

## **ENV H 596/NURS 580**

### **Current Issues In Occupational and Environmental Medicine**

**Winter 2018**

**Course Times:** Thursdays, 3:30pm - 5:20pm

**Course Location:** South Campus Center, Rm 348

#### **Instructors:**

June Spector, MD, MPH

Associate Professor

Departments of Environmental and  
Occupational Health Sciences (DEOHS) and  
Medicine (General Internal Medicine)

Office: HSB F 225

Phone: (206) 897-1979

E-mail: [spectj@u.washington.edu](mailto:spectj@u.washington.edu)

Esi Nkyekyer, MD, MPH

Clinical Instructor

Department of Medicine (General Internal  
Medicine)

Office: HSB F-226B

Phone: (206) 616-9870

E-mail: [esink@uw.edu](mailto:esink@uw.edu)

**Office Hours:** By appointment

**Course Website:** <https://canvas.uw.edu/courses/1125793>

#### **Course Description:**

This course is offered during Autumn, Winter and Spring quarters of the academic year and is a requirement for 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 the Winter 2018 quarter, this course will focus on an array of Occupational and Environmental Medicine (OEM) topics and current issues related to biomonitoring, occupational medical surveillance, occupational public health surveillance, large scale workplace events, disparities in occupational health, disaster preparedness and response, and risk communication in occupational and environmental clinical and population settings. Emphasis is placed on critical reading of the literature and practical application of evidence-based OEM to real world scenarios. To promote integration of concepts, students will watch short video lectures, review background materials, and read pre-assigned journal articles before each session; discussions involving both students and faculty/guest experts will occur during class time.

### **Course Logistics:**

Students may register for one to six quarters of this course, and up to 12 credits can be earned for taking it. Students may register for the course on a graded or credit/no credit basis, although graded status is required if the course is being taken to fulfill a degree requirement. UW OEM residents and Madigan PM residents typically attend and participate in all six quarters of the seminar over a two-year cycle.

*During the second year (for second year beginning Fall 2018), students enrolled in the two-year cycle additionally learn to select appropriate materials for and facilitate in-class case-based discussions.*

E-mail is the standard medium used for communication regarding 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 instructors if unable to use electronic media.

### **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.**

### **Course Learning Objectives:**

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

1. Critically review a scientific paper, using a structured approach to determine the validity of the work and to describe how it might affect the practice of occupational and environmental medicine.
2. Discuss the role and importance of biomonitoring in exposure and risk assessment, surveillance, and research in occupational and environmental health.
3. Define workplace medical surveillance, describe the differences between medical surveillance and screening, and summarize the limitations of OSHA medical surveillance.
4. Define occupational health surveillance and distinguish between active, passive and sentinel surveillance.
5. Describe how occupational health disparities arise, and how employment conditions, work organization, and job insecurity can exacerbate these health disparities.
6. Describe the components of the disaster management cycle, and the framework for disaster preparedness and response in the United States.
7. Describe the common characteristics of, precipitating factors for, and appropriate response to large scale workplace events such as mass psychogenic illness.
8. Describe the role and importance of risk communication in the risk analysis framework, key goals of risk communication in the clinical setting, and factors that can influence the effectiveness of risk communication.
9. *Second year students (for second year beginning Fall 2018): Select appropriate materials for and facilitate discussion of cases illustrating current issues in OEM.*

### **Course Format:**

#### Overview:

This course uses a flipped classroom approach (<http://www.washington.edu/teaching/teaching-resources/flipping-the-classroom/>). Prior to each session, students watch a short video mini-lectures, review background materials, and read the assigned journal article. In-class time is devoted to: assessing uptake of information presented in the short lecture videos and background materials using a question- and-answer format, working through a case-based exercise, discussing the

weekly journal article, and interacting with guest experts.

Session format:

In general, the format for each session will consist of:

15 min: Knowledge probe using question-and-answer format

20 min: Journal article review and discussion

30 min: Case-based exercise

45 min: Guest lecturer interactive session

Format for student-led article discussion:

Each student will lead a journal article discussion during 1 – 2 sessions of the course. Students may use the article review format outlined in ‘*Appraising the Evidence: A Quick Guide to Reviewing a Journal Article*’ located under ‘Files’ on the course Canvas website to prepare to lead the article discussion.

