

## **Course Descriptions**

### **Certified Crime Scene Investigator Test Prep**

This course has been designed to eliminate time spent preparing for the International Association for Identification (IAI) level 1 crime scene certification test by introducing students to textbook topics so they can better assess where weaknesses lie. It is meant to serve as a supplement to textbook study, not a replacement. The course is written using material from the textbooks required to be read for certification: Crime Scene Photography, Edition II, by Edward Robinson, 2010, Elsevier Science & Technology Books (All Chapters EXCEPT 1, 8, and 12) Practical Crime Scene Processing and Investigation by Ross M. Gardner, 2005, CRC Press

### **Chemical Spot Tests for Illicit Drugs**

Chemical Spot Tests for Illicit Drugs discusses testing procedures, methods, and instrumentation used when performing chemical spot tests on illicit drugs. The course will review a number of common chemical spot tests used in the forensic field to presumptively test for illicit drugs, as well as the mechanisms behind the tests. The course is intended for anyone working in the forensic science or law enforcement field who is interested in learning more about chemical spot tests and how they are used.

### **Crime Scene Investigation**

The goal of this course is to give the student a general understanding of the tasks associated with a crime scene investigation. It also sets a foundation by providing a glimpse at the history of the incorporation of forensic science into modern crime scene investigation.

### **Ethics in Forensic Science**

This course has been developed in response to the lack of formal ethics education specific to forensic science. While this course includes many basics it also relates those ideas to the forensic science profession.

### **Evidence Analysis: Beyond the Crime Scene**

This online course discusses basic principles and procedures used in the forensic laboratory. The course provides an overview of laboratory instrumentation, standards, and methods currently used. The content not only addresses practices and methods, it also identifies the proper handling of evidence and precautions that should be utilized in the laboratory environment.

### **Fibers and Textiles for Forensic Scientists**

This course is offered to familiarize forensic service providers, both laboratory personnel and crime scene/law enforcement staff, with textiles as they relate to forensic science. This course will be beneficial to those with minimal experience looking to increase their knowledge of fibers and textile science. In addition, the experienced trace examiner will be able to learn some textile-specific information while reviewing concepts such as microscopy, fiber types, fabric construction, and color issues. This course combines intermediate information with the basic foundation of fibers and textiles.

## **Forensic Entomology for the Crime Scene Investigator**

Forensic entomology is the use of insects and their arthropod relatives to aid legal investigations. The proper identification of the insect and arthropod species present in a forensic entomology case is important. The genus/species identification helps the forensic entomologist retrieve the correct developmental data and distribution ranges needed for the case. An incorrect identification can lead to a potential error in the estimations and effect the estimation of the total postmortem interval.

## **Forensic Mass Spectrometry**

This course has been developed as an orientation and overview of how the mass spectrometer works, how mass spectrometry is used in forensic science, and how to interpret mass spectra.

## **Forensic Photography**

This course has been designed to give students a basic introduction to forensic photography. The units within this course will cover a brief history of photography, a thorough understanding of the principles behind photography, and the techniques used for photographing certain types of crime scenes and evidence. The course will also discuss the use of video documentation and the standards upon which forensic photography is based.

## **Forensic Science 101: An Introduction**

The goal of this online course is to provide the student with a basic, introductory overview of forensic science. The student will learn the fundamentals of the different disciplines that encompass the field of forensic science. The student will learn a variety of topics: what is necessary to become a forensic scientist to working a crime scene to working in the lab to testifying in court. The materials in this course have been gathered to assist the student in learning preliminary information and are in no way meant to be a complete forensic science course.

## **Fundamentals of Forensic Questioned Documents**

The goal of this online course is to provide the student with an orientation and overview of questioned documents in regards to forensic science. This course covers equipment, training, handwriting identification, distortion, disguise, signatures, variation, forged signatures, the Video Spectral Comparator (VSC), the Electrostatic Detection Apparatus (ESDA), and questioned documents in court.

## **Fundamentals of Forensic Toxicology**

This course was designed to discuss basic principles and procedures used in forensic toxicology. The content provides an overview of the toxicologist, toxicology subfields, and testing methods currently used. The content not only addresses practices and methods, it also identifies the proper handling of specimens and quality assurance practices

## **Hair Evaluation for DNA Analysis**

This course serves as an *orientation* and overview to hair examination. The materials in this course have been gathered to assist you in learning the basics of forensic hair examination and are in no way meant to be a complete hair course; they are provided for educational purposes. Training in hair analysis requires hands-on experience and comparisons; however, this will provide a good foundation for such practical knowledge.

## **Integrated Ballistic Identification System (IBIS)**

This course has been designed to give students the basic understanding of how IBIS is used as an investigative tool for solving firearms-related crimes. The units within this course will cover a brief history on firearm identification, the methods of bullet and cartridge case identification, and the uses of IBIS for acquiring ballistics evidence. The course will also discuss how IBIS can be used more effectively to yield better results and more identifications.

## **Introduction to Bloodstain Pattern Analysis**

The goal of this online course is to provide the student with a basic, introductory overview of bloodstain pattern analysis. The student will learn the background information and techniques necessary in performing analyses, but this will in no way replace the physical practice required when dealing with actual casework. These units are designed to be an educational introduction to bloodstain pattern analysis.

## **Introduction to Firearms and Toolmarks**

The goal of this course is to provide a basic understanding of firearm and toolmark identification. The units found within this course will cover the history of firearm and ammunition development, classification of firearms and ammunition components, test firing, proper methods of evidence collection, laboratory testing, microscopic identification, and much more.

