

# **SIRCHIE CSI and Forensic Investigation plus Photography**

This 5-day course covers state-of-the-art methods of identifying, recording, processing and preserving various types of evidence found at the scene of the crime. The program is geared for Hands-on use of equipment, materials and supplies necessary for a thorough and comprehensive evidence collection mission.

## **CURRICULUM**

### **Crime Scene Management**

The various types and categories of physical evidence are reviewed with the emphasis being placed on the proper procedures for securing the crime scene and preparing to collect evidence.

### **Fingerprint Theory and Classification**

The fundamental principles of fingerprints are examined, including the basic concepts of ridge pattern development, identification characteristics and classification methods. Students will review latent print comparison methods with emphasis on understanding AFIS and modern latent print identification techniques.

### **Latent Print Processing—Powders**

The proper use of oxide, metallic, magnetic, and fluorescent powders is discussed. Students will develop latent prints on a variety of surfaces including paper, glass, plastic, and even textured surfaces. Students will experience lifting powder developed latent prints using tape, hinge lifters, gel lifters, and Accutrans. Utilizing photography and light source for proper documentation is reviewed.

### **Latent Print Processing—Chemicals**

During this segment, students will develop latent prints on porous surfaces, including paper and cardboard, utilizing iodine fuming, ninhydrin and silver nitrate. Students will review proper process sequencing for the maximum retrieval of latent prints and review the chemical principles of how they work.

Cyanoacrylate (superglue) techniques for non-porous surfaces will be demonstrated also.

### **Crime Scene and Evidence Photography**

Procedures and techniques are discussed and demonstrated for properly documenting a crime scene through photography. Also reviewed and demonstrated are key camera settings such as aperture, shutter speed, and ISO, as well as proper accessories and equipment for properly capturing evidence quality photos.

### **Serial Number Restoration**

Working with various metallic and plastic surfaces, students will restore obliterated serial numbers. Liquid and gel reagents are used in conjunction with the electron accelerator.

### **Firearms, Ballistics, and Gun Shot Residue**

Identification of firearms and the fundamentals of ammunition and its manufacture, behavior, and destructive effects is discussed. Fundamentals of gunshot residue, including determining proximity and presumptive testing for GSR are reviewed and demonstrated. Students will also be exposed to basic shooting reconstruction and proper documentation of shooting incidents.

### **Alternate Lights and RUVIS**

The use of alternate light sources to identify evidence at the scene as well as enhance contrast with fingerprint powders and chemicals is reviewed. RUVIS, using the SIRCHIE Crimesite Imager, will be used to demonstrate a non-intrusive technique for discovering latent prints at the crime scene without powders or chemicals.

### **Biological Evidence - Blood, Fluids, and DNA**

Students learn proper methods to locate, identify, and collect physiological fluid stains. Proper search methods including alternate light sources and chemical search methods including luminol and Bluestar are demonstrated. Students will also learn how to presumptively identify the type of stain using chemical reagents. Collection and preservation methods will be reviewed based on the latest best practices for DNA.

### **Footprint, Tire, and Toolmark Impression Evidence**

Impression evidence types and their value in criminal investigation will be reviewed. Students will learn and experience methods for capturing footwear tread impressions, including magnetic powder development, electrostatic dust print lifting, and dental stone casting. Principles of footwear and tire comparison will be shown, including proper documentation for the lab and court.

## Review and Final Examination

A comprehensive examination will be given at the end of the course, covering materials discussed and demonstrated. Students also investigate a mock crime scene as teams and present their findings over lunch on the last day.



Each student will receive a kit to use during hands-on exercises, and to keep.

**OST250KIT Contents:**

- 1- Perforated Notepad, 8 1/2" x 11"
- 1- Biofoam Impression Kit
- 5- Tissue Paper, #15 weight
- 1- Blood Evidence on Plywood
- 1- PIC001 Photo Scale/ID Card, 8 1/2" x 11"
- 1- Crime Scene Documentation Forms
- 2- 131WL1 Hinge Lifter, 2" x 4", white
- 6- FC343 Reversible Backing Cards, 3" x 5"
- 2- Orange Evidence Marking Pointers
- 1- 101L Silk Black Fingerprint Powder, 2 oz.
- 1- 107L Copper Fingerprint Powder, 2 oz.
- 1- SB201L Silver/Black Fingerprint Powder, 2 oz.
- 1- M114L Black Magnetic Fingerprint Powder, 1 oz.
- 3- 122L Standard Fiberglass Brush
- 1- 123LW Marabou Feather Brush, white
  
- 1- 125L Magnetic Powder Applicator
- 1- 127LW Rubber/GEL Lifters, 2" x 4", white, 12 ea.
- 1- 145L 1.5" Frosted Lifting Tape
- 4- Index cards, 3" x 5"
- 1- SBQ100 Fingerprint Lifting Squeegee
- 1- SNR100K Serial Number Restoration Kit
- 1- PPS800 Forensic L-Scale, 105mm x 105mm
- 1- PPS600 Reversible Forensic L-Scale, 300mm x 150mm
- 1- LTF200PR Zero Edge Protractor
- 1- Hemastix Blood ID Reagent Strips, 10 ea.
- 1- Toothbrush
- 1- Ballpoint Pen, black ink
- 1- #2 Pencil
- 2- Cotton Balls
  
- 2- Ziptop Bag, 9" x 12"
- 1- Orange Acrylic Square, 4" x 4"
- 1- 379M Attached case Magnifier
- 3- SDM100E Disposable Evidence Markers, inches
- 2- Wooden Paint Stirrers
- 3- Terry Cloth Towel
- 6- Cotton-Tipped Swabs
- 1- GLT101W GELifters, 5.2" x 7.2", white, 10 each
- 1- HCB1002 Hard-Core Dental Stone, 2 lbs.
- 1- KCP2475 Sterile Water, 3ml vial
- 1- OSTBK100 Blood Evidence Samples on paper
- 5- PBID1005 Blood ID Tests, Kastle Meyer Reagent
- 1- PBID2001 Blood ID Tests, McPhail's Reagent
- 1- PSID1001 Seminal Fluid ID Test