

Water 494 – Environmental Toxicology

Dr. Ron Crunkilton, CNR 176, 346-4509, Office hours: anytime

Course learner objectives:

Demonstrate understanding of -

1. basic principles of environmental toxicology
2. major exposure routes to environmental contaminants
3. biological effects of important environmental contaminants
4. major chemical groups of environmental contaminants
5. basic quantitative assessment of potential hazard from exposure to environmental contaminants

Lecture Topics:

Introduction to toxicology (Landis and Yu, Chapter 1)

Basic principles (Landis and Yu, Chapter 2)

Toxicity tests (Landis and Yu, Chapters 3-4)

Exam 1

Absorption and distribution (Landis and Yu, Chapter 6)

Biotransformation and excretion (Landis and Yu, Chapter 11)

Toxic effects (Landis and Yu, Chapter 6)

Factors modifying toxicity (Landis and Yu, Chapter 7)

Exam 2

Bioaccumulation (Rand, 493-521, Ereserve)

Metals (Chang and Cockerham, Ereserve)

Petroleum products (Overton et al., Ereserve)

Pesticides (Chambers, Ereserve)

Halogenated aromatics (Hansen, Ereserve)

Risk assessment

Exam 3

Discussion/lab (selected readings will be assigned)

Evaluation:	100 points Exam 1	Grading scale
	100 points Exam 2	90-100 = A
	100 points Exam 3	80-90 = B
	150 points Discussion presentations	70-80 = C
	150 points Quizzes/labs and or short assignments	
	600 points total	

Tests: At least one-week notice will be given prior to exams. Short assignments will generally be due one week from assigned date. Quizzes will be associated with the Discussion sessions and are worth 10 points each. Material for quizzes will be taken verbatim from study questions. We will have at least two labs where we will perform toxicological assays.

A one-point penalty per day will be assessed for late assignments. No make-ups will be allowed for missed quizzes without valid reasons, however, the low quiz grade will be dropped.

Texts: Introduction to Environmental Toxicology by W.G. Landis and Ming-Ho Yu. In bookstore.
 Our Stolen Future by T. Colburn, D. Dumanoski and J.P. Meyers. Purchase or on ereserve

Readings: Selected readings (found on e-reserve) will be assigned weekly

Library Resources-indexes and databases

Virtually any peer-reviewed paper may be obtained through online library resources or by special request.

Professional Societies

Society of Environmental Toxicology and Chemistry- State, Regional and International Chapters
Society of Toxicology, Regional and National Chapters