The Human Cost of Everyday Things: Occupational Health in the Global Supply Chain

Course ID: SPPH 381B **CREDITS**: 3 Credits
Instructor(s): Dr. Hugh W. Davies
Schedule: Tue/Thu 1300-1420
Location: SWNG 409

Course Description: In this course, we will examine the topic of occupational health by considering the work-related hazards and adverse health outcomes associated with the production of everyday items such as a smart phone, the brakes on a car, or a piece of fruit.

Using these items as a focal point, we'll consider the risks posed to workers as the product moves through the (global) supply chain from resource extraction and processing to chemical processing and production lines to transportation, packaging and supply.

We'll examine exposures to chemical, physical, and biological hazards, and discuss common "occupational" diseases, their etiology and burden on society. We'll also consider how occupational hazards are controlled and disease averted, and the challenges and barriers to eliminating or reducing the burden of occupational disease, globally.

During the course we will discuss the cross-cutting policies, strategies and methods used by occupational (public) health researchers and professionals in the process of recognizing, evaluating and controlling workplace hazard and disease.

Course learning objectives:
At the end of the course, the student will be able to:

- Describe occupational hazards associated with a variety of common industries
- Describe and discuss common occupational diseases, and associated risk factors
- Outline and summarize common strategies and methods used identify and monitor occupational disease
- Outline and summarize common strategies and methods used to evaluate workplace hazards
- Classify the "Control hierarchy" for occupational disease prevention, describe common hazard mitigation approaches
- Explain and debate relevant government occupational health and safety and policies
- Locate, read and critique relevant scientific literature

Class size: 30 maximum

Prerequisites: None

Proposed Class Outline

Week	Topic
1	Course introduction What is Occupational Health? Introduction to problems, solutions, stakeholders, strategies and methods.
Hazard Recognition – The strawberry example	
2	• Occupational Diseases • Exposure hazards • Toxicology, etiology of occupational diseases
3	Occupational Cancers • Research methods – examining causality - pesticides
4	Occupational neurological disease • Health monitoring – cholinesterase testing • Ethics and occupational health
5	Occupational respiratory diseases • Surveillance and the burden of occupational disease
Evaluation of hazard – the smart phone example	
6	• Exposure Assessment strategies and methods
7	Resource Extraction • Silica exposure • Exposure assessment of particulate hazards
8	Petrochemical industry (plastics) • Organic chemical exposure • Exposure assessment of gas hazards
9	Production • Noise exposure • Exposure assessment of noise
Hazard Control – the brake shoe example	
10	• The control hierarchy
11	• OHS Policy and regulation
12	• Engineered controls, personal protective equipment
13	Student Presentations

Evaluation:

- Project: Small groups will undertake a risk assessment of a common occupational exposure or process, including all phases of the occupational hygiene paradigm of recognition, evaluation and control, and document using wikipedia (50%)
- Participation: contribution to class discussions, activities (10%)
- Pop quizzes (15%) will be used to evaluate reading adherence and comprehension
- Final Exam (25%)