Forensic Toxicology I
FOS 725
30 HOURS LECTURE, 6 HOURS LABORATORY, 5 CREDITS.
OFFERED FALL SEMESTER
This course introduces students to methods of determining the presence or absence of drugs (and metabolites) and chemicals in human fluids and tissues and evaluating their role as a contributory factor in the cause or manner of death and disease. This course deals with the systematic approach to processing biological samples for the presence of drugs and poisons. Students are introduced to the fundamental theoretical principles applied to forensic toxicology with topics including: postmortem and antemortem toxicology, sample preparation and extraction techniques, and methods of analytical screening and confirmation (chromatography, GCMS, LCMS, immunoassay), that are used to solve problems confronting the forensic toxicologist. Advanced topics associated with pharmacokinetics and pharmacodynamics are discussed as they relate to the interpretation of results. The general focus of the course will be to examine the scientific aspects of the detection of intoxications and the role of intoxicating agents in the commission of crimes and/ or overdose and poisoning. The laboratory sessions introduce the basic analytical principles that are common in forensic toxicology. This includes the various methods of sample preparation, extraction, and drug screening, determination of blood ethanol levels and qualitative and quantitative analysis of specimens for various drugs of abuse. Common acidic, basic, and neutral drug screening methods will be applied along with the concepts of conformational analysis.
Prerequisite(s): FOS 707 - Principles of Forensic Toxicology.