

School of Public Health

Syllabus and Course Information



UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

PubH 8120-001

Occupational and Environmental Health and Safety Research Seminar
Spring 2018

Credits: 1

Meeting Days: Friday

Meeting Time: 9:00 – 11:00 a.m.

Meeting Place: MAYO MEMORIAL BUILDING - 1155

Instructors: Primary Faculty: Susan Goodwin Gerberich, PhD, Mayo Professor - EHS; Bruce H. Alexander, PhD, Professor and Head - EHS; Andrew Ryan, MS, Senior Research Fellow - EHS

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Office Hours: Arranged

I. Course Description

This course is designed to develop skills for becoming an independent scientist. The course builds on the fundamental competencies gained in basic epidemiology, biostatistics, and occupational and environmental health- and safety-related courses and explores how these skills are integrated across sub-disciplines of environmental health. It enables students from multiple disciplines to synthesize information and to enhance critical thinking and application of methods to specific research efforts. The course is also intended to assist students in navigating the process of developing and implementing a thesis project.

II. Course Prerequisites

Registered student in the Division of Environmental Sciences and/or one of the training programs of the Midwest Center for Occupational Health and Safety. Students from other programs in public health will be considered on a space-available basis; completion of / registration in epidemiology and biostatistics courses (exceptions negotiated, as appropriate); engaged in or planning a research effort.

III. Goal

To facilitate student research efforts in environmental and occupational health- and safety-related doctoral and other training programs through interdisciplinary involvement of students.

Detailed Learning Objectives

- A. Discuss and explore fundamentals of research methods;
- B. Develop a broader understanding of the multidisciplinary nature of public health;
- C. Critique key papers of methodological interest, pertinent to the field of occupational and environmental health and safety;
- D. Practice communication of health and research information;
- E. Provide and receive constructive criticism on ongoing research projects;
- F. Synthesize fundamentals of research methods and key concepts to the application of specific research efforts.

Expectations: This is YOUR seminar. It is expected that you will take responsibility for contributing to one or more seminars by scheduling yourself for at least one of the types of activities noted in the learning objectives and leading relevant presentations/discussions.

IV. **Methods of Instruction and Work Expectations**

Discussions / critiques of various aspects of research projects (ideas for projects; proposals; development of methods; analyses; interpretation); Informal lectures and presentations by students, faculty and guest lecturers; practice presentations for thesis committees and professional/other meetings; field trips relevant to occupational health and safety and other research areas.

All students will be expected to regularly attend the seminar and participate in the discussion. This will include critiquing papers, providing constructive feedback to fellow students' work-in-progress and discussing the particular topic being presented. Over the course of the term and year, each student will present their work-in-progress in one or more sessions.

V. **Course Text and Readings**

Suggested Readings, as appropriate:

- Breslow NE, Day NE. Statistical Methods in Cancer Research, Volume I-The Analysis of Case-Control Studies IARC Scientific Publications No. 32, Lyon, France: International Agency for Research on Cancer, 1980.
- Breslow NE, Day NE. Statistical Methods in Cancer Research, Volume II-The Design and Analysis of Cohort Studies IARC Scientific Publications No. 82, Lyon, France: International Agency for Research on Cancer, 1987 (reprinted, 1989).
- Checkoway, H, Pearce NE, Kriebel D. Research Methods in Occupational Epidemiology. New York: Oxford University, 2004.
- Christoffel T, Gallagher SS. Injury Prevention and Public Health: Practical Knowledge, Skills, and Strategies, Gaithersburg, Maryland: Aspen Publishers, Inc., 2006.
- Hemenway D. While We Were Sleeping: Success Stories in Injury and Violence Prevention, University of California Press, 2009.
- Friis RH, Sellers T. Epidemiology for Public Health Practice. Fifth Edition. Sudbury, Massachusetts: Jones and Bartlett Publishers, 2013.
- Garrard J. Health Sciences Literature Review Made Easy: The Matrix Method, Fifth Edition, London: Jones and Bartlett, Publishers, 2017.
- Good PI, Hardin JW. Common Errors in Statistics (and How to Avoid Them), Fourth Edition. New Jersey: John Wiley and Sons, Inc., 2012.
- Greenland S, Pearl J, Robins J. Causal diagrams for epidemiologic research. *Epidemiology*, 10:37-48,1999.

