

University of Minnesota
College of Pharmacy

Phar 6964
Clinical Toxicology

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Course Schedule:

Week	Date	Time	TOPIC	LECTURER
1	March 26	1:25-2:15	Toxicity of Calcium Channel Blockers/Beta Blockers*	LeMaster
1	March 26	2:30-3:20	Toxic Alcohols (Methanol/Ethylene Glycol)	LeMaster
2	April 2	1:25-2:15	Toxicity of Commonly Used Pesticides	K. Sioris
2	April 2	2:30-3:20	Perspectives in Ethanol Toxicity, DUI/Forensic Toxicology	L. Sioris
3	April 9	1:25-2:15	Carbon Monoxide Poisoning	J. Brown
3	April 9	2:30-3:20	Mid Term Exam	K. Sioris
4	April 16	1:25-2:15	Snakes, Spiders & Venomous Animals	Keyler
4	April 16	2:30-3:20	THC, Synthetic Cannabinoids & other Synthetic Drugs of Abuse	A. Brown
5	April 23	1:25-2:15	History of Toxicology	Filandrinos
5	April 23	2:30-3:20	Marine Toxicology	Filandrinos
6	April 30	1:25-2:15	One pill can kill: What every pharmacist needs to know about canine and feline pharmacology/toxicology	Brutlag
6	April 30	2:30-3:20	Toxicology Final	K. Sioris

COURSE OBJECTIVES

Upon completion of this section of the course, the student should be able to:

1. The student will understand how to provide proper decontamination and identify at least one clinical indication where each method below is applied:
 - External decontamination (skin/eye)
 - Internal decontamination (oral)
 - Prevention of absorption
 - Enhanced excretion

2. The student will identify at least one clinical indication, use, dosage, hazard/side effect and clinical monitoring parameter of the following agents:
 - Emetics
 - Lavage
 - Adsorbents
 - Whole Bowel Lavage
 - Antidotes

3. The student will identify toxic doses, toxic blood levels, mechanism of toxicity, signs and symptoms of toxicity, prognosis, clinical and laboratory monitoring parameters, and general and specific treatments necessary to manage the poisoning emergencies below:
 - Synthetic Cannabinoids
 - Synthetic Drugs of Abuse
 - Ethanol
 - Toxic alcohols

- Snakes, spiders and venomous animals
 - Pesticides
 - Marine toxins
 - Calcium channel blockers
 - Beta blockers
 - Carbon Monoxide
4. The student will be able to apply pharmacokinetic principles for interpretation of post-mortem blood levels.

COURSE PREREQUISITES

All students will have successfully completed the first year professional pharmacy program, as well as successfully completed fall semester of the second year. All students will have also successfully completed or be in the process of completing anatomy, physiology, pathophysiology, and pharmacology. The student is responsible for this material to the extent necessary as a framework for toxicologic therapeutics. Thus, students are encouraged to review basic anatomy and physiology and specifically encouraged to review the section of the pharmacology textbook relevant to the classes of drugs covered.

WORK LOAD

For elective courses, one credit is defined as equivalent to an average of two hours of learning effort per week necessary for an average student to achieve an average grade in the course. This course will meet once weekly for one hour. This course is worth 1 credit upon completion.

OVERALL DIVISION OF POINTS

Each student will be required to achieve a passing grade of 70% or better in order to receive a passing grade for this class.

Two exams will be given during the course, a midterm and a final. Exams will consist of both multiple choice and T/F questions. Each exam will be worth 50 points and 50% of your grade. The total amount of points for the course is 100 points.

Letter Grade assignments appearing on your transcripts are as follows. Common rounding rules will be applied to the final grade ONLY (as per Microsoft Excel® where 0.5 and higher values are rounded up).

A	≥ 93%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D	60-69%
F	< 60%

REQUIRED TEXTBOOKS

1. Pharmacotherapy, 9th ed, 2014, Ed. J.T. DiPiro, et. al. Reading assignments relevant to lecture topics.

In addition, the following references are excellent resources for the student as additional recommended readings:

1. Goldfrank, Lewis. Goldfrank's Toxicologic Emergencies, 10th Edition, McGraw-Hill, New York, New York, 2013.
3. Poisindex, by Micromedex, Inc. Thompson Reuters, Englewood, Colorado.

COURSE STRUCTURE/EXAMINATIONS

This class will be comprised of lecture format presentations

Students will be given 1 hour to complete the final exam and midterm.

PROBLEMS/OFFICE HOURS

Any problems concerning the presentation of this curriculum or any problems related to this course should be directed to the course director or assistant course director. Teaching assistants are also available for feedback. All office hours are by appointment. Please email or call Kelly to make arrangements; she will be more than happy to get together with you.