

Course Syllabus

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ENV H 597A: Case Studies in Environmental & Occupational Health

Winter, 2019

1 credit, graded

Thursdays, 2:30-3:20 pm

South Campus Center (SOCC), Room 346

Instructor:

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Course Website: <https://canvas.uw.edu/courses/1131216>

Course Syllabus (PDF):

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, the VA, 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.
6. Assess fitness for duty, including special populations such as military personnel, commercial drivers, and workers in safety sensitive positions.
7. Gain familiarity with employment law and benefit programs, including workers' comp benefits and military programs, that apply to injured and ill workers.

Relevant Competencies

(https://www.acoem.org/uploadedFiles/Publications/OEM_Competencies/ACOEM%20OEM%20COMPETENCIES.pdf
(https://www.acoem.org/uploadedFiles/Publications/OEM_Competencies/ACOEM%20OEM%20COMPETENCIES.pdf)) :

Clinical: Provide evidence based clinical evaluation and treatment of injuries and illnesses that are occupationally and/or environmentally related, including those related to cardiology, dermatology, emergency medicine, gastroenterology, hematology/oncology, infectious disease, musculoskeletal, neurology, ophthalmology, and pulmonology.

Regulatory: Comply with and explain applicable regulations, as well as their interpretation and enforcement, including ADA, GINA, FMLA, workers' compensation, veterans' benefits, military disability evaluation, and environmental regulations.

Work Fitness and Disability Management: Determine whether a worker can safely be at work and perform required job tasks.

OEM population management: recognize & manage outbreak events of public health significance (TB); impairment (substance abuse); and exposure (blood borne pathogens).

Course Format:

Overview:

An occupational or environmental injury or disease case will be presented and discussed at each session ("*main* case presentation"). 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 as time permits.

Session Format:

~40 min: *Main* case presentation, discussion, & key points

~10 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** (<https://zoom.us/>). 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** (https://support.zoom.us/hc/en-gb/article_attachments/203114083/Zoom_Getting_Started_with_PC_and_MAC_v6.pdf)."

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, or diseases and injuries that impact work capacity, as shown in the table below. Selection of cases is described in the section below (**Course Requirements; Case presentation**).

Autumn and winter topics:

- Work stress leading to self-inflicted gunshot wound to knee
- Delayed return to work after back strain
- Chronic cough with fiberglass exposure
- Chronic kidney disease with solvent exposure
- Carpal tunnel syndrome with keyboarding
- Leg weakness due to peroneal nerve compression
- Radiation from Chernobyl and leukemia
- Occult metatarsal fracture after foot trauma
- First winter 2019 topic: Gulf War syndrome, or Chronic multi-symptom illness (CMI) - EF
- BBP- JD
- Solvent - JC
- Hearing Loss - MH
- HF Acid (Nancy)
- Burn – MD
- Contact Dermatitis – RT
- Brucellosis – DR
- Shoulder, DCO

Topics of particular interest for spring quarter include:

- Metal, find the source
 - Lead
 - Mercury
- Neurologic disease, etiology
 - Parkinson's Disease
- Heat related illness
- Pesticide question or frank toxicity
 - Acetylcholinesterase question
- Altitude sickness
- Vibration
- Travel question

Special Populations: Animal workers, military personnel, veterans, others

Legal/regulatory Aspects: Workers' comp – state, federal; Benefits – pension, medical board, service connectedness; Employment law -ADA, FMLA, GINA

Course Requirements:

Case presentation:

Key components of each case –

1. Pre-Case test question on a single key point; Dr. Cherry will place in “Poll Everywhere” for use in class
2. Map to OEM competency
(https://www.acoem.org/uploadedFiles/Publications/OEM_Competencies/ACOEM%20OEM%20COMPETENCIES.pdf)
3. Case, delivered interactively in response to questions from the audience
4. Teaching points (such as three bullets plus references)

At the start of the quarter, each of five UW OEM residents and each of two Madigan residents will sign up for one session at which to orally present clinical cases. One week prior to the assigned session, the resident will work with the instructor to choose a recent case from a self-compiled list of possible cases seen in clinical practice and will present a pre-case key point question, the case, and evidence-based teaching points including how OEM expertise was applied in managing the case. At each session, a scribe will be selected at random and will take notes on the dry erase board at the front of the class.

Pre-case test question: Something relevant to your case. For instance, which of the following is the most common cause of occupational allergic contact dermatitis?

1. Rubber accelerators
2. Hydrochloric acid
3. Mercury
4. Degreasers

Evidence-based teaching point summary:

The presenter will prepare a one- to two-page summary of teaching points answering specific questions about the occupational injury or disease topic relevant to the case. This summary is expected to highlight the OEM competency area as deemed most pertinent to the case.

The summary is also expected to include a list of key references. The resident will also email the teaching point summary document to the instructor 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.

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. \(http://accessmedicine.mhmedical.com/book.aspx?bookid=1186\)](http://accessmedicine.mhmedical.com/book.aspx?bookid=1186)
3. [Rom, W., & Markowitz, Steven. \(2007\). Environmental and Occupational medicine\(4th ed.\). Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins. \(https://alliance-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=CP71137071930001451&context=U&vid=UW&lang=en_US\)](https://alliance-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=CP71137071930001451&context=U&vid=UW&lang=en_US)
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 as deemed pertinent to the case: 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) [.\(http://depts.washington.edu/hserv/grading\)](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

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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.

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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 (<http://depts.washington.edu/uwdrs/>).

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](http://sph.washington.edu/students/academicintegrity/) (<http://sph.washington.edu/students/academicintegrity/>). 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.

| Date | Presenter: Main Case | Presenter: Short Case |
|------------------------------|-----------------------------------|--------------------------------------|
| 4/4 | Monya De: Hanford Case | |
| 4/11 (Jess, Eliz, Monya out) | Duane Robinson: Thallium | |
| 4/18 (Monya out) | Elizabeth Friedman: Isocyanate | |
| 4/25 (Richard out) | Debbie Cherry: Mercury | Gary B: stapler / ergo |
| 5/2 | Sverre Vedal | Cecile Rose from National Jewish |
| 5/9 (Debbie out) | Richard Taing | Nancy B: methylene chloride |
| 5/16 | Jason Dickens | Nancy B: hex chrome/ welding fume |
| | | |

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|---|----------------------------|--|
| 5/23 | Jess Chuang: animal worker | |
| 5/30 | Marian Hyatt | |
| 6/6 | | |
| Friday, 6/7 – (last day of instruction) | | |

Course Summary:

Date

Details
