SCHOOL OF PUBLIC HEALTH
UNIVERSITY OF MINNESOTA

PUBH 6130 SECTION [001]

Occupational and Environmental Medicine: Principles and Practice
Spring 2019

COURSE & CONTACT INFORMATION

Credits: 2 cr
Meeting Day(s): Wednesday
Meeting Time: 5:00-7:00 PM
Meeting Place: Flexible. On site location will be given at class.

Instructor: Steven Kirkhorn. MD. MPH
Email: steven.kirkhorn@va.gov (preferred)
Kirkh001@umn.edu
Office Phone: 612-629-7662 .
Fax: 612-467-1592

Office Hours: Contact by e-mail to set up appointment
Office Location: 4M-123 Minneapolis VA Medical Center. Arrangements for a convenient ad hoc meeting place on campus can be arranged between the instructor and student.

This course will familiarize students with the basic concepts and preventive approaches used in occupational/environmental medicine (**OEM**). This includes exposure-disease relationships, causal inference in occupational/environmental medicine and disease prevention approaches. An emphasis on general environmental contamination and its impact on public health will be provided. The course is designed for students majoring in Environmental Health Science in the general program or with a focus on occupational health. Students currently receiving financial support from the NIOSH Training Grant are expected to take this course. Experience in clinical medicine is not a prerequisite

COURSE PREREQUISITES

Introductory epidemiology and biostatistics.
Introductory exposure science and toxicology helpful but not mandatory.

COURSE GOALS & OBJECTIVES

The main goal of PubH 6130 is for students to develop a basic understanding of occupational/environmental disease related to chemical, environmental and physical hazards. Disease pathogenesis, public health impact and disease prevention will be emphasized. Clinical practice is discussed but not an emphasis of this course.

METHODS OF INSTRUCTION AND WORK EXPECTATIONS

Class instruction will rely on didactic lectures, class exercises, team exercises and class presentations. Generally, reading assignments accompany each one-hour lecture. Homework assignments are made infrequently.

Course Workload Expectations
In addition to weekly reading assignments, a group class project will be assigned and presented by each group at the last scheduled class. In class time will be provided to work as a group.
PubH 6130 is a 2 credit course. The University expects that for each credit, you will spend a minimum of three hours per week attending class or comparable online activity, reading, studying, completing assignments, etc. over the course of a 15-week term. Thus, this course requires approximately [X * 45] hours of effort spread over the course of the term in order to earn an average grade.
Grading: Attendance 20%, Class participation 20% , Exams 40% (Mid-term 20%, Final exam 20%). Group project 20%.

Learning Community [Note: you can customize this to your course or delete]
School of Public Health courses ask students to discuss frameworks, theory, policy, and more, often in the context of past and current events and policy debates. Many of our courses also ask students to work in teams or discussion groups. We do not come to our courses with identical backgrounds and experiences and building on what we already know about collaborating, listening, and engaging is critical to successful professional, academic, and scientific engagement with topics.

In this course, students are expected to engage with each other in respectful and thoughtful ways.

In group work, this can mean:
- Setting expectations with your groups about communication and response time during the first week of the semester (or as soon as groups are assigned) and contacting the TA or instructor if scheduling problems cannot be overcome.
- Setting clear deadlines and holding yourself and each other accountable.
- Determining the roles group members need to fulfill to successfully complete the project on time.
- Developing a rapport prior to beginning the project (what prior experience are you bringing to the project, what are your strengths as they apply to the project, what do you like to work on?)

In group discussion, this can mean:
- Respecting the identities and experiences of your classmates.
- Avoid broad statements and generalizations. Group discussions are another form of academic communication and responses to instructor questions in a group discussion are evaluated. Apply the same rigor to crafting discussion posts as you would for a paper.
- Consider your tone and language, especially when communicating in text format, as the lack of other cues can lead to misinterpretation.

Like other work in the course, all student to student communication is covered by the Student Conduct Code (https://z.umn.edu/studentconduct).

COURSE TEXT & READINGS
Weekly readings are posted on the course's Moodle site.

1. LaDou, J (Editor). Current Occupational and Environmental Medicine, 5th ed. McGraw-Hill, 2014.
2. Rom W.N. and Markowitz S. Environmental and Occupational Medicine, 5th Edition, Little Brown, 2013.
3. Miller G.W. The Exposome; A Primer. Elsevier Publications, 2014.
4. Agency for Toxic Substances and Disease Registry Case Studies in Environmental Medicine (CSEM) Lead Toxicity. 2012.(Updated 2015). https://www.atsdr.cdc.gov/csem/lead/docs/lead.pdf
5. Morris, Jim. How politics gutted workplace safety. Slate. http://www.slate.com/articles/business/moneybox/2015/07/osha_safety_standards_how_politics_have_undermined_the_agency_s_ability.html
6. Hopkins Jamie, J Maryam and J Morris. Working to Death. http://www.slate.com/articles/business/moneybox/2015/06/osha_regulations_of_silica_and_other_substances_they_re_out_of_date_and.ht_ml
7. Morris, J. A toxic legacy. http://www.slate.com/articles/business/moneybox/2015/07/toxic_substances_in_electronics_manufacturing_the_u_s_does_tragically_little.html

