TOXICOLOGY (PHRM 272; SPRING 2021)

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)

Course Faculty:
Faculty Members of the Department of Pharmacology

Time and Place:
Monday’s/Wednesday’s/Friday’s 9:40 – 10:30 AM taught REMOTELY

Format:
All lectures will be live and fully remote on Windows Teams or Zoom.
All lecture materials (recorded lectures, ppt files, handouts, etc) will be made available through Blackboard.
Note: attendance during the live Teams lectures is not mandatory (you can watch the lectures at any time, should you have time conflicts).

Recommended Textbook:
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.

Examinations:
A total of 4 written exams are scheduled in roughly equal intervals throughout the course. Each exam is worth 25% of the total score. The majority of questions will be multiple choice. Some questions may require short essay responses. The exams are not cumulative.

Extra credit:
Students who wish to obtain extra credit can do so by submitting up to two papers on a subject approved by the course director. Each paper is approximately worth an additional 5-7% of the total score (equivalent of a full letter grade bump up). Details on deadlines, paper format and topics will be posted on Blackboard before exam 1.

Graduate Students:
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. Students will be graded (pass/fail) on the thoroughness and quality of their paper.
Course Schedule

2/1  Introduction  Dostmann
2/3  Toxins in our homes I  Dostmann
2/5  Toxins in our homes II  Dostmann
2/8  Toxicology of Gases: Carbon Monoxide  Dostmann
2/10 Toxicology of Gases: Cyanide  Dostmann
2/12 Toxicology of Gases: Air Pollutants I  Dostmann
2/15 Toxicology of Gases: Air Pollutants II  Dostmann
2/17 Toxicology of Airborne Particulate Matter  Dostmann
2/19 Toxicology of Smoking  Dostmann
2/22 Environmental Toxicology: Risk Assessment  Bress

2/24  Exam 1

2/26  Plant Toxins I  Wellman
3/1  Plant Toxins II  Wellman
3/3  Plant Toxins III  Wellman
3/5  Plant Toxins IV  Wellman
3/8  Toxins from Fungi  Wellman
3/10 Toxicology of Pesticides  Morielli
3/12 Pesticides/Chemical Warfare  Morielli
3/15 Chemical Warfare  Morielli
3/17 Biological Warfare  Morielli
3/19 Bioterrorism  Morielli

3/22  Exam 2

3/24  Respite Day

3/26 Toxicogenomics  Carr
3/29 Chemical Carcinogenesis  Carr
3/31 Endocrine Disruptors  Carr
4/2  Toxicology of Heavy Metals: General Principles  Dostmann
4/5  Toxicology of Heavy Metals: Lead  Dostmann
4/7  Toxicology of Heavy Metals: Cadmium  Dostmann
4/9  Toxicology of Heavy Metals: Mercury  Dostmann
4/12 Toxicology of Arsenic  Dostmann

4/14  Exam 3

4/16 Animal Toxins I  Wellman
4/19 Animal Toxins II  Wellman
4/21 Animal Toxins III  Wellman
4/23 Animal Toxins IV  Wellman
4/26 Animal Toxins V  Wellman
4/28 Analytical Methods in Toxicology  Morielli
4/30 Forensic Toxicology: Elements of Death  Morielli
5/3  Forensic Toxicology: Molecules of Death  Morielli
5/5  Toxicology of drugs of abuse  Morielli
5/7  Regulatory Toxicology I  Morielli
5/10 Regulatory Toxicology II  Morielli
5/13  FINAL EXAM  7:30am to 1:30am