary: At the start of each quarter, each Madigan PM resident or other student (non-UW OEM Resident) will sign up for approximately two sessions at which to orally present case-related teaching points. The PM resident or other student (non-UW OEM Resident) will discuss the chosen case with the OEM resident outside of class, then prepare a one- to two-page summary of teaching points for the occupational injury or disease topic relevant to the case (see **Syllabus Appendix** for example). This summary is expected to highlight the following:

- Epidemiology, pathophysiology, and natural history
- Work relatedness (if relevant)
- Differential diagnosis
- Diagnostic considerations
- Management considerations

The summary is also expected to include a list of key references, including at least one primary scientific article and one review article used to develop the summary. The PM resident will then serve as the teaching expert, and provide informational input as questions about the case and its associated topic of focus arise during the case presentation. The PM resident will also email the teaching point summary document to the instructors to be uploaded onto the Canvas course website.

Other Recommendations:

- *Case Presentation:* It is encouraged to simply present cases and teaching points without using PowerPoint slides. Powerpoint slides may however be use to highlight information pertinent to the case e.g. images, results etc.
- *Toolkit:* A clinical and diagnostic reasoning toolkit to guide the case presentation process is available in the **Syllabus Appendix**.

Recommended Resources:

1. Rosenstock, L et al (2004). Textbook of Clinical Occupational and Environmental Medicine, 2nd Edition. Philadelphia. Elsevier Saunders.
2. LaDou J, et al (2014). CURRENT Occupational and Environmental Medicine, 5th Edition. New York. McGraw-Hill.
3. Rom, W., & Markowitz, Steven. (2007). Environmental and Occupational medicine (4th ed.). Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins
4. Melhorn JM, et al (2013). AMA Guides to the Evaluation of Disease and Injury Causation, 2nd Edition. AMA.

Student Evaluation:

Course grades will be determined on the basis of:

Individual products (90%): *Main* case presentations or evidence-based teaching point summaries

Other (10%): Participation in discussion of *Main* clinical cases (e.g. contribution to discussion of potential options for assessment, differential diagnosis, and management) and description of at least one other case for the "*other* current clinical case discussion" section of each session.

Specific elements of individual products evaluated are:

Main clinical case presentation:

- Advance review of case with instructors
- Clarity, organization, synthesis of information, and reasoning in oral presentation
- Review of injury mechanism/exposures/controls, occupational history, physical examination, clinical diagnostic data & (if relevant) exposure/hazard data, differential diagnosis, management, work-relatedness and work restrictions (if relevant), primary prevention considerations

Evidence-based teaching point summary:

- Clarity, organization, and synthesis of information in oral presentation and written document
- Appropriate relationship to presented case

- Coverage of key topics: epidemiology, pathophysiology, and natural history; work relatedness (if relevant); differential diagnosis; diagnostic considerations; management considerations
- Scientific evidence for teaching points

Assignment of numeric grades will use UW Department of Health Services grading guidelines for graduate students. More details are available at the course website. http://depts.washington.edu/hserv/grading

3.9-4.0 Excellent and exceptional work ...for a graduate student
3.7-3.8 Strong work
3.4-3.6 Competent and sound work (*default category*)
3.2-3.3 Adequate work, although some weaknesses are evident
2.9-3.1 Borderline work
2.7-2.8 Deficient but acceptable work
<2.7 Unacceptable work

Classroom Climate:

The UW School of Public Health seeks to ensure all students are fully included in each course. We strive to create an affirming environment that reflects community and mutual caring. In this course, it is our intent that students from all backgrounds and perspectives are well-served, that students' learning needs are addressed both in and out of class, and that the diversity that students bring to this course is viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity encompassed by differences in: age, physical or mental ability, ethnicity, race, gender identity, sexual orientation, socioeconomic status, nationality, religion and culture. We encourage students with concerns about classroom climate to talk to us (your instructors), your advisor(s), member(s) of the departmental or SPH Diversity Committee, and/or the program director. Please let us know how we can improve the effectiveness of the course for you personally, or for other students or student groups. Your suggestions are encouraged and appreciated.

Access and Accommodations:

Your experience in this class is important to us, and it is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you experience barriers based on a disability or temporary health condition, please seek a meeting with Disability Resources for Students (DRS) to discuss and address them. If you have already established accommodations with DRS, please communicate your approved accommodations to your instructor at your earliest convenience so we can discuss your needs in this course.

DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (this can include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu

Academic Integrity:

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. The UW School of Public Health (SPH)

is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism, and the SPH Academic Integrity Policy. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standards and Student Conduct website.