

# FORENSIC SCIENCE (FOR)

## **FOR 301. Introduction to Forensic Science. (3 Credits)**

A. Introduction to the application of scientific methods for the examination of physical evidence in the criminal justice system; an overview of the forensic analysis of firearms, fingerprints, drugs, blood, hair, fibers, paint, glass, arson debris, etc.

## **FOR 310. Training for Forensic Internships. (1 Credit)**

(1) A. Prerequisite: Junior or Senior Standing in Forensic Science. This course provides the student guidance in the preparation for an internship and explains the forensic internship application process.

## **FOR 330. Bloodstain Pattern Analysis. (1 Credit)**

Prerequisite: FOR 301 (C), BIO 111 (C), and CHE 361(C). Bloodstain Pattern Analysis focuses on the identification and examination of bloodstain patterns, effectively recreating and establishing the types of activities and mechanisms that produced them. Prepares students for further studies/career in forensic biology. (1 Lec/2 Lab). Credit will not be awarded to students who have credit for CHE 501: Bloodstain Pattern Analysis.

## **FOR 349. Applied Learning in Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349A. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349B. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349C. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349D. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349E. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349F. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349G. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349H. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349I. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349J. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349K. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349L. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349M. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

## **FOR 349N. Cooperative Study: Forensic Science. (0.5-8 Credits)**

(.5-8) A. Prerequisite: FOR 310 and Departmental Approval. Independent laboratory work and study related to forensic science in a laboratory setting. A minimum of 80 hours of employment are required for each semester hour of academic credit. May be retaken for a maximum of 8 credit hours.

**FOR 401. Forensic Professional Practice. (1 Credit)**

I. Prerequisite or Corequisite: FOR 401. Introduces professional practices and expectations for the forensic scientist. Includes discussion of professional organizations, certification, ethics, QA/QC, accreditation, technical writing, data treatment and interpretation.

**FOR 411. Instrumental Analysis. (3 Credits)**

A. Cross-listed with CHE 425. Prerequisites: CHE 325, 325L, 362, 362L; PHY 132 (or 202); MAT 234 (C or better in each course). Prerequisite or co-requisite: CHE 411L. Fundamental principles of the operation and application of analytical instrumentation including spectroscopy, chromatography, electrochemistry, and mass spectrometry found throughout industrial, government, forensic, and/or research environments is presented. Credit will not be awarded for both FOR 411 and CHE 425.

**FOR 411L. Forensic Instrumental Lab. (1 Credit)**

A. Prerequisite: BIO 121 (C); Prerequisite or co-requisite: FOR 411. Lab component of FOR 411. Hands-on experience operating instrumentation most commonly used in forensic science and analytical laboratories, including spectroscopic and chromatographic techniques. Credit will not be awarded for both FOR 411L and CHE 425L. 3 Lab.

**FOR 412. Forensic Trace Evidence. (3 Credits)**

II. Prerequisites: FOR 411 (C) or CHE 425 (C), FOR 411L (C) or CHE 425L (C), FOR 451 (C), and FOR 451L (C). Prerequisite or Corequisite: FOR 412L. Introduction and the application of the instrumentation and techniques to analyze various types of trace and impression evidence.

**FOR 412L. Forensic Trace Evidence Lab. (1 Credit)**

II. Prerequisites: FOR 411 or CHE 425 (C), FOR 411L or CHE 425L (C), FOR 451 and FOR 451L. Prerequisite or Corequisite: FOR 412. Lab component of FOR 412. Use of microscopes and various instruments for examination of forensic trace evidence materials. 3 Lab.

**FOR 431. DNA Profiling. (3 Credits)**

A. Prerequisite: BIO 111(C). Prerequisite or corequisite: CHE 361(C). This course will include topics in forensic DNA profiling; sample collection, DNA extraction, DNA quantitation and amplification. Prepares students for further studies/ career in forensic/molecular biology. Laboratory FOR 431L is optional with this course. Credit will not be awarded for both FOR 331 and FOR 431.

