

ENVH 550: Occupational & Environmental Disease

Spring 2023

Course Times & Locations:

Tues 8:30 am-10:20 am, Health Sciences Building (HSB) T531

Thurs 8:30 am-9:20 am, HSB T531

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Course Website: <https://canvas.uw.edu/courses/1633835>

Course Description:

This course serves as an introduction to occupational and environmental diseases. Classes are organized around diseases using public health scenarios and clinical cases. To promote integration of concepts, lecture materials and other illustrative multimedia content are reviewed outside of class, and multi-disciplinary discussions involving both students and faculty occur during class time. This course is designed to ensure that, upon completion, students can effectively apply evidence-based principles to their work.

Course Learning Objectives:*

At the end of this course, the student will be able to:

- Recognize and describe the epidemiology and pathophysiology of classic, common, and emerging occupational and environmental diseases (PC1)
- Identify potential relationships between exposures and symptoms in workers, working populations, and communities (PC1, MK2)

- Select appropriate initial diagnostic tests to evaluate symptoms in potentially exposed individuals (PC1)
- Work in multi-disciplinary teams to manage and prevent occupational and environmental diseases at the population level using such approaches as hazard evaluation, disease surveillance, policy development, and health protection programs (PC8, PC6)
- Evaluate regulatory occupational exposure limits with respect to disease prevention (PC9)
- Recommend appropriate medical surveillance activities, integrating information about regulatory requirements (PC12)
- Critically review the scientific literature to address specific occupational and environmental disease questions, and determine the validity of the work (MK4)

Additional learning objectives for clinically-oriented (four-credit course option) students are:

- *Formulate a differential diagnosis for patients with symptoms potentially related to occupational and environmental exposures (PC8)*
- *Select and interpret appropriate diagnostic tests (including imaging studies, audiograms, nerve conduction/electromyography studies, pulmonary function tests, and allergy tests) and workplace/environmental evaluations that can best distinguish between specific occupational illnesses, and evaluations that can help distinguish conditions caused by occupational and environmental exposures from other conditions (PC1)*
- *Manage workers with occupational and environmental diseases, including by selecting appropriate treatments and referrals, while incorporating best practices from medical guidelines (PC1, PC6, PC8)*

Accreditation Requirements & Competencies Met by This Course

Council on Education for Public Health (CEPH) competencies met by this course:

- Evaluate injuries and illnesses that are occupationally or environmentally related within the occupational and environmental health regulatory environment and systems (MPH-OEM department-level degree competency)
- Recognize, evaluate, and treat human exposures to physical, chemical, or biological hazards at work or in the general environment (MPH-OEM department-level degree competency)

** Objectives are mapped to relevant Accreditation Council for Graduate Medical Education (ACGME) milestones and*

levels (<https://www.acgme.org/acgmeweb/Portals/0/PDFs/Milestones/PreventiveMedicineMilestones-OccupationalMedicine.pdf>), shown in parentheses after each objective and described below. Milestones are knowledge, skills, attitudes, and other attributes of ACGME competencies and are designed to be organized in a development framework from less to more advanced (Levels 1 to 5). Level 4 is designed as the graduation target (not requirement) for completion of the graduate medical education program.

- *Patient Care (PC)1, Level 3: Recognizes, evaluates, and treats (or refers) patients whose health may be affected by acute or chronic exposure to occupational or environmental chemical agents, including interpretation of laboratory and/or environmental monitoring test results*
- *PC6, Level 3: Applies primary, secondary, and tertiary preventive approaches to disease prevention*
- *PC8, Level 3: Works with a team to evaluate and identify workplace or environmental causes of injury or illness and recommends controls or programs to reduce exposure....; formulates an appropriate differential diagnosis and assessment; provides appropriate treatment and plan....; applies evidence-based clinical practice guidelines in treatment and management*
- *PC9, Level 2: Lists the criteria/regulatory levels for exposures to the specific substance or hazard*
- *PC12, Level 2: Performs a medical surveillance examination following prescribed guidelines*
- *Medical Knowledge (MK)2, Level 2: Identifies common illnesses that may be caused or influenced by environmental exposures & identifies broad environmental factors that may impact the health of a community*
- *MK4, Level 4: Critically reviews and interprets epidemiologic literature for commonly used study designs, identifying purpose, population, design, and biases*

