**ENVH 550:  Occupational & Environmental Disease**

**Spring 2025**

**Course Times & Locations:**

Tues 8:30 am-10:20 am, Health Sciences Education Building (HSEB) 430

Thurs 8:30 am-9:20 am, HSEB 430

**Instructor:**  Coralynn Sack, MD, MPH

                       Assistant Professor

                       Departments of Medicine & Environmental and Occupational Health Sciences

                       Office: 4225 Roosevelt Way NE, Suite 303D

                       Phone: (206)-543-1520

                       E-mail: cssack@uw.edu

**Office Hours:** by appointment

**Course Website:** https://canvas.uw.edu/courses/1800760

**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, 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.*

[*https://www.acgme.org/acgmeweb/Portals/0/PDFs/Milestones/PreventiveMedicineMilestones-OccupationalMedicine.pdf*](https://www.acgme.org/acgmeweb/Portals/0/PDFs/Milestones/PreventiveMedicineMilestones-OccupationalMedicine.pdf)

* *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]](https://canvas.uw.edu/courses/1633835" \l "_ftn1)  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 is also available. This is 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.  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]](https://canvas.uw.edu/courses/1633835" \l "_ftn2) 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** | ***Four-credit option (clinically-oriented students)*** |
| **Individual products (80%)**  Student-led discussion  Final presentation  Weekly clinical lab quizzes | 40%  40%  -- | *30%*  *35%*  *15%* |
| **Class participation (20%)**  Weekly reflection | 15% | 15% |

 Class attendance 5% 5%

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. Follow the [COVID-19 Public Health Flowchart](https://www.ehs.washington.edu/system/files/resources/COVID-19-public-health-flowchart.pdf) if you have COVID-19 symptoms, exposure or test positive, and adhere to the [UW Face Covering Policy](https://www.ehs.washington.edu/covid-19-prevention-and-response/face-covering-policy).

Additional recommendations include getting your [annual flu shot](https://wellbeing.uw.edu/flu-vaccination/) and getting boosted with the updated COVID vaccines (available [at clinics and pharmacies, as well as through UW Medicine](https://www.washington.edu/coronavirus/vaccines/)and local health agencies).

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.

**Use of Generative Artificial Intelligence:**

Students must obtain permission from the instructor before using AI tools or other artificial intelligence tools to complete assignments. Once permission is granted, AI may only be used as directed.

**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, unauthorized use of artificial intelligence (AI) tools, and other misconduct are serious violations of the University of Washington [Student Conduct Code (WAC 478-121)](https://apps.leg.wa.gov/WAC/default.aspx?cite=478-121). We expect you to know and follow the university's policies on cheating and plagiarism, and the [SPH Academic Integrity Policy](https://sph.washington.edu/students/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](https://www.washington.edu/cssc/).

**Classroom Climate:**

We are co-creators of our learning environment. It is our collective responsibility to develop a supportive learning environment for everyone.  Listening with respect and an open mind, striving to understand others’ views, and articulating your own point of view will help foster the creation of this environment.  We engage our differences with the intent to build community, not to put down the other and distance our self from the other.  Being mindful to not monopolize discussion and/or interrupt others will also help foster a dialogic environment.

**The following guidelines can add to the richness of our discussion:**

* We assume that persons are always doing the best that they can, including the persons in this learning environment.
* We acknowledge that systematic oppression exists based on privileged positions and specific to race, gender, class, religion, sexual orientation, and other social variables and identities.
* We posit that assigning blame to persons in socially marginal positions is counter-productive to our practice. We can learn much about the dominant culture by looking at how it constructs the lives of those on its social margins.
* While we may question or take issue with another class member’s ideology, we will not demean, devalue, or attempt to humiliate another person based on her/his experiences, value system, or construction of meaning.
* We have a professional obligation to actively challenge myths and stereotypes about our own groups and other groups so we can break down the walls that prohibit group cooperation and growth.  
  [Adapted from Lynn Weber Cannon (1990). Fostering positive race, class and gender dynamics in the classroom. Women Studies Quarterly, 1 & 2, 126-134.]

We are a learning community. As such, we are expected to engage with difference. Part of functioning as a learning community is to engage in dialogue in respectful ways that supports learning for all of us and that holds us accountable to each other. Our learning community asks us to trust and take risks in being vulnerable.

