

TOXI 303: Introduction to Toxicology

Toxicology is the study of the adverse effects of chemical, physical, or biological agents on living organisms and the ecosystem, including the prevention and amelioration of such effects. Knowledge of toxicology is essential in the areas of drug development, medicine, environmental, occupational and public health, as well as in chemical and pharmaceutical industries. The objective of this course is to introduce students to the general principles of toxicology, the various classes of toxic agents, and the organ and biochemical systems that these agents affect. The course will also focus on the prevention and management of toxicity from several agents. During the course, students will review several events of human and companion animal toxicity that are reported in the medical literature and/or in the media, with the aim to translate theoretical concepts into a real-world context. This is a great course for those contemplating graduate study in the fields of toxicology or pharmacology, or for those who work with toxicologists or pharmacologists in a regulatory or research setting, or for the layperson interested in learning more about toxicology.

Learning Objectives

- Understand basic toxicant mechanisms of action
- Compare acute and chronic intoxication scenarios and discuss prevention and management
- Gain insight into the significance and the use of main toxicological parameters
- Evaluate critically and discuss current events relevant to the field of toxicology
- Integrate knowledge acquired in an in-depth case study and presentation of a human drug overdose/toxicity

Credits: 3

Class Type: Graduate Course

Prerequisites:

undergraduate biology and chemistry.

Program: Biochemistry, Chemistry, Pharmacology, and Toxicology