Course Logistics:

This course offers two different credit options: 1) a three-credit option, and 2) a four-credit option. [1] The three-credit option focuses on occupational and environmental disease epidemiology, pathophysiology, basics of diagnostic testing, and aspects of workplace/population management relevant to disease prevention and management such as hazard evaluation, disease surveillance, policy development, and health protection programs. The course will meet many of the objectives of students in exposure sciences, occupational health services, construction management occupational safety and health, and toxicology with its focus on specific exposures, health outcomes, and disease management.

A four-credit option, intended for clinically-oriented students including but not limited to occupational and environmental health nursing students, medical fellows in occupational and environmental medicine and other medical subspecialties, residents in internal medicine, family medicine, emergency medicine, and rehabilitation medicine, and third and fourth year medical students, is also available. The four-credit option includes an additional clinical laboratory session each week that focuses in more detail on aspects of diagnostic testing and interpretation, differential diagnosis, and clinical management. This additional clinical laboratory allows for emphasis on attaining the level of knowledge required for successful completion of the Occupational Medicine board examination and the Certified Occupational Health Nursing examination.

The course is open to other students with permission of the instructor.

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 instructor if unable to use electronic media.

Course Format:

The course consists of eight units, with each unit focusing on a different occupational/environmental disease. Diseases will be introduced using public health scenarios and clinical cases. The course will be delivered using a “flipped-classroom” approach,^[2] in which lecture and other materials will be reviewed outside of class, and interactive, multidisciplinary activities will be conducted during class time. There will often be several student-led discussions per week (see details below).

In general, each disease-unit will be covered over the course of one week. The general scheme includes:

1. Basic descriptive epidemiology and evidence of exposure/disease association:
 - Student preparation (*outside of class*):
 - Review workplace scenario and illustrative YouTube video clips, other media sources, and/or readings
 - View pre-recorded video mini-lecture (background, basic descriptive epidemiology of disease)
 - Read journal article or report addressing exposure/disease relationship (if applicable)
 - In-class:
 - Review of scenario
 - Q&A/discussion of descriptive epidemiology using student response approach
 - Brief review of journal article/report addressing exposure/disease relationship (student-led, if applicable)
2. Basic pathophysiology and diagnostic considerations (individual patient-level):
 - Student preparation (*outside of class*):
 - Review clinical case and illustrative YouTube video clips, other media sources, and/or readings covering clinical disease presentation and/or diagnostic considerations
 - View pre-recorded video mini-lecture (basic pathophysiology)
 - In-class:
 - Review of case
 - Discussion of classic diagnostic tests and disease findings using actual examples (clinical student-led)

3. Selected aspects of management (workplace/population-level):

- - Student preparation:
 - Review/read resources, including occupational safety and health standards, if applicable, covering disease prevention and management at the workplace/population level
 - In-class:
 - Interactive discussion of population-level disease management/prevention topic (e.g. hazard evaluation, disease surveillance, policy development, health protection programs) (student-led)

For clinical students/students enrolled in the four-credit course option, there will be an additional clinical laboratory each week focusing on diagnosis and clinical management:

4. Clinical Laboratory – differential diagnosis, clinical management

- - *Student preparation:*
 - *Review/read resources covering differential diagnosis and management*
 - *View pre-recorded instructor mini-lecture and guest expert video lectures (diagnosis and management)*
 - *Complete quiz*

Course Requirements:

High-yield readings and review of multimedia resources combined with instructor- and student-led discussions and activities in class, and clinically-oriented quizzes (4-credit/clinically-oriented students only), will test students' ability to demonstrate application of knowledge.

