This is primarily an experimental chemistry course. Experiments are specifically designed for those who want to acquire basic knowledge and experimental skills in forensic analytical chemistry. Through this course, students will learn how to properly acquire and analyze data on samples of a forensic nature and how to write forensic lab reports. Lecture topics include: data and error analysis, gas chromatography, infrared spectroscopy, mass spectrometry, microscopy. Applications to alcohol, drugs, arson debri, paint chips, fibers, and gunshot residue will be presented.

Principle of Forensics

- Arson & Ignitable Liquids
- Drugs
- Trace Evidence
- Fibers and Polymers

Data Analysis

- Distributions (Gaussians and Poissons)
- t-test
- Error Analysis (statistics etc).

Instruments of Forensic Analysis

- GC/MS Combo
• ATR-FTIR
• Scanning Electron Microscopy
• Energy Dispersive X-ray Analysis
• Detection Limits, Sensitivities