**Here are some guidelines that we try to use in our learning process:**

* LISTEN WELL and be present to each member of our group and class.
* Assume that I might miss things others see and see things others miss.
* Raise my views in such a way that I encourage others to raise theirs.
* Inquire into others’ views while inviting them to inquire into mine.
* Extend the same listening to others I would wish them to extend to me.
* Surface my feelings in such a way that I make it easier for others to surface theirs.
* Regard my views as a perspective onto the world, not the world itself.
* Beware of either-or thinking.
* Beware of my assumptions of others and their motivations.
* Test my assumptions about how and why people say or do things.
* Be authentic in my engagement with all members of our class.

**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, we are expected:

1. 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.
2. 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.
3. 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**  
We share our pronouns because we strive to cultivate an inclusive environment where people of all genders feel safe and respected. We cannot assume we know someone’s gender just by looking at them. So we invite everyone to share their pronouns.

**Bias Concerns**

The Office of the Dean has a [student concern policy](https://sph.washington.edu/students/student-concern-policy), a faculty concern policy and standard HR procedures for staff concerns. Our 2018 climate survey states that most people in SPH do not report bias incidents because they do not know where to go. Students are encouraged to report any incidents of bias to someone they feel comfortable with, including instructors, advisers or department staff. They can email [dcinfo@uw.edu](mailto:dcinfo@uw.edu )for immediate follow up. Bias concerns can be anonymously and confidentially reported via the online form found here: <https://sph.washington.edu/about/diversity/bias-concerns>. Data is collected by the Assistant Dean for EDI and the Director of Program Operations for Student and Academic Services and tracked for resolution and areas are identified for further training.

### Sexual Harassment

Sexual harassment is a form of harassment based on the recipient’s sex that is characterized by:

1. Unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature by a person who has authority over the recipient when:
   * Submission to such conduct is an implicit or explicit condition of the individual’s employment, academic status, or ability to use University facilities and services, or
   * Submission to or rejection of the conduct affects tangible aspects of the individual’s employment, academic status, or use of University facilities.
2. Unwelcome and unsolicited language or conduct that creates an intimidating, hostile, or offensive working or learning environment, or has the purpose or effect of unreasonably interfering with an individual’s academic or work performance.

If you believe that you are being harassed, or have observed harassment, you can report it to SPH using the [bias concerns link](https://sph.washington.edu/about/diversity/bias-concerns). The University also has designated offices to help you: [SafeCampus](https://www.washington.edu/safecampus/); [Office of the Ombud](https://www.washington.edu/ombud/); [Title IX Investigation Office](https://www.washington.edu/titleix/report/); and [University Complaint Investigation and Resolution Office](https://www.washington.edu/compliance/uciro/).

### Health & Wellness Support

We need to take care of ourselves inside and outside of class. Start with the Husky Health and Well-Being site for a comprehensive list of Husky Health and wellbeing supports on campus, including: food assistance, substance use, and getting connected to support at <https://wellbeing.uw.edu>.

For support within the School of Public Health, you can reach out to Jen Nguyen ([jenquan8@uw.edu](mailto:jenquan8@uw.edu)), advisors, or your instructors for additional support. Additional mental health support is available through the UW Counseling Center at 206.543.1240 or by going to <https://www.mentalhealth.uw.edu>.

UW also offers real-time and confidential connection to Licensed Mental Health counselors 24/7 through the Husky HelpLine at 206.616.7777 as well as through chat through the website: <https://wellbeing.uw.edu/huskyhelpline/>.

[[1]](https://canvas.uw.edu/courses/1633835" \l "_ftnref1)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]](https://canvas.uw.edu/courses/1633835" \l "_ftnref2) <http://www.washington.edu/teaching/teaching-resources/flipping-the-classroom/>