Evaluation methods

Student-led discussions: Groups of 1-2 students will be formed. Each group will:

#1) *non-clinically-oriented students:* lead an approximately 20-30 minute discussion of an illustrative journal article corresponding to the weekly occupational/environmental disease. The discussion should emphasize a critical review of the article and focus on any evidence of an exposure-disease association and, if relevant, dose-response relationship

or

lead an approximately 30 minute discussion of the workplace/population management topic corresponding to the weekly occupational/environmental disease. Discussions should be interactive and

participatory, evidence-based, and build on the scenario for each disease. Students are required to communicate with the instructor at least one week prior to the presentation for feedback on the plan for the discussion.

#2) *clinically-oriented students*: lead one approximately 30 minute discussions of the clinical evaluation topic corresponding to the weekly occupational/environmental disease. Discussions should be interactive and participatory, evidence-based, and build on the case for each disease. Students are required to communicate with the instructor at least one week prior to the presentation for feedback on the plan for the discussion.

Final presentation: Multidisciplinary groups of 4-6 students will be formed. Each group will choose an emerging and/or global occupational or environmental disease of interest. Groups will present an approximately 15-25 minute overview of the chosen disease covering information about what is known about the exposure, disease/case epidemiology, diagnosis/case definition, population management, and clinical management (if relevant). Non-clinically-oriented students will present on clinical subtopics with guidance from clinically-oriented group members, and clinically-oriented students will present on non-clinical (e.g. exposure) subtopics with guidance from non-clinically-oriented students.

Weekly reflection: Once a week, students will be asked to write for instructor review a brief written reflection on one aspect of the weekly disease that were most notable to them, and why, and indicate what aspects of the course (online mini-lectures, pre-class preparatory written materials or videos, in-class question and answer sessions or discussions with peers/instructor, journal article reviews, independent learning stimulated by class discussion/materials, etc.) drew these aspects to their attention. These assignments will be graded.

Clinical lab quizzes (4-credit/clinically-oriented students only): *There will be approximately weekly quizzes focused on diagnosis/management/clinical lab content. The quiz format will be multiple-choice and/or short answer.*

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.

Course Textbook: Rosenstock, L. Textbook of Clinical Occupational and Environmental Medicine, 2nd edition (2005).

Student Evaluation:

Course grades will be determined on the basis of:

	Three-credit option	<i>Four-credit option (clinically-oriented students)</i>
Individual products (90%)		
Student-led discussion	35%	30%
Final presentation	55%	45%
Weekly clinical lab quizzes	--	15%
Other (10%)		
Weekly reflection	10%	10%

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

Access and Accommodations:

Your experience in this class is important to me. 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 have already established accommodations with Disability Resources for Students (DRS), please activate your accommodations via myDRS so we can discuss how they will be implemented in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), contact DRS directly to set up an Access Plan. DRS facilitates the interactive process that establishes reasonable accommodations. Contact DRS at disability.uw.edu (<https://depts.washington.edu/uwdrs/>).

Religious Accommodations:

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/) (<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](https://registrar.washington.edu/students/religious-accommodations-request/) (<https://registrar.washington.edu/students/religious-accommodations-request/>).

Illness Protocols and Safety:

If you feel ill or exhibit respiratory or other symptoms, you should not come to class. Seek medical attention if necessary and notify your instructor(s) as soon as possible by email.

Please check your email daily BEFORE coming to class. If we need to conduct class remotely because the instructor or a guest speaker is unable to attend in person, we will send all registered students an email with a Zoom link for remote instruction or a plan for making up the class.

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). Use of artificial intelligence tools such as ChatGPT for assignments or exams is considered academic misconduct and is prohibited. 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.

