

FS - Forensic Sciences

Courses numbered 100 to 299 = *lower-division*; 300 to 499 = *upper-division*; 500 to 799 = *undergraduate/graduate*.

FS 298. An Introduction to Forensic Science and Crime Scene Investigation (3).

Forensic science is the study and application of science to the process of law and involves the collection, examination, evaluation and interpretation of physical evidence. Students gain a comprehensive overview of theories and practices of forensic science techniques with an understanding of the scientific and analytical approach to determining the value of evidence as it relates to the criminal justice system and in courts of law. The lecture portion of the course introduces the concepts and techniques on which the different disciplines within forensic science are used at crime scenes and within crime laboratories. The laboratory portion of the course provides for an opportunity to apply common collection and analytical techniques.

FS 381. Special Topics (1-3).

An umbrella course created to explore a variety of subtopics differentiated by letter (e.g., 381A, 381B). Not all subtopics are offered each semester – see the course schedule for availability. Students enroll in the lettered courses with specific topics in the titles rather than in this root course.

FS 381AA. Gun Crime in America: Ballistics, NIBIN and Criminal Investigations (3).

Cross-listed as CJ 581AA. Firearms and toolmark identification is an applied forensic science discipline established from validated theories in the physical sciences area of material and engineering sciences. Course introduces the identification of markings formed by the tooling processes—including firearms—most often found and used in the forensic and criminal justice field. Includes the operation of firearms, cartridges, gunshot residue analysis, powder pattern determination, and bullet and fired cartridge case comparisons. The course explores the operational application of ballistic comparison in criminal investigations of violent gun crime. Concepts of Crime Gun Intelligence (CGI) derived from ballistic examination and other sources of information are presented to guide the student in utilizing CGI in criminal investigations. Students learn the fundamentals of fired cartridge case determinations used by the National Integrated Ballistic Information Network (NIBIN) and the Integrated Ballistic Identification System (IBIS) as used by the Wichita Crime Gun Intelligence Center as well as fundamentals in criminal investigations based on leads generated by NIBIN. Prerequisite(s): CJ 191. Pre- or corequisite(s): CJ 341 or CHEM 212.

FS 381AS. Forensic Photography (3).

Cross-listed as CJ 581I. Photographic documentation plays a major role in recording crime scenes and physical evidence upon its discovery. Course provides photography theory and hands-on application as applied to criminal investigations and criminalistics. Provides an understanding of theory, methods and skills needed for proper exposure, lighting techniques and composition to produce sharp, well defined, properly exposed digital images used as part of the criminal investigative and judicial process. Students become familiar with the use of digital single-lens reflex camera equipment and develop the photographic methods to recognize, take and prepare images for investigative and/or courtroom use. Students are given the opportunity to apply learned skills while processing mock crime scenes and other photographic assignments.

FS 381CB. Basic Bloodstain Pattern Analysis (3).

Cross-listed as CJ 581P. Designed for those interested in becoming investigators, crime scene technicians, forensic technicians and others

involved in criminal and medical-legal investigations and crime scene analysis. Provides a fundamental knowledge of the discipline of bloodstain pattern analysis. Students learn the basic principles of bloodstain pattern analysis and the practical application of the discipline in criminal casework. Provides the foundation of bloodstain pattern analysis and is a prerequisite to other advanced bloodstain training taught in the criminal justice system; this course is not intended to create an "instant" expert. Prerequisite(s): CJ 191.

FS 450. Forensic Identification of Marijuana (1).

Focuses on the botanical and chemical background necessary for the identification of marijuana. Students gain practical experience in the microscopic and chemical analysis of the marijuana plant. Prerequisite(s): BIOL 210, 211, CHEM 211, 212.

FS 451. Forensic Identification of Narcotics and Other Illicit Substances (1).

Provides a background in selected analytical chemistry procedures used in the forensic lab to ensure a specific qualitative identification of various licit and illicit controlled substances. Students gain experience in the theory and application of various colorimetric, chromatographic and spectrophotometric techniques used in the modern forensic lab. Prerequisite(s): BIOL 210, 211, CHEM 211, 212.

FS 452. Forensic Toxicology Alcohol (1).

Provides a didactic background for understanding the pharmacology/toxicology of alcohol. Students gain an understanding of the testing of biological fluids for alcohol, the interpretation of the results, including various pharmacokinetic calculations used in forensic settings, and the application of alcohol results in a judicial arena. Prerequisite(s): BIOL 210, 211, CHEM 211, 212.

FS 453. Forensic Serology (1).

Provides a background in the detection, characterization and identification of biological fluids. Students gain a fundamental background in the characteristics of blood, saliva and semen, and practical hands-on experience in the forensic analytical techniques used in their detection and identification. Prerequisite(s): BIOL 210, 211, CHEM 211, 212.

FS 454. Fingerprint Development and Analysis (1).

Provides an understanding of the development of fingerprint classification systems, and the detection, collection and preservation of latent fingerprints. Students gain practical hands-on experience using various powders and chemicals for development and recovery of latent fingerprints. Prerequisite(s): BIOL 210, 211, CHEM 211, 212.

FS 455. Forensic Arson Analysis (1).

Provides exposure to the detection and classification of various flammable chemicals used in arson fires. Students gain exposure to the analytical techniques used in the laboratory investigation of suspicious fires. Prerequisite(s): BIOL 210, 211, CHEM 211, 212.

FS 498. Seminar in Forensic Sciences Techniques I (3).

Part one of the comprehensive academic-year-long overview of how forensic science techniques influence the criminal investigation process. Students receive instruction from faculty in the chemistry, biological sciences, anthropology and criminal justice departments. Prerequisite(s): FS 450, 451, 452, 453, 454, 455, CJ 420.

FS 499. Seminar in Forensic Sciences Techniques II (3).

Part two of the comprehensive overview of how forensic science techniques influence the criminal investigation process. Students receive instruction from faculty in the chemistry, biological sciences, anthropology and criminal justice departments. Prerequisite(s): FS 450, 451, 452, 453, 454, 455, 498, CJ 420.