RON SMITH & ASSOCIATES, INC.

Improved Photography of Latent Print Impressions at the Crime Scene

PURPOSE STATEMENT

Class Instructor:
John Black, CSCSA

One of the most useful types of evidence that can be found at a crime scene are the latent prints that fingerprint examiners can search through the powerful AFIS systems that are available today. The identification of these prints helps develop leads and possible suspects on many otherwise low solvability crimes like burglary. However, many of the lifted impressions that are submitted are determined to not be suitable for analysis, searching or comparison and they are returned to investigators as prints of "No Value" due to lost quality during the recovery process.

The opportunity to preserve or enhance the quality of these impressions is seriously compromised when photographs are not taken before lifting or processing the impressions further with other methods. Photographs taken by a well-trained CSI, evidence photographer or investigator can retain the original quality while at the same time documenting and authenticating their location. These high quality photographs are critical and should be taken any time a print either can't be easily lifted or when there is a chance that the recovery process could damage or not fully recover the print.

Having knowledge of photographic techniques and adjustments to manually operate a camera without leaving it on automatic are mission critical skills that many times will determine the quality of the impression the examiners have to work with. These impressions and the surfaces that they are found on can be very difficult to photograph when the photographer is lacking the knowledge and skills to make the adjustments that produce the best results. Latent print examiners many times rely on quality photos rather than the actual lift to make a comparison or search a print through AFIS. Digital photography equipment also presents a series of new challenges due to continuous changes to the equipment itself.

STUDENTS SHOULD BE ABLE TO

Upon completion of this course, students should have a thorough understanding of how cameras function, adjustments for various lighting conditions, proper exposure and composition, and specifically how to properly photograph latent impression evidence while at the crime scene - which should produce many more prints of value to be searched and compared.

COURSE GOALS

Upon completion, students will be able to operate their camera and flash in automatic, program and manual modes. They will be able to photograph crime scenes and related evidence with an emphasis on proper latent print photography. Students will be able to improve the quality of their latent impression photographs by understanding how to adjust for the various challenging conditions encountered at different scenes. We wish to emphasize that latent print examiners who do not respond directly to the crime scene will benefit from learning and applying these exact same techniques when photographing their evidence in the office as the prints they develop in the office should be photographed properly before being recovered.

Course topics include:
- Introduction to and fundamentals of photography
- Understanding camera controls, mechanics and sensors
- Lenses and lens functions
- Digital media
- Image quality and image size
- Exposure compensation
- Shutter speed, Aperture (F-Stops) and ISO settings
- Light meter usage
- Histograms and shooting data
- White balance
- Flash photography

- Reflections, glass and glare
- Time exposure
- Painting with light to enhance latents
- Scales and scene markers including proper scaling of latent impressions for AFIS
- Field of view/composure
- Depth of field and curved surfaces
- Close up and macro photographic principals
- Techniques to photograph impressions on difficult surfaces

COURSE OBJECTIVES

To provide students with the ability to do the following:
• Identify when crime scene photography is needed and which photos to take
• Identify and adjust various controls on the camera to maximize results
• Describe proper chain of custody with your photo evidence, use of scales and photo logs
• Demonstrate proper adjustment of ISO, shutter speed, aperture & exposure
• Demonstrate procedures for photographing various types of evidence
• Explain how camera settings affect exposure and composure
• Identify when macro photography is needed and demonstrate proper camera set up
• Demonstrate how to properly photograph latent impressions on various surfaces and evidence at the crime scene with a focus on the difficult surfaces and situations
• Greatly improve quality of latent print photographs for submission, analysis, searching and comparison

COURSE REQUIREMENTS

Students should wear appropriate casual clothing for practical exercises conducted both inside and outdoors.
Students are asked to bring the following equipment to the first day of class:
• Digital camera (digital SLR preferred) and instruction manual
• Normal lens (if using an SLR) approximately 35-50mm or zoom lens capable of that range
• Macro lens if available
• Batteries (or charger) for camera and flash
• Digital media (2)
• Off camera flash and instruction manual
• Remote flash cord (to connect flash to camera)
• Tripod
• Flashlight

Daily Schedule

	Day 1	Day 2	Day 3
Hour 1	Registration Course Overview Introductions	ISO Settings	Macro Photography & Creating Examination Quality Photos
Hour 2	Introduction to Crime Scene Photography	Light Meter - Usage	Hands on Latent Impression Photography Exercises
Hour 3	Camera Controls & Basic Mechanics	Histograms, Shooting Data, White Balance	Hands on Latent Impression Photography Exercises
Hour 4	Camera Controls continued	Introduction to Flash Photography	
Lunch	Lunch	Lunch	Lunch
Hour 5	Lens Functions, Digital Media	Flash, Glare & Window Glass	Hands on Latent Impression Photography Exercises - Continued
Hour 6	Image Quality & Size, Exposure Compensation	Time Exposure Painting with Light	Hands on Latent Impression Photography Exercises - Continued
Hour 7	Shutter Speed	Scales & Scene Markers	
Hour 8	Aperture (F-Stops)	Field of View, Composure, Rule of 3	Final Review, Closing Remarks, Certificates