PUBH 6493
Occupational and Environmental Health: Exposures, Risks and Prevention
Spring 2009

Course Description

Exposure pathways, risk analysis techniques and prevention strategies relevant to both occupational and environmental settings. Lectures reinforced by discussion of case studies presented by students.

Class Format

3:30-6:15 p.m., East Hartford. Wednesdays
Office Hours: Immediately after class or by appointment
Course Textbook: None – Handouts and literature citations

Instructors

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Learning Objectives

1. Demonstrate a working knowledge of exposure sources and pathways relevant to occupational and environmental settings.
2. Understand and apply an integrated knowledge of multi-level influences on presence of occupational and environmental exposures.
3. Be able to practically assess presence, intensity, and duration of risk factors, using multiple methods of varying detail and resource commitment.
4. Propose practical intervention techniques to reduce presence of exposures in occupational and environmental settings.
5. Use biostatistical methods to estimate risk and causal association between exposures and selected outcomes.

Organizing Themes:

1. Concepts of exposure, dose, capacity, and body burden in relation to physical and psychosocial exposures and outcomes of chronic disease.
2. Central role of psychosocial stressors as exposures and in modifying and mediating the path from other stressors to chronic disease
3. Central role of work organization as an upstream determinant of multiple, job-level exposures, physical and psychosocial
4. Risk shifting inherent in control of occupational and environmental exposures, both between these two domains, and among categories of risk
5. Biomarkers as exposure indicators at different functional levels
6. Multiple exposures, additive and multiplicative relationships

Course Syllabus:

Date	Topic	Instructor
1/21	Introduction/ Exposure Pathways Mycotoxins as example of occupational and environmental exposure	Warren/Silbart
1/28	Exposure pathways (cont.) and control	Silbart/Warren
2/4	Body Burden and biomarkers – PCB, Dioxins	DeGuise
2/11	Quantitative Risk Assessment: Carcinogens vs. non-carcinogens	Ginsburg
2/18	Physical Agents (Radiation)	Cherniack
2/25	Noise	Bracker
3/4	Ergonomic physical risk factors and evolution	Warren
	3/11 Spring Recess 3/11 – No class	
3/18	Student Presentation/project progress	
3/25	Psychosocial factors/ work organization	Warren
4/1	no class	
4/8	Guest lecture – The Built environment, Light exposure, cancer risk	Richard Stevens
4/15	Guest Lectures – Indoor air/occupational asthma	Simcox/Meyer
4/22	Non-traditional exposures (Particulate/nanoparticles) (At Storrs)	Perkins
4/29	Guest Lectures – Genetic predispositions and susceptibility	Linda Strausbaugh
5/6	Student Project Presentations (*unusual)*	

Course Grading: The project is worth up to a total of 250 points: 150 for the combination of two presentations, and 100 for the written paper. A maximum of 50 points will be awarded for class preparation and participation. The 300 total points will be converted to a percentage and applied to a straight scale for assigning a final grade. All presentation absences must be approved in advance in order for a make-up presentation to be scheduled. Specific criteria for project presentations, class presentations, and preparation/participation will be given to students in class.

Paper Criteria: 15-20 pages in length, as needed, with no fewer than 15 references. Details of paper organization to come.

Course Overview: Each three hour course will entail two hours of didactic lecture, followed by one hour of case-study/discussions. In some cases, students will be responsible for presenting case studies.

Cell Phones and Pagers: These devices must be silenced during class.

Learning or Physical Disability: If you have a learning or physical disability, please speak with me early in the semester so that we can make the appropriate arrangements for quizzes etc.

Attendance: Attendance is not taken and does not serve as a basis for grading; however, a great deal of course instruction occurs through discussion and whiteboard notations. In addition, class participation is important in calculating the final grade, so consistent attendance is strongly encouraged.