

## ENVH 546 - Hazardous Waste and Public Health

Winter Quarter, 2018

Instructor: John C. Kissel, Ph.D.  
Professor, Department of Environmental and Occupational Health  
Sciences  
4225 Roosevelt Ave NE, Rm. 2337; 543-5111 jkissel@uw.edu

Office hours: TBD (drop-ins welcome except 2-3:30 MW)

Class Period: MWF 3:30-4:50

Location: E-216

Description: Characterization of hazardous wastes and introduction to pertinent federal and state regulations. Discussion of exposure pathways and risk evaluation. Description of risk mitigation options at pre-generation, pre-release, and post-release stages. Supplemented with case studies. Emphasis on public health significance.

Learning Objectives: At conclusion of the course students should be able to: define hazardous waste; describe the primary provisions of RCRA and CERCLA; demonstrate familiarity with current hazardous waste management issues and jargon; recognize and interpret terminology used to quantitatively describe chemical exposure and risk; interpret the physical-chemical properties of individual chemicals with respect to their impact on fate, transport and human exposure; implement and interpret a simple fugacity based chemical fate model; describe key epidemiological investigations of hazardous waste sites; state conditions under which exposure pathways are likely to be completed; describe technological approaches to waste destruction and containment; contrast pre-generation, pre-release, and post-release management options; and conduct a rudimentary intake fraction analysis for a model commercial compound.

Grading:	Midterm	20%
	Final	20%
	Problem Sets #1-6	20%
	Project #1	15%
	Project #2	15%
	Participation	10%

Problem sets, midterm and final will be the same ones used in the companion undergraduate section. Graduate (546) students will also be required to complete two linked group projects. *The first, due at the midterm, will involve simulation of the transport and fate of a selection of target compounds with representative physical-chemical properties using a software package applicable to regulatory analysis of chemical waste impacts. The second project, due at the last day of class will be poster presentation of an exposure analysis for the target compounds investigated in the first project in the context of production, use and disposal of commercial products that contain them.*

Text: No text. Notes, supplemental readings and other materials will be provided via Canvas.

**Academic Integrity** (<http://sph.washington.edu/students/academicintegrity/>)

*Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity.*

*The UW School of Public Health (SPH) 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 University of Washington **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**. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington **Community Standards and Student Conduct** website.*

**Access and Accommodation** (<http://depts.washington.edu/uwdrs/faculty-resources/syllabus-statement/>):

*Your experience in this 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 not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), 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 and/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.*