**FOR 431L. DNA Profiling Lab. (1 Credit)**

A. Prerequisite: CHE 361(C). Prerequisite or co-requisite: FOR 431. Laboratory course of FOR 431. Provides practical experience in Forensic DNA profiling: sample collection, DNA extraction, DNA quantitation and amplification. Prepares students for further studies/career in forensic/ molecular biology. Credit will not be awarded for both FOR 331L and FOR 431L.

**FOR 432. Forensic Serology. (1 Credit)**

Prerequisite: FOR 301 (C), BIO 111 (C), CHE 361 (C) and STA 270 or 215. Forensic Serology sample collection, biological fluid identification, and report writing. Prepares students for further studies/career in forensic biology. (1 Lecture/2 Lab).

**FOR 442. Forensic Toxicology & Drugs. (3 Credits)**

(3) II. Formerly: FOR 430. Prerequisite: CHE 362. Study of the chemistry, biochemical activity, isolation and identification of drugs of forensic interest in biological materials. Credit will not be awarded to students who have credit for FOR 430.

**FOR 442L. Drugs & Toxicology Lab. (1 Credit)**

II. Prerequisites: FOR 411 (C) and 411L (C) or CHE 425 (C) and 425L (C); Prerequisites or Corequisite: FOR 442. Introduces techniques and instrumentation used for the chemical separation and analysis of drugs in both solid dosage and toxicological samples. 3 Lab.

**FOR 451. Forensic Microscopic Analysis. (2 Credits)**

I. Prerequisite or Corequisite: PHY 132 (or 202), MAT 234, and for 451L (C or better). Introduction to concepts of forensic microscopic analysis; identification and characterization of trace evidence, such as glass, hair, fiber, and soil. Only forensic major or minor can take this class.

**FOR 451L. Forensic Microscopy Lab. (1 Credit)**

I. Prerequisite or Corequisite: FOR 451. Laboratory component of FOR 451. Use of stereoscopes and polarizing light microscopes for examination of forensic materials. 3 Lab.

**FOR 460. Selected Topics in Forensic Science. (1-3 Credits)**

A. Prerequisite: instructor approval. Topics will be chosen from areas of current interest and may be retaken for credit when new topics are offered. Topics and credit will be announced prior to each offering.

**FOR 465. Expert Witness Testimony. (3 Credits)**

A. Prerequisites: ENG 102 or ENG 105 (B) or HON 102 and either FOR 331 and 331L(C) or FOR 412 and 412L(C) or FOR 431 and 431L(C) or FOR 442 and 442L(C), INF 322, or departmental approval. Theory and purpose for expert witness testimony, qualifications of scientific experts, ethical issues, and practical aspects of expert witness discovery and courtroom testimony. Videotaping of testifying in mock testifying situations is also included. Credit will not be awarded for both FOR 465W and 465.

**FOR 465W. Expert Witness Testimony. (3 Credits)**

A. Prerequisites: ENG 102 or ENG 105 (B) or HON 102 and either FOR 331 and 331L(C) or FOR 412 and 412L(C) or FOR 431 and 431L(C) or FOR 442 and 442L(C), INF 322, or departmental approval. Theory and purpose for expert witness testimony, qualifications of scientific experts, ethical issues, and practical aspects of expert witness discovery and courtroom testimony. Videotaping of testifying in mock testifying situations is also included. Credit will not be awarded for both FOR 465W and 465.

**FOR 490. Introduction to Research. (1-3 Credits)**

A. Prerequisite: CHE 111(C), 111L(C), BIO 111(C), or departmental approval. Instruction to laboratory research in one of the areas of forensic science. May be retaken to a maximum of six hours, but only three hours may be counted toward the major requirements. Student must have the independent study proposal form approved by faculty supervisor and department chair prior to enrollment. 3-9 Lab.

**FOR 499. Forensic Science Capstone. (3 Credits)**

A. Prerequisites: Either FOR 412 and 412L(C), FOR 431 and 431L(C), or FOR 442 and 442L(C). Prerequisite or Corequisite: FOR 465 or 465W. Capstone experience that provides overview of the investigative process from collection of evidence at a mock crime scene, through analysis, data interpretation, and presentation of results in a mock courtroom setting. 2 Lec/3 Lab.