

Systems Toxicology Spring 2008

Instructor/Coordinators: Duncan Ferguson, V.M.D., Ph.D.
Office: VMBSB 3516
Email: dcf@uiuc.edu
Phone: 333-2506

Jodi Anne Flaws, Ph.D.
Office: VMBSB 3223
Email: jflaws@uiuc.edu
Phone: 333-7933

Time of course: Tuesdays and Thursdays (1.5 hours/class)

Place of course: Vet Medicine

Credit: 3 graduate credit hours

Prerequisite: Completion of a course in basic toxicology or consent of instructor

Description: This course is designed to provide an overview of the effects of chemicals and their mechanisms of action in a variety of organ systems. Topics include toxicology of the nervous, developmental, reproductive, thyroid, renal, hepatic, immune, pulmonary, and gastrointestinal system.

Required text: Casarett and Doull Toxicology

Classes will consist of lectures provided by instructors with expertise in the selected topics. Students will be expected to read the required textbook material and to complete the required exams.

Grading policy: Grades will be based on exam scores. There will be a total of 4 exams

January	15	Class overview General description of the course and its requirements; general overview of the concepts that will be covered during the semester
	17	Neurotoxicology general description of the anatomy and physiology of the nervous system, the impact of chemicals on the nervous system, and the mechanisms of action of selected neurotoxicants
	22	Neurotoxicology (continued) general description of the anatomy and physiology of the nervous system, the impact of chemicals on the nervous system, and the mechanisms of action of selected neurotoxicants

- 24 Neurotoxicology (continued)**
general description of the anatomy and physiology of the nervous system, the impact of chemicals on the nervous system, and the mechanisms of action of selected neurotoxicants
- 29 Developmental Toxicology**
general description of the effects of chemicals on development and the mechanisms of action of developmental toxicants
- 31 Developmental Toxicology (continued)**
general description of the effects of chemicals on development and the mechanisms of action of developmental toxicants
- February 5 EXAM 1**
- 7 Female Reproductive Toxicology**
general description of the anatomy and physiology of the female reproductive system, the impact of chemicals on the female reproductive system, and the mechanisms of action of selected female reproductive toxicants
- 12 Female Reproductive Toxicology (continued)**
general description of the anatomy and physiology of the female reproductive system, the impact of chemicals on the female reproductive system, and the mechanisms of action of selected female reproductive toxicants
- 14 Male Reproductive Toxicology**
general description of the anatomy and physiology of the male reproductive system, the impact of chemicals on the male reproductive system, and the mechanisms of action of selected male reproductive toxicants
- 19 Male Reproductive Toxicology (continued)**
general description of the anatomy and physiology of the male reproductive system, the impact of chemicals on the male reproductive system, and the mechanisms of action of selected male reproductive toxicants
- 21 Thyroid Toxicity**
general description of the anatomy and physiology of the thyroid system, the impact of chemicals on the thyroid, and the mechanisms of action of selected thyroid toxicants
- 26 Renal Toxicity**
general description of the anatomy and physiology of the renal system, the impact of chemicals on the kidney, and the mechanisms of action of selected kidney toxicants
- 28 Renal Toxicity (continued)**
general description of the anatomy and physiology of the renal system, the impact of chemicals on the kidney, and the mechanisms of action of selected kidney toxicants

March	4	EXAM 2
	6	Cardiovascular toxicity general description of the anatomy and physiology of the cardiovascular system, the impact of chemicals on the cardiovascular system, and the mechanisms of action of selected cardiovascular toxicants
	11	Hepatotoxicity general description of the anatomy and physiology of the liver, the impact of chemicals on the liver, and the mechanisms of action of selected hepatotoxicants
	13	Hepatotoxicity (continued) general description of the anatomy and physiology of the liver, the impact of chemicals on the liver, and the mechanisms of action of selected hepatotoxicants
	18	SPRING BREAK-NO CLASS
	20	SPRING BREAK-NO CLASS
	25	Pancreatic Toxicity (Endocrine) general description of the anatomy and physiology of the endocrine pancreas, the impact of chemicals on the endocrine pancreas, and the mechanisms of action of selected pancreatic toxicants
	27	Pancreatic Toxicity (Exocrine) general description of the anatomy and physiology of the exocrine pancreas, the impact of chemicals on the exocrine pancreas, and the mechanisms of action of selected pancreatic toxicants
April	1	EXAM 3
	3	Immunotoxicity general description of the anatomy and physiology of the immune system, the impact of chemicals on the immune system, and the mechanisms of action of selected immunotoxicants

- 8 Immunotoxicity (continued)**
general description of the anatomy and physiology of the immune system, the impact of chemicals on the immune system, and the mechanisms of action of selected immunotoxicants
- 10 Pulmonary Toxicology**
general description of the anatomy and physiology of the pulmonary system, the impact of chemicals on the pulmonary system, and the mechanisms of action of selected pulmonary toxicants
- 15 Pulmonary Toxicology (continued)**
general description of the anatomy and physiology of the pulmonary system, the impact of chemicals on the pulmonary system, and the mechanisms of action of selected pulmonary toxicants
- 17 Skin Toxicology**
general description of the anatomy and physiology of the skin, the impact of chemicals on the skin, and the mechanisms of action of selected skin toxicants
- 22 Gastrointestinal Toxicology**
general description of the anatomy and physiology of the gastrointestinal system, the impact of chemicals on the gastrointestinal system, and the mechanisms of action of selected gastrointestinal toxicants
- 24 Gastrointestinal Toxicology (continued)**
general description of the anatomy and physiology of the gastrointestinal system, the impact of chemicals on the gastrointestinal system, and the mechanisms of action of selected gastrointestinal toxicants
- 29 EXAM 4 (FINAL CLASS)**