



W03 Alternate Light Source (ALS) Photography: Ultraviolet (UV), Infrared Radiation (IR), Lights, and Filters

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After attending this presentation, attendees will understand how to properly image trace evidence by ALS, utilizing a Digital Single Lens Reflex (DSLR) cameras, ALS kits, and filters.

Professionals charged with processing crime scenes and forensic evidence are often expected to understand, but are not properly trained in, the use of ALS, including UV and IR. This presentation will impact the forensic science community by providing a broad understanding of the capabilities of standard and modified DSLR cameras in their ability to image evidence outside the visible spectrum.

While most crime scene and evidence photography is conducted in the visible spectrum of light, much of the most valuable evidence (biological fluids, trace hair/fibers, firearms/explosive residue, inks, etc.) must be visualized and thus imaged outside of the visible spectrum. This ALS photography session will expose attendees to UV and IR photography through instruction and hands-on practical exercises on the use of DSLR cameras, ALS, and specialized filters.

Crime scene and forensic photography within the visible spectrum of light remains the most utilized and thorough means of documenting crime scenes, autopsy findings, physical injury, and forensic evidence. Despite being the most utilized method of documentation, the lack of proper understanding, training, experience, and equipment results in photography being underutilized or at least not utilized to its fullest potential.

Whatever the level of understanding of photography may be in the visible spectrum, the crime scene professionals' understanding of photography in the ultra-violet and infrared spectrums, or spectra outside the visible, remains an elusive concept. With this lack of understanding comes missed opportunities to locate, visualize, and properly capture photographically evidence that is likely crucial in verifying that a reported crime occurred or to refute a false allegation.

After attending this presentation, attendees will understand how to properly visualize, and image evidence requiring the use of ALS, UV, and IR energy. Common types of evidence requiring the use of ALS for visualization and imaging include semen, saliva, urine, gunshot and explosive residue, fluorescent fingerprint powders, hairs/fibers, inks utilized in fraudulent document cases, and other trace evidence.

This workshop will include a short review of photography principles, including the exposure triangle, an introduction (or "tour") of the Nikon® D7000, and topic lectures by faculty members, followed by hands-on practical exercises.

Sufficient DSLR cameras, lenses, tripods, alternate light source kits, specific nanometer "barrier" filters, and props will be provided for every two to three attendees.

Forensic science professionals in all disciplines that are charged with imaging crime scenes, or forensic evidence, will benefit from this workshop. Jurors want and even expect to see high-quality images of crime scenes, injuries, and other physical evidence. All too often, images exposed in an attempt to capture the various forensic evidence found at crime scenes and other forensic settings are lacking in quality or do not meet the basic legal standards required. In response to these recognized deficiencies, this workshop has been designed for attendees to learn the basic legal requirements for introducing properly formatted images into the courtroom, including when to utilize RAW uncompressed (i.e., lossless) settings. Informal surveys of forensic science and law enforcement professionals have shown repeatedly that most law enforcement and crime scene photographers do not understand the nuances in compression levels, such as when to utilize JPEG vs. RAW in general crime scene work versus when capturing critical comparison or evidence-quality images.

ALS, Photography, UV and IR