- Hernan MA, Hernandez-Diaz S, Werler MM, Mitchell AA. Causal knowledge as a prerequisite for confounding evaluation: An application to birth defects epidemiology, *American Journal of Epidemiology*, 155(2):176-184, 2002.
- Levy BS, Wegman DH, Baron SL, Sokas RK. Occupational and Environmental Health: Recognizing and Preventing Disease and Injury, Edition 6, New York: Lippincott, Williams and Wilkins, 2011.
- Levy BS, Wegman DH, Baron SL, Sokas RK. Occupational and Environmental Health, Edition 7, New York: Lippincott, Williams and Wilkins, 2017.
- Maldonado G, Greenland S. Estimating causal effects, *International Journal of Epidemiology*, 31:422-429, 2002.
- Marubini E, Valsecchi MG. Analysing Survival Data from Clinical Trials and Observational Studies, New Jersey: John Wiley and Sons, Inc., 2004.
- McClure R, Stevenson M, McEvoy S. The Scientific Basis of Injury Prevention and Control, Melbourne: IP Communications, 2004.
- Michaels KB. Epigenetic Epidemiology, Springer, 2014
- Oakes MJ, Kaufman JS. Methods in Social Epidemiology, Second Edition, New York: Josey-Bass, 2017.
- Robertson L. Injury Epidemiology, Fourth Edition, New York: Oxford University Press, 2015.
This edition (2015) is now available free at www.nanlee.net; hard copies can be ordered at <http://www.lulu.com/shop/leon-s-robertson-phd/injury-epidemiology-fourth-edition/paperback/product-22216374.html>
- Rothman K, Lash TL, Greenland S. Modern Epidemiology. Third Edition. Philadelphia: Lippincott Williams and Wilkins, 2012.
- Szklo M, Nieto FJ. Epidemiology: Beyond the Basics, Third Edition. Burlington, Massachusetts: Jones and Bartlett Learning, 2014.
- Van Belle G, Fisher LD, Heagerty PJ, Lumley T. Biostatistics: A Methodology for the Health Sciences, Second Edition, New Jersey: John Wiley and Sons, Inc., 2004.

Other Resources:

- Bloomfield V, El-Fakahany EE. The Chicago Guide to Your Career in Science: A Toolkit for Students and Post-Docs, Chicago/London: The University of Chicago Press, 2008. (Authors from the University of Minnesota)
- Strunk W, Jr. Elements of Style, First Edition, Value Classic Reprints, 2016. (Excellent guide: to the use of English language and avoiding various pitfalls.)
- STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) <http://www.strobe-statement.org> (Check: home; Aims; Available checklists; Publications, Commentaries, Discussion Forum, STROBE group and other contributors, Endorsement).
- Truss L. Eats, Shoots and Leaves: The Zero Tolerance Approach to Punctuation, New York: Gotham Books, 2004, ISBN 1-59240-087-6: a non-fiction book written by the former host of the BBC's Cutting a Dash radio program. In the book, Truss bemoans the state of punctuation in the United Kingdom and the United States and describes how rules are being relaxed in today's society. Her goal is to remind readers of the importance of punctuation in the English language by mixing humour and instruction.
- Vick JM, Furlong JS. The Academic Job Search Handbook, Fifth Edition, Philadelphia: The University of Pennsylvania Press, Inc., 2016.

VI. Course Outline/Weekly Schedule

Provided separately and updated, as necessary, by email and / or Moodle site.

VII. Evaluation and Grading

NOTE: This course is only offered S-N or audit.

An S grade is assigned for registered students contributing to presentations, discussions, and activities, as follows: Discussions/critiques of various aspects of research projects (ideas for projects; proposals; development of methods; analyses; interpretation); Informal lectures and presentations by students, faculty and guest lecturers; Practice presentations for thesis committees and professional/other meetings; field trips relevant to occupational health and safety and other research areas.

Attendance (50%)

Participation in / leading discussions (50%)

An N grade will be assigned for registered students who do not participate in these activities, and are not excused for a valid reason.

1. There are five permanent grades given for a single course for which credit shall be awarded, which will be entered on a student's official transcript: A-B-C-D-S grades, including pluses and minuses, as follows, and carry the indicated grade points. The S grade shall not carry grade points but the credits shall count toward the student's degree program if allowed by the college, campus, or program.

These definitions apply to grades awarded to students who are not enrolled in graduate programs, but the grade points are the same no matter the level or course of enrollment.

Instructors are permitted to hold graduate and undergraduate students who are in the same class to different standards of academic performance and accomplishment. The syllabus must make clear what the different standards will be for the different groups of students who may be enrolled in the class.

Participants in PubH 8120 are to register for the S-N option, only.

S Represents achievement that is satisfactory, which is equivalent to a C- or better.

S/N

S = 1.667 or above

N* = below 1.667

2. There are two permanent grades given for a single course for which no credit shall be awarded and which will be entered on a student's official transcript.

F -0- Represents failure and signifies that the 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 (see Section III (1)).

The F carries 0 grade points and the credits for the course do not count toward any academic degree program. The credit hours for the course shall count in the grade point average.

N Represents no credit and signifies that the 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 (see Section III (1)). The N carries no grade points and the credits for the course do not count toward any academic degree program. The credit hours for the course do not count in the grade point average.

Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course.

Interpretation by the Senate Committee on Educational Policy: This provision allows instructors to award an F or an N to a student when academic dishonesty is discovered; it does not require an instructor to do so."

Students who enroll for a course on the A-F grading system shall receive an F if such grade is warranted; students who enroll for a course on the S-N system shall receive an N if such grade is warranted.