8. Recommendations for improving the Cal/OSHA Lead Standards. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/OLPPP/Pages/LeadStdRecs.aspx
9. Levin.R. Attributable annual health costs of U.S. occupational lead poisoning https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4984972/
10. Shaffer RM, Gilbert SG. Reducing occupational lead exposures: Strengthened standards for a healthy workforce. . Neurotoxicology. 2018. 69:181-86z: Copy will be provided

COURSE OUTLINE/WEEKLY SCHEDULE

Week	Topic	Readings	Activities/Assignments
Week 1 Jan 23	• **Introduction to class-Kirkhorn** • **Impact and Opportunities: Women in OEH-Koos**	• **Readings**	• **Assignment** • **Activity** • **Etc**
Week 2 Jan 30	• **International Child Labor-Parker** • **Youth Labor in U.S. Agriculture-Kirkhorn**	•	•
Week 3 Feb 6	• **Occupational Dermatology-Baker** • **Reproductive toxins-Baker**	•	•
Week 4 Feb 13	• **History of Agricultural Health and Safety-Donham** • **Agricultural Health and Safety Networks-Donham**	•	•
Week 5 Feb 20	• **Fitness/Obesity in the Workplace-Bovard** • **Aging populace and impact on work conditions-Bovard**	•	•
Week 6 Feb 27	• **Wellness within VA Healthcare: Organizational Transformation-Kubes, Schmunk** • **Group Project Class Time**	•	•
Week 7 March 6	• **Migrant worker occupational and environmental health issues-Liebman** • **Group Project Class Time** • **Mid term-take home**	•	•
Week 8 March 13	• **Noise-induced Hearing Loss-Baker** • **Metal Toxicity-Baker**	•	•
Week 9 March 20	• **Spring Break**	•	•
Week 10 March 27	• **Health Disparities in the workplace-McGovern** • **Working conditions for incarcerated populations-Montoya**	•	•

Week 11 Apr 3	• **People and the Environment: One Health-Bender**	•	•
Week 12 April 10	• **Occupational Toxicology-Roy**	•	•
Week 13 Apr 17	• **OEH and Public Health Informatics-McKinney**	•	•
Week 14 Apr 24	• **Military Deployment Occupational and Environmental exposures- or Occupational Cancer-Kirkhorn or Mandel** • **Group Project Class Time**	•	•
Week 15 May 1	• **Last day of Class-Group presentation** • **Final Exam**	•	•

SPH AND UNIVERSITY POLICIES & RESOURCES

The School of Public Health maintains up-to-date information about resources available to students, as well as formal course policies, on our website at www.sph.umn.edu/student-policies/. Students are expected to read and understand all policy information available at this link and are encouraged to make use of the resources available.

The University of Minnesota has official policies, including but not limited to the following:

- Grade definitions
- Scholastic dishonesty
- Makeup work for legitimate absences
- Student conduct code
- Sexual harassment, sexual assault, stalking and relationship violence
- Equity, diversity, equal employment opportunity, and affirmative action
- Disability services
- Academic freedom and responsibility

Resources available for students include:

- Confidential mental health services
- Disability accommodations
- Housing and financial instability resources
- Technology help
- Academic support

EVALUATION & GRADING

Grading will be based on homework assignments/final project (40%), attendance (20%) and class participation (20%), and final exam (20%). It is expected that students will not be absent, as the learning experience for this course depends on individual contributions. If you're not present, you obviously are not able to contribute. If you have an unavoidable absence, let me know as far in advance as possible. Assignment of grades will be S/N (satisfactory/non-satisfactory). For the grade of S, students will need the equivalent of a C grade (≥70%). All homework is due in advance of class on the assigned day.

Grading Scale

The University uses plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following, and you can expect the grade lines to be drawn as follows:

% In Class	Grade	GPA
93 - 100%	A	4.000
90 - 92%	A-	3.667
87 - 89%	B+	3.333
83 - 86%	B	3.000
80 - 82%	B-	2.667
77 - 79%	C+	2.333
73 - 76%	C	2.000
70 - 72%	C-	1.667
67 - 69%	D+	1.333
63 - 66%	D	1.000
< 62%	F	

- A = achievement that is outstanding relative to the level necessary to meet course requirements.
- B = achievement that is significantly above the level necessary to meet course requirements.
- C = achievement that meets the course requirements in every respect.
- D = achievement that is worthy of credit even though it fails to meet fully the course requirements.
- F = failure because work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I (Incomplete).
- S = achievement that is satisfactory, which is equivalent to a C- or better
- N = achievement that is not satisfactory and signifies that the work was either 1) completed but at a level that is not worthy of credit, or 2) not completed and there was no agreement between the instructor and student that the student would receive an I (Incomplete).

Evaluation/Grading Policy	Evaluation/Grading Policy Description
Scholastic Dishonesty, Plagiarism, Cheating, etc.	You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis (As defined in the Student Conduct Code). For additional information, please see https://z.umn.edu/dishonesty The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: https://z.umn.edu/integrity. If you have additional questions, please clarify with your instructor. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam. Indiana University offers a clear description of plagiarism and an online quiz to check your understanding (http://z.umn.edu/iuplagiarism).
Late Assignments	
Attendance Requirements	
Extra Credit	

CEPH COMPETENCIES

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Resources for filling out the CEPH competencies grid are available on isph:
http://www.isph.umn.edu/sph/instructor-resources/

Competency	ssment Strategies