

TOXICOLOGY (PHRM 272; SPRING 2018)

This 3-credit course is intended to provide an understanding of the chemical, biochemical and physiological factors that determine the pathological effects of chemicals in living systems.

Prerequisites:

Biology, or Organic Chemistry, or Permission

Course Director:

Dr. Wolfgang Dostmann, Professor of Pharmacology
(656-0381; wolfgang.dostmann@uvm.edu; Given B303B)

Office hours:

Thursday, 2-4pm, Given B303B

Course Faculty:

Faculty members from the Department of Pharmacology

Time and Place:

Monday's/Wednesday's/Friday's 9:40 – 10:30 AM in Lafayette Hall L108

Recommended Textbooks:

Understanding Toxicology: A Biological Approach – (1st Edition, S. Mercurio, 2016).

Understanding Toxicology is a comprehensive study of toxicants and their impact on all levels of biology--from cell, to complex organism, to ecosystem. Unlike other texts of its kind, this text is uniquely structured by biological system, making it easy for readers to understand the impact of toxins on each system.

Casarett and Doull's Toxicology: The Basic Science of Poisons – (8th Edition; C. Klaassen ed., July 2013).

This text is the world's leading and most authoritative textbook on poisons and has been hailed as the most trusted all-in-one overview of the biomedical and environmental aspects of toxicology. The book has been selected not only as a resource for use in this course but also as a reference for later use.

Examination Format:

The majority of questions will be multiple choice questions or require short essay responses.

Students taking the course for graduate school credit have an additional requirement to submit a term paper on a subject approved by the course director.

Course Schedule

1/17	Introduction	Dostmann
1/19	Toxins in our homes	Dostmann
1/22	Toxicology of Gases: Carbon Monoxide	Dostmann
1/24	Toxicology of Gases: Carbon Cyanide	Dostmann
1/26	Toxicology of Gases: Air Pollutants/Ozone	Dostmann
1/29	Toxicology of Gases: Air Pollutants/Acid Rain	Dostmann
1/31	Exam 1	
2/02	Toxicology of Airborne Particulate Matter/Sources	Lounsbury
2/05	Toxicology of Airborne Particulate Matter/Effects	Lounsbury
2/07	Toxicology of Smoking	Lounsbury
2/09	Toxicogenomics	Carr
2/12	Chemical Carcinogenesis	Carr
2/14	Exam 2	
2/16	Plant Toxins - Introduction	McHenry
2/19	Presidents' Day Holiday	
2/21	Recreational use of Plant Toxins	McHenry
2/23	Chemical Nature of Plant Toxins	Dostmann
2/26	Criminal and Medicinal use of Plant Toxins	Dostmann
2/28	Toxicology of Ethanol	Lounsbury
3/02	Toxicology of other Alcohols	Lounsbury
3/05	Biological Warfare	Dostmann
3/07	Bioterrorism	Dostmann
3/09	Exam 3	
3/12	Spring Recess	
3/14	Spring Recess	
3/16	Spring Recess	
3/19	Pesticides	Morielli
3/21	Pesticides/Chemical Warfare	Morielli
3/23	Chemical Warfare	Morielli
3/26	Toxicology of Heavy Metals: General Principles	Dostmann
3/28	Toxicology of Heavy Metals: Lead	Dostmann
3/30	Toxicology of Heavy Metals: Cadmium	Dostmann
4/02	Toxicology of Heavy Metals: Mercury	Dostmann
4/04	Exam 4	
4/06	Poisonous Animals	Wellman
4/09	Poisonous Animals	Wellman
4/11	Venomous Animals	Wellman
4/13	Venomous Animals	Wellman
4/16	Toxicology of drugs of abuse	Tykocki
4/18	Toxicology of drugs of abuse	Tykocki
4/20	Exam 5	
4/23	Environmental Toxicology: Risk Assessment	Bress
4/25	Scenarios of disaster response	Bress
4/27	Endocrine Disruptors	Carr
4/30	Principles of Ecotoxicology I	Dostmann
5/02	Principles of Ecotoxicology II	Dostmann
5/04	Element of Murder: Arsenic	Dostmann
5/10	Exam 6 10:30am – 1:15pm	