Classroom Climate:

The UW School of Public Health seeks to ensure all students are fully included in each course and strives to create an affirming environment that reflects community and mutual caring. In this course, it is my 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 my 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. I encourage students with concerns about classroom climate to talk to me (your instructor), your advisor(s), member(s) of the departmental or SPH Diversity Committee, and/or your program director. Please let me know how I can improve the effectiveness of the course for you personally, or for other students or student groups. Your suggestions are encouraged and appreciated.

Land Acknowledgement:

Washington state is home to 29 federally recognized and multiple unrecognized tribes. We include a land acknowledgment statement as a sign of respect for the original caretakers of the land: "The University of Washington acknowledges the Coast Salish people of this land, the land which touches the shared waters of all tribes and bands within the Duwamish, Suquamish, Tulalip and Muckleshoot nations."

Equity, Diversity & Inclusion

Diverse backgrounds, embodiments and experiences are essential to the critical thinking endeavor at the heart of University education. In SPH, students are expected:

To respect individual differences, which may include, but are not limited to, age, cultural background, disability, ethnicity, family status, gender, immigration status, national origin, race, religion, sex, sexual orientation, socioeconomic status and veteran status.

To engage respectfully in the discussion of diverse worldviews and ideologies embedded in course readings, presentations and artifacts, including those course materials that are at odds with personal beliefs and values. To encourage students with concerns about classroom climate to talk to their instructor, adviser, a member of the departmental or SPH EDI Committee, the Assistant Dean for EDI, or the program's director.

Pronouns

The University of Washington supports the expression of all gender identity, and provides frequently asked question on pronouns at the following link:

<https://registrar.washington.edu/students/personal-data/pronouns/faqs/>

(<https://registrar.washington.edu/students/personal-data/pronouns/faqs/>) . UW staff, faculty, and students can now also set their pronouns in the Identity.UW system to make them automatically available in Canvas and other UW systems (see <https://itconnect.uw.edu/guides-by-3/2/23, 4:59 PM> DEOHS Syllabus Page Template: JSharpe Sandbox.

[https://canvas.uw.edu/courses/1029293/pages/deohs-syllabus-page-template 7/8](https://canvas.uw.edu/courses/1029293/pages/deohs-syllabus-page-template-7/8) topic/identity-diversity-inclusion/identity/pronouns (<https://itconnect.uw.edu/guides-bytopic/identity-diversity-inclusion/identity/pronouns>)).

We share our pronouns because we strive to cultivate an inclusive environment where people of all genders feel safe and respected. We invite everyone to share their pronouns. Dr. Sack uses she/ her pronouns.

[1] The content and format of this course were developed by reviewing existing requirements/guidelines/needs relevant to the target student audience and surveying faculty and student representatives from target student audience programs.

[2] <http://www.washington.edu/teaching/teaching-resources/flipping-the-classroom/>

Course Schedule: ENV_H 550

Spring 2023

Date/ Time*	Disease/Topic	Instructor/ Guest Expert	Preparation/Readings
3/28a Intro	Course introduction	Sack	---
Asbestosis			
3/28b	Background & epidemiology <ul style="list-style-type: none"> • Review scenario • Epi Q&A 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read scenario: Libby, MT ➤ View EPA Libby Montana video: https://www.youtube.com/watch?v=oKc_fJQ_4Y4 ➤ View asbestosis epidemiology mini-lecture ➤ Read Rosenstock Chapter 19.8, p. 364-5 (optional)
3/30a	Pathophysiology & diagnosis, population management <ul style="list-style-type: none"> • Review case • CXRs 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read asbestosis case ➤ View SFGH video: https://www.youtube.com/watch?v=TCQErT3G_Pc ➤ View asbestosis pathophysiology mini-lecture ➤ Read Rosenstock Chapter 19.8, p. 366-71, 374-77 (optional)
3/30b Clinical Lab	View pneumoconioses (radiology) lecture and complete quiz	<i>David Godwin, MD</i>	<ul style="list-style-type: none"> ➤ View PFT/spirometry video: https://www.youtube.com/watch?v=yNDKD_xl684 ➤ View asbestosis diagnosis and management mini-lecture ➤ Complete reading Rosenstock Chapter 19.8 (optional)
Allergic contact dermatitis (ACD)			
4/4a	Background & epidemiology <ul style="list-style-type: none"> • Review scenario • Epi Q&A 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read scenario: Healthcare gluteraldehyde use ➤ View ACD video: https://www.youtube.com/watch?v=HNb7gETA9K0 ➤ View ACD epidemiology mini-lecture

