STUDY GUIDE
In-Class Exam #1

In-Class Exam #1 will be held in D-209 (our lecture room) on **Tuesday Nov 9, 1:30-2:20 pm**.

This study guide covers most of the topics that will be covered on the exam. The exam in this class is "closed book" (no electronic devices, notes or other materials can be used). The exam is based on the assigned readings and the lectures through November 5.

The exam will be a combination of multiple choice, true/false, matching, and short answers. The exam will be based on the following topics:

Introduction
- Definitions of health and public health; (also what doesn't constitute public health)
- Definition of "miasma"
- Know five 20th century achievements in public health

Climate Change
- Explain carbon dioxide; where it comes from; what are its benefits; what are the environmental health concerns
- Explain the greenhouse effect
- Keeling's curve
- What "IPCC" stands for (reading)
- How carbon dioxide can cause ocean acidification (reading)
- Supreme Court ruling on regulation of carbon dioxide under the Clean Air Act
- Impact of projected climate change on global agricultural production
- Regions contributing the most to global greenhouse gas emissions
- Regions likely to be most affected by global greenhouse gas emissions
- UW Climate Impacts Group projections for Northwest temperature and precipitation for the 21st century
- Potential positive and negative impacts of projected climate change in the Northwest

Agriculture and Food Safety
- Understanding of the USDA definition of "organic"
- List 2 benefits and 2 adverse health outcomes of pesticides
- Understanding of the principles and elements or integrated pest management (IPM)
- Examples of important genetically modified organisms (GMOs) in agriculture
- General patterns of per capita consumption of meat, sugar, fats/oils in U.S. over 20th century
- Difference between food safety and food security
- Know 2-3 populations who are vulnerable to food-borne illnesses
- Roles of the Food and Drug Administration (FDA) and the US Dept of Agriculture (USDA) in food safety

Chemical Legacy
- Events that occurred near the Union Carbide plant in Bhopal, India in December 1984
- Health effects of the Bhopal disaster
- Implications of different labels for the Bhopal disaster
- Long-term legal issues associated with the Bhopal disaster
- Events that occurred in Minamata Bay, Japan related to mercury poisoning

- Sources of lead exposure
- Major lead prevention policies that resulted in reduced blood lead levels in U.S. children
- Uses and hazards of polychlorinated biphyenyls
- Bioaccumulation of PCBs
- Health concerns associated with the April 2010 Gulf of Mexico oil leak (BP oil spill)

Toxicology

- Discovery of environmental carcinogenesis (environmental cancer)
- Difference between a "toxicant" and a "toxin"
- Examples of adverse effects of toxicants at the cellular level
- Difference between acute exposure and chronic exposure
- Difference between *in vitro* testing and *in vivo* testing
- Understanding of NOEL (no observed adverse effect limit), LOEL (lowest observed adverse effect limit), threshold, "LC-50" and "LD-50"
- Definitions of *necrosis* and *apoptosis* in the context of cell death
- Why you don't want to take acetaminophen (Tylenol) after you have been drinking alcohol
- The three stages of cancer when viewed as a multistage process
- Primary reason that thalidomide was banned
- Understanding of the major events that took place in Hungary recently due to 'red sludge'
- Source of the red sludge
- The most serious immediate effect of the red sludge on the exposed population

Occupational Health

- Two ways that our society puts a dollar value on a life
- Understanding of the purpose of workers' compensation
- Primary benefit of workers' compensation for the worker; primary benefit for the employer
- What the acronym "OSHA" stands for
- List 2 goals and 2 challenges outlined by the new director of OSHA
- Understanding of occupational fatalities earlier this year in Anacortes, Washington
- Primary difference in the focus of OEM physicians compared to physicians in other specialties
- Difference between *primary*, *secondary* and *tertiary* prevention in OEM
- Two reasons for an OEM physician to take an occupational history
- What flock is and how it became hazardous to workers
- What happened to the doctor who reported on a new disease: flock workers' lung