Students will be expected to generate and distribute to the class at least 2 questions for journal article discussion 3 days in advance of the session for which they are leading. These questions will be used to prompt initial discussion at the beginning of the article review session. The student leading the discussion will then guide the group through an in-depth review the article, using an interactive format which involves posing guiding questions to discussion participants, and serving as the expert for discussion of participant responses.

Course Requirements:

High-yield readings and review of multimedia resources combined with instructor- and student-led discussions and activities in class will test students’ ability to demonstrate application of knowledge.

Evaluation methods:

**Student-led journal article discussion:** At the start of the quarter, each student will sign up for 1-2 sessions at which to lead a 20-minute journal article discussion. Students will be expected to generate and distribute to the class at least 2 questions for journal article discussion in advance of the session and to lead the group in systematically discussing and critically appraising the journal article using techniques reviewed by the instructors during the first session of the quarter. The journal article discussion will be evaluated based on the depth of critical appraisal of the article, quality of discussion questions, and the clarity of presentation.

**Weekly reflection.** Once a week, students will be asked to write for instructor review a brief written reflection on one aspect of the weekly topic most notable to them, where in the preparatory materials/preparation for class this aspect became apparent, and one question that review of preparatory materials has generated for the guest expert and/or instructors. These assignments will be graded.

*Second year student only (for students enrolled in the two-year cycle who become second year students starting Fall 2018):*

**Article and case selection, and student-led case discussion:** *At the start of the quarter each second-year student will sign up for approximately 2 sessions for which to select appropriate journal review articles and cases illustrative of the weekly topic, discuss them with the instructors, and distribute them to the class at least one week prior to the corresponding session. Students will lead 30-minute case discussions based on the selected cases using a toolkit provided by the instructors.*

Readings and Other Preparatory Materials:

All readings, videos, and other materials will be posted on the class website. All students are expected to be able to access

class materials via the course website. If this presents a problem, students are expected to let the instructor know immediately.

Please be advised that to use the electronic material on the course website, you must agree to the following statement:

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be used for any purpose other than private study, scholarship, or research. If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of fair use that user may be liable for copyright infringement.

**Student Evaluation:**

Course grades will be determined on the basis of:

**Journal article discussion (80%)**

**Weekly reflection (20%)**

*Second year students (students enrolled in the two- year cycle who become second year students starting Fall 2018):*

***Journal article discussion (40%)***

***Weekly reflection (20%)***

***Article and case selection (20%)***

***Student-led case discussion (20%)***

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](mailto:uwdrs@uw.edu) or [disability.uw.edu](http://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.

**Course Schedule:**

Date	Topic	Guest Expert	Preparation/Readings
1/4/2018	<i>Cascadia Conference</i> <i>(No class)</i>	NA	NA
1/11/2018	Biomonitoring	Matthew Keifer, MD MPH	View Mini Lecture*: - Biomonitoring Read Background: - Manno M et al. Biomonitoring for Occupational Health Risk Assessment (BOHRA). Toxicol Letters 2010 Jan 15;192(1):3-16. - Manno M et al. Ethics in Biomonitoring for Occupational Health. Toxicol Lett. 2014 Dec 1;231(2):111-21. Read Journal Review Article: - Krenz J et al. Determinants of Butyrylcholinesterase Inhibition Among Agricultural Pesticide Handlers in Washington State: An Update. Ann Occup Hyg. 2015 Jan; 59(1):25-40 Review Biomonitoring Case
1/18/2018	Risk Communication	NA	View Mini Lecture*: - Risk_Comm Read Background:

			<ul style="list-style-type: none"> <li>- Covello VT. Risk Communication and Occupational Medicine. J Occup Med. 1993 Jan; 35(1):18-9.</li> <li>- Nicholson PJ. Communicating Occupational and Environmental Issues. Occup. Med. 2000; 50 (4), 226-230</li> <li>- Tinker T Et al. Assessing risk communication effectiveness: perspectives of agency practitioners. Journal of Hazardous Materials B73 (2000) 117–127</li> </ul> <p>Read Journal Review Article:</p> <ul style="list-style-type: none"> <li>- Sullivan J Et al. Public Talks and Science Listens: A Community-Based Participatory Approach to Characterizing Environmental Health Risk Perceptions and Assessing Recovery Needs in the Wake of Hurricanes Katrina and Rita. Environmental Health Insights 2009:3 37–51</li> </ul> <p>Review Risk Comm Case</p>
1/25/18	Disaster Preparedness and Response	Nicole Errett, PhD MSPH	<p>View Mini Lecture*:</p> <ul style="list-style-type: none"> <li>- Disaster_Prep</li> </ul> <p>Read Background:</p> <ul style="list-style-type: none"> <li>- Hendrickson RG et al. In: Tintinalli JE, et al. eds. Tintinalli’s Emergency Medicine: A Comprehensive Study Guide, 8e New York, NY: McGraw-Hill; 2016 – Chapter 5</li> <li>- Greer MT, Lewis R. CBRNE Preparedness. In: LaDou J, Harrison RJ. eds. CURRENT Diagnosis &amp; Treatment: Occupational &amp; Environmental Medicine, 5e New York, NY: McGraw-Hill; 2013 – Chapter 37</li> <li>- Homeland Security. National Preparedness Goal. September 2015.</li> </ul> <p>Read Journal Review Article:</p> <ul style="list-style-type: none"> <li>- Leider JP et al. Ethical Guidance for Disaster Response, Specifically Around Crisis Standards of Care: A Systematic Review. Am J Public Health. 2017 Sep;107(9): e1-e9.</li> </ul> <p>Review Disaster Prep Case</p>
2/1/2018	Disparities in Occupational Health	NA	<p>View Mini Lecture*:</p> <ul style="list-style-type: none"> <li>- Disparities</li> </ul> <p>Read Background:</p> <ul style="list-style-type: none"> <li>- Rom, W., &amp; Markowitz, Steven. (2007). Environmental and occupational medicine (4th ed.). Philadelphia: Wolters Kluwer/Lippincott Williams &amp; Wilkins – Chapter 116</li> <li>- Landsbergis PA et al. Work organization, job insecurity, and occupational health disparities. Am J Ind. Med. 2014 May;57(5):495-515.</li> </ul> <p>Read Journal Review Article:</p>

			<ul style="list-style-type: none"> <li>- Stanbury M et al. Occupational health disparities: a state public health-based approach. Am J Ind. Med. 2014 May;57(5):596-604.</li> </ul> <p>Review Disparities_Case</p>
2/8/18	Workplace Medical Surveillance and Standards	NA	<p>View Mini Lecture*:</p> <ul style="list-style-type: none"> <li>- Med_Surveil</li> </ul> <p>Read Background:</p> <ul style="list-style-type: none"> <li>- Silverstein MA. Medical screening, surveillance, and the prevention of occupational disease. J Occup Med. 1990 Oct; 32(10):1032-6</li> </ul> <p>Read Journal Review Article:</p> <ul style="list-style-type: none"> <li>- Gulumian M et al. Systematic Review of Screening and Surveillance Programs to Protect Workers from Nanomaterials. PLoS One. 2016 Nov 9;11(11): e0166071.</li> </ul> <p>Review Med Surveillance Standards Case</p>
2/15/18	Public Health Surveillance in Occupational Health	David Bonauto	<p>View Mini Lecture*:</p> <ul style="list-style-type: none"> <li>- Occ_PH_Surveil</li> </ul> <p>Read Background:</p> <p>Read Journal Review Article:</p> <ul style="list-style-type: none"> <li>- Lincoln JM et al. Occupational Fatalities in the United States Commercial Fishing Industry, 2000–2009. J Agromedicine. 2010 Oct;15(4):343-50.</li> </ul> <p>Review Occ_PH_Surveillance_Case</p>
2/22/2018	Large-scale Workplace Events: Mass Psychogenic Illness	NA	<p>View Mini Lecture*:</p> <ul style="list-style-type: none"> <li>- Psychogenic</li> </ul> <p>Read Background:</p> <ul style="list-style-type: none"> <li>- Jones TF. Mass Psychogenic Illness: Role of the Individual Physician. Am Fam Physician. 2000 Dec 15;62(12):2649-2653.</li> <li>- Balaratnasingam S et al. Mass Hysteria Revisited. Curr. Opin. Psychiatry, 2006, 19:171–174.</li> </ul> <p>Read Journal Review Article:</p> <ul style="list-style-type: none"> <li>- Finell E et al. Indoor air problems and experiences of injustice in the workplace: A quantitative and a qualitative study. Indoor Air. 2017;1–10.</li> </ul> <p>Review Psychogenic_Case</p>
3/1/18	<i>Thesis Updates</i>	NA	NA
3/8/18	<i>Course wrap up and Feedback</i>	NA	NA

\* Note: Mini-lectures can be viewed in the Panopto Recordings tab on the course Canvas website.