4/4b	Pathophysiology & diagnosis <ul style="list-style-type: none"> Review case <ul style="list-style-type: none"> ❖ Student-led discussion on rashes 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read dermatitis case ➤ View patch testing video: https://www.youtube.com/watch?v=1G1-RC3W6pE&list=UUGgxNwa59cecgGIWbNfAr3g ➤ View ACD pathophysiology mini-lecture ➤ Read Rosenstock Chapter 29, p. 695-699, 706-707 (optional)
4/6a	F/u from 4/4 session and final presentation preparation	Sack/ Students	
4/6b <i>Clinical lab</i>	<i>View occupational dermatitis lecture and complete quiz</i>	<i>Marshall Welch, MD</i>	<ul style="list-style-type: none"> ➤ View ACD diagnosis and management mini-lecture ➤ Complete reading Rosenstock Chapter 29.1-29.2 (optional)
Low back musculoskeletal disorders			
4/11a	Background & epidemiology, diagnosis <ul style="list-style-type: none"> Review scenario Epi Q&A <ul style="list-style-type: none"> ❖ Student-led discussion: introductory ergonomics 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read scenario: Warehouse work ➤ Watch EWU warehouse video: https://www.youtube.com/watch?v=J3-5DPWQlj8 ➤ View back epidemiology mini-lecture ➤ Read NIOSH MSK & workplace factors 1997 Report, Executive Summary (x-xii) & Ch. 6: http://www.cdc.gov/niosh/docs/97-141/pdfs/97-141.pdf ➤ Read Rosenstock Chapter 23.4, p. 527 (optional)
4/11b	Pathophysiology, population management <ul style="list-style-type: none"> Review case <ul style="list-style-type: none"> ❖ Student presentation: MRI 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read back low back disorders case ➤ Read Deyo 2002¹ ➤ Read Martin 2014² ➤ View back pathophysiology mini-lecture ➤ Read Rosenstock Chapter 23.4, p. 528-529 (optional)

¹ Deyo, R. A. (2002). Diagnostic evaluation of LBP: reaching a specific diagnosis is often impossible. *Archives of Internal Medicine*, 162(13), 1444–7.

² Martin, B. I., Franklin, G. M., Deyo, R. A., Wickizer, T. M., Lurie, J. D., & Mirza, S. K. (2014). How do coverage policies influence practice patterns, safety, and cost of initial lumbar fusion surgery? A population-based comparison of workers' compensation systems. *The Spine Journal : Official Journal of the North American Spine Society*, 14(7), 1237–46.

