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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 Doul 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)