

## ENVH 515 - ENVIRONMENTAL AND OCCUPATIONAL TOXICOLOGY II COURSE SYLLABUS

**Winter Quarter, 2008 - MWF 2:30-3:20, HSB T-530**

**Instructor: Dr. Terry Kavanagh**

**Phone: 685-8479**

**Email: [tjkav@u.washington.edu](mailto:tjkav@u.washington.edu)**

**Appointments can be made with Dr. Kavanagh by arrangement.**

**Course Objectives:** This is the second course of a three-course sequence, with ENVH 514 (Dr. Zhengui Xia) and ENVH 516 (Dr. Lucio Costa). The overall goal is for students to gain a basic working knowledge of how chemicals interact with biological systems to produce adverse effects, i.e., the science of toxicology. The second quarter of this series is organized with sections pertaining to target organs and/or organ systems. Thus, the second quarter of this series will concentrate on organ toxicology while the first quarter concentrated on basic concepts and mechanisms of toxicology and the third quarter will concentrate on specific agents. Guest lecturers are a valuable asset to the course in general and will assist in providing coverage of subject areas within their respective areas of expertise.

**Intended Student Audience:** The ENVH 514-516 course sequence serves as the core of the graduate toxicology program for both M.S. and Ph.D. Toxicology students in the Department of Environmental & Occupational Health Sciences. Graduate students from DEOHS and other allied biomedical science departments sharing an interest in toxicology, e.g., Pharmacology, Medicinal Chemistry, Epidemiology, Physiology & Biophysics, Biochemistry, also are encouraged to register. Prerequisites for this class include a year of undergraduate general biology, two quarters of organic chemistry, and one quarter of graduate level biochemistry. Previous coursework/background in mammalian physiology is strongly recommended.

**Required Reading:** The text for the ENVH 514-516 course series is: Klaassen, C.D. (ed.) Casarett and Doull's Toxicology: The Basic Science of Poisons, 7th edition, 2008. Chapters 10-21 are covered in ENVH 515. Additional handout materials will be provided for most classes and are also required reading.

**Grading:** The final grade for this class will be based on accumulated scores from three mid-term exams (each worth 25% of final grade), plus a final exam (worth 25% of final grade).

### **Lecture and Exam Schedule:**

<u>Date</u>	<u>Topic</u>	<u>Lecturer</u>	<u>Reading</u>
1/07/08	Toxicology of the Liver	Farin	Chapter 13
1/09/08	Toxicology of the Liver	Eaton	Chapter 13
1/11/08	Toxicology of the Liver	Eaton	Chapter 13
1/14/08	Immunotoxicology	Kavanagh	Chapter 12
1/16/08	Immunotoxicology	Kavanagh	Chapter 12
1/18/07	Immunotoxicology	Kavanagh	Chapter 12
1/21/08	NO CLASS – Martin Luther King Day		
1/23/08	<b>MID-TERM EXAM I</b> Covers lectures 1/7 through 1/18		

1/25/08	Toxicology of the Kidney	Woods	Chapter 14
1/28/08	Toxicology of the Kidney	Woods	Chapter 14
1/30/08	Toxicology of the Kidney	Woods	Chapter 14
2/01/08	Toxicology of the Respiratory System	Luchtel	Chapter 15
2/04/08	Toxicology of the Respiratory System	Luchtel	Chapter 15
2/06/08	Toxicology of the Respiratory System	Luchtel	Chapter 15
2/08/08	Toxicology of the Skin	Kavanagh	Chapter 19
2/11/08	<b>MID-TERM EXAM II</b> Covers lectures 1/25 through 2/08		
2/13/08	Toxicology of Sensory Organs	Kavanagh	Chapter 17
2/15/08	Neurotoxicology	Costa	Chapter 16
2/18/08	NO CLASS – Presidents' Day		
2/20/08	Neurotoxicology	Costa	Chapter 16
2/22/08	Behavioral Neurotoxicology	Burbacher	Chapter 16
2/25/08	Developmental & Reproductive Toxicology	Faustman	Chapters 10, 20
2/27/08	Developmental & Reproductive Toxicology	Faustman	Chapters 10, 20
2/29/08	Developmental & Reproductive Toxicology	Faustman	Chapters 10, 20
3/03/08	<b>MID-TERM Exam III</b> Covers lectures 2/13 through 2/29		
3/05/08	Cardiovascular Toxicology	Rosenfeld	Chapter 18
3/07/08	Cardiovascular Toxicology	Rosenfeld	Chapter 18
3/10/08	Cell & Tissue Response to Injury	Kavanagh	Handout
3/12/08	Histopathology & Morphometry Methods	Kavanagh	Handout
3/14/08	Blood/Bone Marrow Toxicology	Farin	Chapter 11
3/18/08	<b>FINAL EXAM;</b> 2:30-4:20 p.m. HSB T530 Covers lectures 3/05 through 3/14		