3. In connection with all symbols of achievement instructors shall define for a class, at one of its earliest meetings and as explicitly as possible, the performance that will be necessary to earn each. For undergraduate students, a C- grade shall be equal to an S grade.
4. Every student shall have calculated, both at the end of each grading period (quarter or semester) and cumulatively, a grade point average, which shall be the ratio of grade points earned divided by the number of credits attempted with grades of A-F (including pluses and minuses). Both the periodic and cumulative grade point average will appear on each student's record.

Interpretation by the Senate Committee on Educational Policy: Courses which carry zero credits do not count in either term or cumulative grade point averages.

All special grade point averages calculated at the request of a college or unit, if approved by the appropriate chancellor, provost, or vice president, will be accommodated by the Office of the Registrar in such a manner that they do not appear on the student's official transcript or any unofficial transcript which might be issued.

For additional information, please refer to:

<http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html>.

Course Evaluation

The SPH will collect student course evaluations electronically using a software system called CoursEval: www.sph.umn.edu/courseval. The system will send email notifications to students when they can access and complete their course evaluations. Students who complete their course evaluations promptly will be able to access their final grades just as soon as the faculty member renders the grade in SPHGrades: www.sph.umn.edu/grades. All students will have access to their final grades through OneStop two weeks after the last day of the semester regardless of whether they completed their course evaluation or not. Student feedback on course content and faculty teaching skills are an important means for improving our work. Please take the time to complete a course evaluation for each of the courses for which you are registered.

Incomplete Contracts

A grade of incomplete "I" shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time. The assignment of an "I" requires that a contract be initiated and completed by the student before the last official day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student in consultation with the instructor, will specify the time and manner in which the student will complete course requirements. Extension for completion of the work will not exceed one year (or earlier if designated by the student's college). For more information and to initiate an incomplete contract, students should go to SPHGrades at: www.sph.umn.edu/grades.

University of Minnesota Uniform Grading and Transcript Policy - A link to the policy can be found at onestop.umn.edu.

VIII. Other Course Information and Policies

Grade Option Change (if applicable)

For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e., summer and half-semester courses) can be found at onestop.umn.edu.

Course Withdrawal

Students should refer to the Refund and Drop/Add Deadlines for the particular term at onestop.umn.edu for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Office of Admissions and Student Resources at sph-ssc@umn.edu for further information.

Student Conduct Code:

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community. As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see: http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf. Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

Use of Personal Electronic Devices in the Classroom:

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference:

<http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

To ensure respect for all participants in the PubH 8120 research seminar, all electronic devices are restricted from use in the classroom.

Scholastic Dishonesty:

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. (Student Conduct Code:

http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, he or she may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see:

<http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html>. The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <http://www1.umn.edu/oscai/integrity/student/index.html>. If you have additional questions, please clarify with your instructor for the course. 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.

Makeup Work for Legitimate Absences:

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see:

<http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html>.

Appropriate Student Use of Class Notes and Course Materials:

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see:

<http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

Sexual Harassment

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy:

<http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf>

Equity, Diversity, Equal Opportunity, and Affirmative Action:

The University will provide equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy:

http://regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO_AA.pdf.

Disability Accommodations:

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center Student Services is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DS at 612-626-1333 or ds@umn.edu to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with DS and have a current letter requesting reasonable accommodations, please contact your instructor as early in the semester as possible to discuss how the accommodations will be applied in the course. For more information, please see the DS website,

<https://diversity.umn.edu/disability/>.

Mental Health and Stress Management:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

The Office of Student Affairs at the University of Minnesota:

The Office for Student Affairs provides services, programs, and facilities that advance student success, inspire students to make life-long positive contributions to society, promote an inclusive environment, and enrich the University of Minnesota community. Units within the Office for Student Affairs include, the Aurora Center for Advocacy and Education, Boynton Health Service, Central Career Initiatives (CCE, CDes, CFANS), Leadership Education and Development –Undergraduate Programs (LEAD-UP), the Office for Fraternity and Sorority Life, the Office for Student Conduct and Academic Integrity, the Office for Student Engagement, the Parent Program, Recreational Sports, Student and Community Relations, the Student Conflict Resolution Center, the Student Parent HELP Center, Student Unions & Activities, University Counseling & Consulting Services, and University Student Legal Service. For more information, please see the Office of Student Affairs at <http://www.osa.umn.edu/index.html>.

Academic Freedom and Responsibility: for courses that do not involve students in research:

Academic freedom is a cornerstone of the University. Within the scope and content of the course as clear by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

OR:

Academic Freedom and Responsibility, for courses that involve students in research:

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom and conduct relevant research. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.* When conducting research, pertinent institutional approvals must be obtained and the research must be consistent with University policies. Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, (Dr Kristin Anderson, SPH Dean of Student Affairs), or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

** Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students."*

Student Academic Success Services (SASS): <http://www.sass.umn.edu>:

Students who wish to improve their academic performance may find assistance from Student Academic Support Services. While tutoring and advising are not offered, SASS provides resources such as individual consultations, workshops, and self-help materials.

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