

## TOXIC AGENTS: EFFECTS AND MECHANISMS (ENVH 516)

Spring Quarter 2016 MWF 1:30-2:20; Room RR134

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Date	Topic	Instructor	Reading*
March 28 M	Metals	Lewandowski	Chapter 23
30 W	Metals	Lewandowski	Chapter 23
April 1 F	Metals	Lewandowski	Chapter 23
4 M	Pesticides	Costa	Chapter 22
6 W	Pesticides	Costa	Chapter 22
8 F	Pesticides	Costa	Chapter 22
11 M	Air pollutants	Amman	Chapter 29
13 W	Air pollutants	Amman	Chapter 29
15 F	Air pollutants	Amman	Chapter 29
18 M	Herbicides	Eaton	Chapter 22
20 W	Nanomaterials	Carosino	Chapter 28
22 F	Pesticides	Costa	Chapter 22
25 M	PBDEs	Costa	Handout
27 W	Metals	Lewandowski	Chapter 23
29 F	Food additives	Costa	Chapter 31
May 2 M	Food toxicology	Hill	Chapter 31
4 W	Mid-term EXAM	Costa/Chang	-----
6 F	Animal & Plant Toxins	Roque (E212)	Chapter 26
9 M	Animal & Plant Toxins	Roque	Chapter 26
11 W	Phthalates & Bisphenol A	Sathyanarayana	Handout
13 F	Dioxins	Kelly	Handout
16 M	PCBs	Kelly	Handout
18 W	Radiation	Griffith	Chapter 25
20 F	Drugs of abuse	Coburn	Handout
23 M	Solvents	Costa	Chapter 24
25 W	Solvents	Costa	Chapter 24
27 F	Solvents	Chang	Chapter 24
30 M	HOLIDAY	-----	-----
June 1 M	Ecotoxicology	Gallagher	Chapter
3 W	Occupational toxicology	Spector	Chapter 34
6-10	FINAL EXAM#	Costa/Chang	-----

\* Casarett and Doull's Toxicology. 8<sup>th</sup> Edition, 2013. # Room TBA

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**Spring Quarter, 2016 – Dr. Lucio G. Costa**

**Course Objectives:** This course (previously Environmental and Occupational Toxicology III) is the third course of the core toxicology series. The content of the course focusses on the most important classes of toxic chemicals (as well as physical and biological agents), their toxic effects in humans and animals and the underlying mechanisms. The lectures will cover the toxicology of metals, solvents, pesticides, dioxins and other halogenated contaminants, radiation, food-borne toxicants, natural toxins, and air pollutants.

After completion of the course students will have acquired a fundamental understanding of the toxic effects of different agents. They will be able to identify major issues related to the toxicity of environmental agents, recognize toxic effects induced by these agents, explain mechanisms of toxicity, identify routes and nature of exposures, evaluate types of toxic effects, have a basic understanding of the main aspects of ecotoxicology, occupational toxicology and clinical toxicology, are their role within toxicology, public health and environmental and occupational health sciences.

**Guest lecturers** will be a valuable asset to the course and will assist in providing coverage of subject areas within their respective areas of expertise.

**Intended Student Audience:** While the ENVH 514/515/516 course sequence serves as the core of the graduate toxicology program for both Toxicology MS and PhD students in the Department of Environmental and Occupational Health Sciences, ENVH 516 is open to all graduate students from other DEOHS programs, including MPH students, and from other allied biomedical science departments (e.g. pharmacy, pharmacology, fisheries, neurobiology etc.). Prerequisites for this class include undergraduate general biology, organic chemistry, and biochemistry. Previous background in mammalian physiology is recommended.

**Required Readings:** The textbook for ENVH 516 is Casarett and Doull's Toxicology. The Basic Science of Poisons, 2013 Edition. Chapters in this textbook cover most topics taught in the class. Additional reading material, handouts with slides, etc. will be e-mailed to each student ahead of the class and/or distributed at each class by the instructor.

**Exams and Assignments:** There will be a mid-term and a final in-class written exam (essay-type questions) of the duration of 50 min each. Each exam will cover all material presented in the preceding lectures. The final exam will be held during finals week but will not be a cumulative exam.

**Grading:** The final grade is compiled from the average of the two in-class exams.

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**Academic Integrity:** Students at the University of Washington are expected to maintain the highest standard of academic conduct, professional honesty, and personal integrity. The UW School of Public Health is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the UW Student Conduct Code (WAC 478-120). We expect you to know and follow the University's policies on cheating and plagiarism, and the SPH Academic Integrity Policy (<http://sph.washington.edu/students/academicintegrity/>). Any suspected case of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standard and Student Conduct website.

**Disability Resources:** Your experience in the class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but are not limited to mental health, attention-related, learning, vision, hearing, physical or health impact), you are welcome to contact DRS at 206-543-8924 or [uwdrs@uw.edu](mailto:uwdrs@uw.edu) or [disability.uw.edu](http://disability.uw.edu). DRS offers resources and coordinates reasonable accommodations for students with disabilities or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.