	<ul style="list-style-type: none"> • ABIM back pain/imaging video: • https://www.youtube.com/watch?v=cJLUXDbBs1w 		
4/13a	<p>Population management: Medical guidelines & coverage policies (lumbar fusion example)</p> <ul style="list-style-type: none"> ❖ Student-led discussion: Martin article (population management) 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read HTCC lumbar fusion summary: http://www.hca.wa.gov/hta/Documents/lumbar_fusion_rr_final_findings_decision_012016.pdf ➤ Browse L&I lumbar fusion medical guidelines: http://www.lni.wa.gov/ClaimsIns/Files/OMD/MedTreat/LumbarfusionUpdate020216.pdf
4/13b Clinical lab	<i>View spine clinical cases lecture and complete quiz</i>	<i>Chris Standaert, MD</i>	<ul style="list-style-type: none"> ➤ Read Rosenstock Chapter 23.4, p. 529-531 (optional) ➤ Browse FRQ/FRI tool ➤ View clinical diagnosis and management mini-lecture ➤ View spine exam video: https://www.youtube.com/watch?v=MsUmSdHxR8E
Carpal tunnel syndrome (CTS)			
4/18a	<p>Background & epidemiology</p> <ul style="list-style-type: none"> • Review scenario • Epi Q&A <ul style="list-style-type: none"> ❖ Student-led discussion: Harris-Adamson article • Scenario wrap-up 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read scenario: Meat packing ➤ View Tyson video: https://www.youtube.com/watch?v=xOD1QJR317Y ➤ View CTS epidemiology mini-lecture ➤ Read Harris-Adamson 2015³ ➤ Read Rosenstock Chapter 28.2, p. 679 & 23.3 p. 515 (optional)
4/18b	<p>Pathophysiology & diagnosis</p> <ul style="list-style-type: none"> • Review case 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read CTS case ➤ View NCS/EMG video: https://www.youtube.com/watch?v=UzbcH16AUzE

³ Harris-Adamson et al. (2015). Biomechanical risk factors for carpal tunnel syndrome: A pooled study of 2474 workers. *Occup Environ Med*, 72(1), 33–41.

	<ul style="list-style-type: none"> ❖ Student presentation: Clinical exam for carpal tunnel syndrome 		<ul style="list-style-type: none"> ➤ View CTS pathophysiology mini-lecture ➤ Read Rosenstock Chapter 28.2, p. 680 & 23.3 p. 515-517 (optional)
4/20a	<p>Population management</p> <ul style="list-style-type: none"> ❖ Student-led discussion: CTS case identification for population-based research 	Students	Read Rempel 1998 ⁴
4/20b Clinical lab	---	---	<ul style="list-style-type: none"> ➤ Read L&I CTS medical treatment guidelines:http://www.lni.wa.gov/ClaimsIns/Files/OMD/MedTreat/CarpalTunnel.pdf ➤ Complete reading Rosenstock Chapters 23.1-23.3 (optional) ➤ View clinical diagnosis and management mini-lecture
Lead neuropathy			
4/25a	<p>Background & epidemiology</p> <ul style="list-style-type: none"> • Review scenario • Review case • Epi Q&A 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read scenario: Firing range exposures ➤ Read news article: http://www.seattletimes.com/seattle-news/gun-range-under-fire-over-lead-in-blood-of-workers/ ➤ View lead neuropathy epidemiology mini-lecture ➤ Read lead neuropathy case ➤ View neuro exam video: https://www.youtube.com/watch?v=yfBVYYd09cs ➤ Read Rosenstock Chapter 28.2, p. 661 (optional)
4/25b	Pathophysiology & diagnosis	Sack/ Students	<ul style="list-style-type: none"> ➤ View toxic neuropathy pathophysiology mini-lecture

⁴ Rempel, D., Evanoff, B., Amadio, P. C., de Krom, M., Franklin, G., Franzblau, A., ... Pransky, G. (1998). Consensus criteria for the classification of carpal tunnel syndrome in epidemiologic studies. *American Journal of Public Health*, 88(10), 1447-51.