**Course Schedule: ENV\_H 550**

Spring 2025

|  |  |  |  |
| --- | --- | --- | --- |
| **Date/ Time\*** | **Disease/Topic** | **Instructor/ Guest Expert** | **Preparation/Readings** |
| **4/1a**  **Intro** | **Course introduction** | Sack | --- |
| **Asbestosis** | | | |
| **4/1b** | Background & epidemiology   * Review scenario * Epi Q&A | Sack/  Students | * 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) |
| **4/3a** | Pathophysiology & diagnosis, population management   * Review case * CXRs | Sack/ Students | * 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) |
| **4/3b Clinical Lab** | View pneumoconioses (radiology) lecture and complete quiz | *David Godwin, MD* | * View PFT/spirometry video: https://www.youtube.com/watch?v=yNDKD\_xI684 * View asbestosis diagnosis and management mini-lecture * Complete reading Rosenstock Chapter 19.8 (optional) |
| **Allergic contact dermatitis (ACD)** | | | |
| **4/8a** | Background & epidemiology   * Review scenario * Epi Q&A | Sack/  Students | * Read scenario: Healthcare gluteraldehyde use * View ACD video: <https://www.youtube.com/watch?v=HNb7gETA9K0> * View ACD epidemiology mini-lecture |
| **4/8b** | Pathophysiology & diagnosis   * Review case   + Student-led discussion on rashes | Sack/  Students | * 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) |
| **4/10a** | F/u from 4/4 session and final presentation preparation | Sack/  Students |  |
| **4/10b**  ***Clinical lab*** | *View occupational dermatitis lecture and complete quiz* | *Marshall Welch, MD* | * View ACD diagnosis and management mini-lecture * Complete reading Rosenstock Chapter 29.1-29.2 (optional) |
| **Low back musculoskeletal disorders** | | | |
| **4/15a** | Background & epidemiology, diagnosis   * Review scenario * Epi Q&A   + Student-led discussion: introductory ergonomics | Sack/  Students | * 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) |
| **4/15b** | Pathophysiology, population management   * Review case * Student presentation: MRI * ABIM back pain/imaging video: * <https://www.youtube.com/watch?v=cJLuxDbBs1w> | Sack/  Students | * Read back low back disorders case * Read Deyo 2002[[1]](#footnote-1) * Read Martin 2014[[2]](#footnote-2) * View back pathophysiology mini-lecture * Read Rosenstock Chapter 23.4, p. 528-529 (optional) |
| **4/17a** | Population management: Medical guidelines & coverage policies (lumbar fusion example)   * Student-led discussion: Martin article (population management) | Sack/  Students | * 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> |
| **4/17b *Clinical lab*** | *View spine clinical cases lecture and complete quiz* | *Chris Standaert, MD* | * 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*](https://www.youtube.com/watch?v=MsUmSdHxR8E) |
| **Carpal tunnel syndrome (CTS)** | | | |
| **4/22a** | Background & epidemiology   * Review scenario * Epi Q&A   + Student-led discussion: Harris-Adamson article * Scenario wrap-up | Sack/  Students | * Read scenario: Meat packing * View Tyson video: <https://www.youtube.com/watch?v=xOD1QJR3I7Y> * View CTS epidemiology mini-lecture * Read Harris-Adamson 2015[[3]](#footnote-3) * Read Rosenstock Chapter 28.2, p. 679 & 23.3 p. 515 (optional) |
| **4/22b** | Pathophysiology & diagnosis   * Review case   + Student presentation: Clinical exam for carpal tunnel syndrome | Sack/  Students | * Read CTS case * View NCS/EMG video: <https://www.youtube.com/watch?v=UzbcH16AUzE> * View CTS pathophysiology mini-lecture * Read Rosenstock Chapter 28.2, p. 680 & 23.3 p. 515-517 (optional) |
| **4/24a** | Population management   * Student-led discussion: CTS case identification for population-based research | Students | Read Rempel 1998[[4]](#footnote-4) |
| ***4/24b Clinical lab*** | *---* | --- | * Read L&I CTS medical treatment guidelines:[*http://www.lni.wa.gov/ClaimsIns/Files/OMD/MedTreat/CarpalTunnel.pdf*](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** | | | |
| **4/29a** | Background & epidemiology   * Review scenario * Review case * Epi Q&A | Sack/  Students | * 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) |
| **4/29b** | Pathophysiology & diagnosis   * Student-led discussion: Hanna-Attisha article (exposure/disease relationship) | Sack/  Students | * View toxic neuropathy pathophysiology mini-lecture * Read Hanna-Attisha 2016[[5]](#footnote-5) * Read Rosenstock Chapter 28.2, p. 661-665, 667-670 (optional) |
