



RON SMITH & ASSOCIATES, INC.



FINDING LATENT EVIDENCE WITH CHEMISTRY AND LIGHT

Course Description

The purpose of this four day seminar is to enable the student:

- To identify the best technique, or series of techniques, for developing the maximum evidence
- To understand and exploit fluorescence as a powerful detection strategy, using a range of Forensic Light Sources
- To record impression evidence faithfully and accurately
- To prepare and use the chemical reagents safely in a laboratory environment.
- The student will learn about lasers and light sources as key forensic technology, as well as the principles behind luminescence detection of evidence.
- Techniques targeting tapes (adhesive side), blood prints on porous and nonporous surfaces will be featured.
- The student will learn how to use multiple techniques in the correct sequence on many surfaces for maximum results.
- The student will learn conventional, atypical and digital photographic techniques for extracting the clearest and most useful images.
- This course will feature hands-on sessions in exhibit processing and photography, as well as an examination and certificate of completion.



Class Instructor:
Brian Dalrymple,
CLPE



Target Audience

Crime scene technicians, detectives, laboratory analysts and others who process evidence in a laboratory environment who want to understand and exploit fluorescence as a powerful detection strategy using chemical reagents and a range of Forensic Light Sources

Should be Able to Perform

The student will learn:

- To understand and exploit fluorescence as a powerful detection strategy using a range of Forensic Light Sources
- To record impression evidence faithfully and accurately
- To prepare and use chemical reagents safely in a laboratory environment
- To use multiple techniques in the correct sequence on many surfaces for maximum results
- Conventional, atypical and digital photographic techniques for extracting the clearest and most useful images

Must Bring to Class

Students must bring lab coats or other protective garment and wear old clothing on lab days.

No open-toed shoes can be worn in the laboratory

All students are strongly encouraged to bring a digital camera (digital SLR preferred) with a macro lens and tripod to enhance the learning experience during this class – it is not required for attendance but is strongly encouraged. All types of standard digital media should be able to be used by the instructor to critique the work

Daily Schedule

	Day 1	Day 2	Day 3	Day 4
Hour 1 & 2	OPENING REMARKS - Continuity - Documenting & Marking Evidence - Exhibit Evaluation - Sequential Processing THEORY OF LIGHT & FLUORESCENCE (CLASSROOM)	HEALTH & SAFETY (CLASSROOM) LAB ROTATION (ALL DAY)	CRIME SCENE DNA (CLASSROOM) LAB ROTATION (ALL DAY)	IMPRESSION PHOTOGRAPHY (CLASSROOM)
Hour 3 & 4	CHEMICAL TREATMENTS (CLASSROOM)	LAB ROTATION	LAB ROTATION	PHOTOGRAPHIC PRACTICALS (LOCATION)
Lunch	Lunch	Lunch	Lunch	Lunch
Hour 5 & 6	COMPARISON OF LIGHT SOURCES (CLASSROOM)	LAB ROTATION	LAB ROTATION	PHOTOGRAPHIC PRACTICALS (CONTINUED)
Hour 7 & 8	MOCK CRIMES SCENES (LOCATION) DIGITAL IMAGING (CLASSROOM) $(CLASS SPLIT)$	LAB ROTATION	LAB ROTATION	REVIEW OF PRACTICAL ASSIGNMENTS EXAM PRESENTATION OF CERTIFICATES

Recommended Reading

Lee and Gaenslen's Advances in Fingerprint Technology, Third Edition, CRC Press, 2013, Edited by Robert Ramotowski
Crime and Measurement: Methods in Forensic Investigation, Nafte, M., Dalrymple, B., Carolina Academic Press, 2011

SUPPLIED BY RS&A

- A coil-bound comprehensive workshop manual for each student
- All dry chemistry
- All sample substrates and test exhibits for student use

SUPPLIED BY HOST AGENCY

There are significant challenges in supplying and shipping liquid chemistry in sufficiently small quantities to suit these workshops, and once opened, the unused portions cannot then be shipped to another training venue. They are all items ordered and used by identification agencies in routine duties. We ask therefore that these solvents are supplied by the host agency.

- 2 L HFE 7100 (or available substitute)
- 1 L Ethanol
- 1 L Methanol
- 200 ml Ethyl Acetate
- 200 ml Glacial Acetic Acid
- 50 ml Formic Acid