## **Introduction to Fish and Wildlife Investigation**

Fish and wildlife forensic science is a field that involves the application of forensic science principles to the protection of aquatic and marine fish and land animals. In a technical definition, fish and wildlife forensic science is the application of the principles of science to collecting, analyzing, and interpreting relevant evidence related to the protection of fish and wildlife resources in a manner suitable for presentation in a court of law.

## **Introduction to Forensic Drug Chemistry**

This online course serves as an introduction and basic overview of forensic drug chemistry. It covers a wide variety of topics associated with controlled substances including history of drug control, the structure of current drug laws in the United States, history of individual drugs, and specific analytical approaches for specific sample types.

## **Perspectives in Expert Testimony**

This online course addresses expert testimony with an open mind toward broadening the perspective of being a scientist in the legal arena as well as improving expert witness capabilities on the stand. Inevitably, there is a clash of professional cultures and this course is intended to provide a broader perspective of what the varying viewpoints are. Perspectives in Expert Testimony will also address aspects of handling cross examination. The more prepared a person is as a direct witness, the less he/she has to fear on cross examination.

## **Principles of Death Investigation**

Principles of Death Investigation is an introductory course designed to discuss the fundamentals of death investigation. The course is written using the NIJ guidelines, "Death Investigation: A Guide for the Scene Investigator." In addition, information has been included from death investigation texts, handbooks, and other resources. The content primarily focuses on scene procedures, collection of information, and the various causes, mechanisms, and manners of death. The course is especially written for medicolegal death investigators, crime scene investigators, and law enforcement personnel.

## **Roles in Forensic Science: The Sociological Perspective**

This course serves as an introduction to the relationships between attorneys, scientific experts, and law enforcement from the time of the initial investigation to the courtroom. The student will be exposed to the various types of forensic experts and the differences between civil and criminal trial preparations. This course will offer insight to how the multiple players in science and law work together for a common goal.

## **Shooting Reconstruction**

This course has been designed to give students information about evaluating, interpreting, and reconstructing a shooting scene. The units within this course will cover a general overview of firearms/ammunition and their components, bullet path reconstruction theories and techniques, cartridge case ejection patterns, evidence collection, and firearm/ammunition testing, as well as gunshot wound examination. The course will also discuss the analysis of a shooting scene and the appropriate mathematical equations to include within the analysis.

## **The Basics of Biological Evidence**

The purpose of this course is to gain a basic, overall understanding of biological evidence. There are many reasons for collecting biological evidence; the most obvious being forensic casework. Biological evidence is an excellent way of identifying potential suspects, associating suspects or victims to a crime scene or to one another, and linking crimes through databases. This course will be an introduction to the concepts encompassing biological evidence.

## **Science of Fingerprints**

This course has been developed as an introduction to the principles underlying the science of fingerprints. Students will obtain a general understanding of the methodology involved and a foundation to begin comparing all friction ridge skin.

## **Fundamentals of Latent Print Examination**

Fundamentals of Latent Print Examination was designed to discuss basic principles and procedures used in the latent print section of the forensic laboratory. The course provides an overview of the types of substrates, development techniques, and examination process that are used in the latent print discipline. The content not only addresses practices and methods, but includes the proper handling and preservation of latent print evidence. Also, the course describes how examiners should present themselves and latent print evidence during courtroom testimony.

## **DNA Analysis of Forensic Based Evidence**

This course will be an in-depth view into the process of DNA analysis as it pertains to forensic-based evidence. DNA analysis is a vital tool in the processing of forensic evidence as it can help identify remains, link suspects to victims, suspects to crimes, and family members to victims. In this course, students will learn about the different types of DNA analyses and how to extract, quantify, amplify, and analyze DNA. This course is not intended to be an introductory course and students should have previous knowledge or training in forensic biology or DNA before taking this course.

## **Essentials of Forensic Nursing**

Essentials of Forensic Nursing is an introductory course presenting the fundamentals of the specialized field of forensic nursing. This course is intended for law enforcement, crime scene technicians, forensic laboratory analysts, nurses who may not be familiar with forensic nursing, and anyone else that may want to learn more about the topic. Content was provided by Donna Bader, MA, MSN, RN, D-ABMDI, assistant professor within the Doane College Nursing Division, and co-recipient of the 2007 American Academy of Forensic Science General Section Achievement Award for her work in the field of forensic nursing education.

## **Glass: Basic Principles of Trace Evidence Series**

This course will be an overview of forensic glass analysis. The course will discuss what glass is and its history. The course will cover the basic properties and manufacturing process used in glass making. Both the initial examinations and elemental analysis will be covered, but not in depth. The course will also briefly touch on the statistics used in glass analysis.

## **Bloodborne Pathogen Training**

Forensic professionals are frequently in contact with blood and other body fluids that pose a risk of exposure to bloodborne pathogens. Since duties involve potential occupational exposure, forensic professionals are covered by the Bloodborne Pathogen Standard written by the Occupational Safety & Health Administration. Part of this standard (OSHA 29 CFR 1910.1030) is required annual training. This training course is designed to be in compliance with the training requirements of the standard. One of the requirements of the annual training is that there be an open forum for questions and answers. To

meet this requirement a discussion board will be available for open communication. While this course is geared toward forensic professionals, anyone that has to take bloodborne pathogen training can find value in this course.

## **Forensic Paint Analysis**

This course will focus on the topic of paint evidence and its analysis. Paint evidence, more technically known as coating evidence, encompasses a wide range of evidentiary materials. Paint plays a large role in everyday life and can be found on objects such as furniture, automobiles, and tools. There are almost unlimited compositions of paint and coating materials throughout the world that may be collected as evidence, which makes the topic of paint analysis very complex for the forensic scientist. The forensic scientist must be familiar with the manufacturing process of the chemical components found in coatings.