	❖ Student-led discussion: Hanna-Attisha article (exposure/disease relationship)		➤ Read Hanna-Attisha 2016 ⁵ ➤ Read Rosenstock Chapter 28.2, p. 661-665, 667-670 (optional)
4/27 Clinical lab	<i>View toxic and compressive neuropathy clinical cases lecture and complete quiz</i>	<i>Eric Kraus, MD</i>	➤ Read Kosnett 2007 ➤ View clinical diagnosis and management mini-lecture ➤ Complete reading Rosenstock Chapter 28.2 (optional)
Silicosis			
5/2a	Background & epidemiology <ul style="list-style-type: none"> • Review scenario • Epi Q&A 	Sack/ Students	➤ Read scenario: Countertop manufacturing in Spain ➤ View DOL "Stop Silicosis" video: https://www.youtube.com/watch?v=GtYErK9KjQ8&list=PLB2D73D558B4F85BC&index=4 ➤ View silicosis epidemiology mini-lecture ➤ Read Rosenstock Chapter 19.9, p. 380 (optional)
5/2b	Pathophysiology & diagnosis <ul style="list-style-type: none"> • Review case <ul style="list-style-type: none"> ❖ Student presentation Chest CT • Revisit case 	Sack	➤ Read silicosis case ➤ View OSHA video: https://www.youtube.com/watch?v=HABylzQSuU ➤ Read Rosenstock Chapter 19.9, p. 380-387 (optional) ➤ View asbestosis pathophysiology mini-lecture
5/4a	Population management: Student-led discussion: Rule-making	Students	Read NY Times article: ➤ http://www.nytimes.com/2016/03/24/business/new-rules-aim-to-reduce-silica-exposure-at-work-sites.html?_r=1

⁵ Hanna-Attisha M, LaChance J, Sadler RC, Champney Schnepf A. Elevated Blood Lead Levels in Children Associated With the Flint Drinking Water Crisis: A Spatial Analysis of Risk and Public Health Response. *Am J Public Health*. 2016;106(2):283-90. doi:10.2105/AJPH.2015.303003.

			<ul style="list-style-type: none"> ➤ Browse OSHA silica rule website: https://www.osha.gov/silica/ ➤ Browse OSHA rulemaking flow sheet: https://canvas.uw.edu/courses/1040387/files/35593318/download?wrap=1 ➤ Read Rosenstock Chapter 19.9, p. 388-389 (optional)
5/4b Clinical lab	<i>View occupational interstitial lung disease presentation and complete quiz</i>	<i>Sack</i>	<ul style="list-style-type: none"> ➤ <i>Complete reading Rosenstock Chapter 19.9-19.11 (optional)</i>
Chronic solvent-induced encephalopathy (CSE)			
5/9a&b	Background & epidemiology <ul style="list-style-type: none"> • Review scenario • Epi Q&A • Review case 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read scenario: Solvent use in spray painting ➤ Read case ➤ View CSE epidemiology & pathophysiology mini-lectures ➤ Read Rosenstock Chapter 28.1, p. 645-653, 655 (optional)
5/11a	Population management Student-led discussion: Respiratory protection – medical evals	Students	<ul style="list-style-type: none"> ➤ Read Rosenstock Chapter 28.1, p. 655 (optional) ➤ Browse WA respirator standard, medical evals: ➤ http://apps.leg.wa.gov/wac/default.aspx?cite=296-842-14005 ➤ View OSHA respirator medical exam video: https://www.youtube.com/watch?v=0PAuHfdVimk&context=C35daa84ADOEgsToPDskJ46kW8tZ9GIXp15BfsmbAO
5/11b Clinical lab	<i>View neuropsychological testing in occupational medicine lecture and complete quiz</i>	<i>Vaishali Phatak, PhD</i>	<ul style="list-style-type: none"> ➤ <i>Complete reading Rosenstock Chapter 28.1 (optional)</i> ➤ <i>View clinical diagnosis and management mini-lecture</i>
Occupational Asthma			
5/16a	Background & epidemiology <ul style="list-style-type: none"> • Review scenario • Epi Q&A 	Sack	<ul style="list-style-type: none"> ➤ Read scenario: Spray-on truck bed lining ➤ View asthma epidemiology mini-lecture

