Course Title: Environmental and Occupational Epidemiology  
Course Number: EPID 0650  
Course Location: Room 334 School of Public Health, Piscataway  
Course Dates: Thursdays 6:00-8:00pm plus Canvas assignments  
Course Instructor: Elizabeth G. Marshall, PhD Department of Epidemiology  
Room 132 SPH, 732-235-4666, marshaeli@sph.rutgers.edu  
Office Hours: Thursday 4-6:00pm or By Appointment,  
Course Assistant: None  
Optional Course Texts: Epidemiology for Public Health Practice, Friis RH, Sellers T. 2014, Jones and Barlett. OR Epidemiology, Leon Gordis, 4th Edition

Course Description:
Environmental and Occupational Epidemiology is an intermediate level course designed to familiarize students with the major and emerging concepts in environmental and occupational epidemiology as well as with the design, conduct, and interpretation of results from environmental and occupational epidemiology studies. Students will become familiar with specific environmental and occupational research areas, as well as the unique epidemiologic or exposure methodologies used in those studies. Students will be asked to analyze, evaluate, summarize, and present data and published studies used to investigate health effects related to environmental and occupational exposures.

There are two related final projects: One is a critical literature review of an exposure-disease relationship that each student will complete independently. After that, each student will join a group of 3-4 students and will develop a study proposal to address a gap in the literature. Please see https://www.canvas.rutgers.edu course website (under the SPH on your homepage). Class materials, assignments, readings, and lecture topics will be posted there.

Selected Department Competencies Addressed:
The following Epidemiology competencies are addressed in part by this course:
  • Critique epidemiologic literature, assess its strengths and weaknesses and determine if conclusion(s) are supported
  • Use epidemiologic techniques to quantitatively assess patterns and changes in disease occurrence
  • Formulate a specific hypothesis and determine an appropriate study design and analysis plan
  • Design, implement and assess ordinary data collection systems for public health
  • Communicate and present study findings to professional audiences.

The following Environmental and Occupational Health Competencies are addressed by this course:
Course Objectives:
By the completion of this course, students will be able to:

- Identify epidemiologic study designs and basic statistical analysis methods used in environmental and occupational epidemiology.
- Apply knowledge of epidemiologic principles, including confounding, bias, measurement, and random error, to understanding the strengths and weaknesses of environmental and occupational epidemiology studies.
- Develop a familiarity with some of the primary environmental and occupational exposures and health effects and understand how to assess their importance.
- Critically evaluate articles in the environmental and occupational epidemiology literature, identify gaps in research, and obtain experience in literature review and proposal preparation.
- Gain experience in reviewing the literature around a specific question and preparing a study proposal to respond to gaps in the scientific literature.

Course Requirements:
- Students are required to attend class each week. Most classes will consist of a lecture followed by discussion or an activity. Some materials will be presented on-line to be completed prior to class. Access to readings and further discussion will also proceed on-line, via the class Canvas site. Students are expected to monitor Canvas in case of changes or discussion. PLEASE check your SPH e-mail consistently.
- Students will be required to lead the discussion for a review and critique of one journal article for one class period. Because of the number of students this semester, two students will be responsible for each journal article. When not responsible for presenting, students will read and come prepared to discuss the article led by their peers.
- Students will work together and separately to complete homework relevant to that week’s lecture and contribute to on-line and in class discussion of posted materials.
- Students will individually complete a literature review on a topic of interest to the student, but also approved by the instructor. In general, that topic can be any topic related to environmental and occupational epidemiology, but will require instructor review. The Literature Review paper should be 6-8 pages double-spaced and will be due March 28.
- Students work within a group to 1) identify gaps in the current literature in their study topic and 2) develop a proposal for an epidemiological study. The proposal will be completed in the form of a presentation (full paper not required) and will be due April 18.
- Students will provide feedback on their peers’ efforts and proposals, and contribute to discussion during class and on-line.
- Groups will present their proposal to the class – all students will be required to participate in a presentation.
Grades:  
35%  Study critiques, data exercises, and other homework (n=4-5)  
25%  Critical literature review paper  
25%  Proposal outline, peer review, and proposal presentation  
15%  Class participation, attendance, and current topics discussion.

There are no required textbooks but you will need either a beginning or intermediate epidemiology text to refer to. Readings and homework for the next class will be posted on Canvas and will often require internet-based resources. You will also be assigned to discussion teams via Canvas for in-class projects and review of study proposals. You are expected to participate in group activities and to communicate with your peers.
School of Public Health Honor Code: Students are expected to abide by the School of Public Health’s Honor Code and to conduct themselves with honesty and integrity. The School of Public Health Honor Code is found in the student bulletin (sph.rutgers.edu/academics/catalog/index.html). Each student bears a fundamental responsibility for maintaining academic integrity and intellectual honesty in his or her graduate work. For example, all students are expected to observe the generally accepted principles of scholarly work, to submit their own rather than another’s work, to refrain from falsifying data, and to refrain from receiving and/or giving aid on examinations or other assigned work requiring independent effort. In submitting written material, the writer takes full responsibility for the work as a whole and implies that, except as properly noted by use of quotation marks, footnotes, etc., both the ideas and the works used are his or her own. In addition to maintaining personal academic integrity, each student is expected to contribute to the academic integrity of the school community by not facilitating inappropriate use of her/his own work by others and by reporting acts of academic dishonesty by others to an appropriate school authority. It should be clearly understood that plagiarism, cheating, or other forms of academic dishonesty will not be tolerated and can lead to sanctions up to and including separation from the Rutgers School of Public Health.

Literature reviews and proposal documents are expected to cite references appropriately and to give credit for concepts or text derived from other sources. So students can better understand the principles involved and obtain suggestions, all literature reviews and proposals will be reviewed through the Turnitin program in Moodle. Students will be able to review the results.