| ***5/1***  ***Clinical lab*** | *View toxic and compressive neuropathy clinical cases lecture and complete quiz* | *Eric Kraus, MD* | * Read Kosnett 2007 * View clinical diagnosis and management mini-lecture * Complete reading Rosenstock Chapter 28.2 (optional) |
| ***Silicosis*** | | | |
| **5/6a** | Background & epidemiology   * 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) |
| **5/6b** | Pathophysiology & diagnosis   * Review case   + Student presentationChest CT * Revisit case | Sack | * Read silicosis case * View OSHA video: <https://www.youtube.com/watch?v=HAByIIzQSuU> * Read Rosenstock Chapter 19.9, p. 380-387 (optional) * View asbestosis pathophysiology mini-lecture |
| **5/8a** | 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> * Read Guardian article on Australia’s ban of engineered stone:   <https://www.theguardian.com/australia-news/2023/dec/14/australia-will-become-the-first-county-to-ban-engineered-stone-bench-tops-will-others-follow>   * 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) |
| ***5/8b******Clinical lab*** | *View occupational interstitial lung disease presentation and complete quiz* | *Sack* | * *Complete reading Rosenstock Chapter 19.9-19.11 (optional)* |
| **Chronic solvent-induced encephalopathy (CSE)** | | | |
| **5/13a&b** | Background & epidemiology   * Review scenario * Epi Q&A * Review case | Sack/  Students | * 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) |
| **5/15a** | Population management  Student-led discussion: Respiratory protection – medical evals | Students | * 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> |
| ***5/15b Clinical lab*** | *View neuropsychological testing in occupational medicine lecture and complete quiz* | *Vaishali Phatak, PhD* | * C*omplete reading Rosenstock Chapter 28.1 (optional)* * *View clinical diagnosis and management mini-lecture* |
| **Noise-induced hearing loss (NIHL)** | | | |
| **5/20a** | Background & epidemiology   * Online module | Sack/  Students | * 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) |
| **5/20b** | Online module | Sack/  Students | * Read NIHL case * 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) |
| **5/22a** | Pathophysiology & diagnosis   * Student presentation: hearing exam maneuvers (Rinne, Weber)   Population management  Student-led discussion: Hearing conservation program – audiometric testing | Students | * 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_table=STANDARDS&p_id=9735> * Read Rosenstock Chapter 20.2, p. 432-434 (optional) |
| ***5/22b******Clinical lab*** | *View hearing clinical cases lecture and complete quiz* | *Mary McDaniel, AuD, CC-A, CPS/A* | * *Complete reading Rosenstock Chapters 20.2 & 20.3 (optional)* * *View clinical diagnosis and management mini-lecture* |
| **Occupational Asthma** | | | |
| **5/27a** | Background & epidemiology   * Review scenario * Epi Q&A | Sack | * Read scenario: Spray-on truck bed lining * View asthma epidemiology mini-lecture |
| **5/27b** | Population management   * Occupational asthma surveillance | Sack | * 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> |
| **5/29a** | Pathophysiology & diagnosis   * Review case   + Student presentation: Peak flow testing * Revisit case | Sack | * Read asthma case * View spirometry/PEF video: <https://www.youtube.com/watch?v=M4C8EInOMOI> * View spirometry video: <https://www.youtube.com/watch?v=yNDKD_xI684> * Complete reading Bonauto 2006: <http://www.lni.wa.gov/Safety/Research/Files/AsthmaCme.pdf> |
| ***5/29b******Clinical lab*** | *Case studies in occupational asthma & the differential diagnosis lecture and complete quiz* | *Sack* | * Review PFT summary/clinical cases (optional): [*https://www.youtube.com/watch?v=6mZmpHycSuQ*](https://www.youtube.com/watch?v=6mZmpHycSuQ) * Read Tarlo 2008 (optional)[[6]](#footnote-6) * Read Shusterman 2002 (optional)[[7]](#footnote-7) |
| **Emerging/global occupational/environmental diseases** | | | |
| **6/3a, b** | Student presentations | Sack/  Students |  |
| **6/5a** | Wrap Up | Sack |  |

* Indicates a student-led discussion or presentation

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

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3. Harris-Adamson et al. (2015). Biomechanical risk factros for carpal tunnel syndrome: A pooled study of 2474 workers. *Occup Environ Med*, *72*(1), 33–41. [↑](#footnote-ref-3)
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. [↑](#footnote-ref-4)
5. Hanna-Attisha M, LaChance J, Sadler RC, Champney Schnepp 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. [↑](#footnote-ref-5)
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