5/16b	Population management <ul style="list-style-type: none"> Occupational asthma surveillance 	Sack	<ul style="list-style-type: none"> ➤ Read Bonauto 2006, p. 1-14: http://www.lni.wa.gov/Safety/Research/Files/AsthmaCme.pdf ➤ View asthma pathophysiology mini-lecture ➤ Read Bauer 2013 (optional) ➤ Read Baker 1989 (optional) ➤ Read SHARP work-related asthma report: http://www.lni.wa.gov/Safety/Research/Files/AsthmaTechSumm.pdf
5/18a	Pathophysiology & diagnosis <ul style="list-style-type: none"> Review case <ul style="list-style-type: none"> ❖ Student presentation: Peak flow testing Revisit case 	Sack	<ul style="list-style-type: none"> ➤ Read asthma case ➤ View spirometry/PEF video: https://www.youtube.com/watch?v=M4C8EInOMOI ➤ View spirometry video: https://www.youtube.com/watch?v=yNDKD_xl684 ➤ Complete reading Bonauto 2006: http://www.lni.wa.gov/Safety/Research/Files/AsthmaCme.pdf
5/18b <i>Clinical lab</i>	<i>Case studies in occupational asthma & the differential diagnosis lecture and complete quiz</i>	Sack	<ul style="list-style-type: none"> ➤ Review PFT summary/clinical cases (optional): https://www.youtube.com/watch?v=6mZmpHycSuQ ➤ Read Tarlo 2008 (optional)⁶ ➤ Read Shusterman 2002 (optional)⁷
Noise-induced hearing loss (NIHL)			
5/23a	Background & epidemiology <ul style="list-style-type: none"> Online module 	Sack/ Students	<ul style="list-style-type: none"> ➤ Read scenario: Construction noise ➤ View WorkSafe BC noise video: https://www.youtube.com/watch?v=CtONwpbb6Bw ➤ View British NIHL video: https://www.youtube.com/watch?v=pBMqO53ppOs ➤ View NIHL epidemiology mini-lecture ➤ Read Rosenstock Chapter 20.2, p. 426 (optional)
5/23b	Online module	Sack/ Students	<ul style="list-style-type: none"> ➤ Read NIHL case

⁶Tarlo, S. M., Balmes, J., Balkissoon, R., Beach, J., Beckett, W., Bernstein, D., ... Heitzer, J. (2008). Diagnosis and management of work-related asthma: American College Of Chest Physicians Consensus Statement. *Chest*, 134(3 Suppl), 1S–41S.

⁷Shusterman D. Review of the Upper Airway, Including Olfaction, as Mediator of Symptoms. *Environ Health Perspect* 110(suppl 4):649–653 (2002).

			<ul style="list-style-type: none"> ➤ View audiometry video (starting at 0:47): https://www.youtube.com/watch?v=1fRcb7G1jgA ➤ View NIHL pathophysiology mini-lecture ➤ Read Rosenstock Chapter 20.2, p. 426-432 (optional)
5/25a	Pathophysiology & diagnosis <ul style="list-style-type: none"> ❖ Student presentation: hearing exam maneuvers (Rinne, Weber) Population management <ul style="list-style-type: none"> ❖ Student-led discussion: Hearing conservation program – audiometric testing 	Students	<ul style="list-style-type: none"> ➤ Read OSHA general industry occupational noise exposure standard, hearing conservation program, audiometric testing program (1910.95(g)): ➤ https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_tabl e=STANDARDS&p_id=9735 ➤ Read Rosenstock Chapter 20.2, p. 432-434 (optional)
5/25b Clinical lab	<i>View hearing clinical cases lecture and complete quiz</i>	<i>Mary McDaniel, AuD, CC-A, CPS/A</i>	<ul style="list-style-type: none"> ➤ <i>Complete reading Rosenstock Chapters 20.2 & 20.3 (optional)</i> ➤ <i>View clinical diagnosis and management mini-lecture</i>
Emerging/global occupational/environmental diseases			
5/30a, b	Student presentations	Sack/ Students	
6/1a	Wrap Up	Sack	

❖ Indicates a student-led discussion or presentation

* a = 8:30-9:20 am session; b = 9:30-10:20 am session