

*Approved by Director: Dr. Guy Vallaro***Purpose:**

To provide an overview summary and specific training modules for the complete training of a latent print examiner.

**Responsibility:**

New Latent Print Examiners

**Procedure:**

The following outline of training modules will be used for assessing the qualifications and/or training of all new persons assigned to the Latent Fingerprint Unit. The amount of time necessary to achieve competency in any one area will depend on the new examiner's previous training and experience. Previous training and experience will be considered when assessing the completion of each training module.

**1. Training Modules**

- Module 1: Introduction to the Laboratory
- Module 2: History of Personal Identification
- Module 3: The Biology of Friction Ridge Skin
- Module 4: Current Methods of Fingerprint Identification
- Module 5: Recording Known Standards
- Module 6: Introduction to Latent Prints
- Module 7: Latent Print Processing
- Module 8: Latent Print Capture Methods
- Module 9: Comparison of Friction Ridge Impressions
- Module 10: Automated Fingerprint and Palm Print Identification System
- Module 11: Preparation of Demonstrative Fingerprint Evidence
- Module 12: Written and Oral Communication
- Module 13: Supervised Case Work and LIMS
- Module 14: Expert Witness Testimony and Moot Court
- Module 15: Latent Print Comparison Competency
- Module 16: Latent Print Processing Competency

## **2. Training Program**

2.1. The above listed training modules will be incorporated into a document, which is made part of this SOP and titled: Training Program for Latent Print Examiner

2.1.1. The latent print unit supervisor shall be responsible for reviewing, and as necessary updating, the training manual prior to the training of a new employee.

## **3. Assignment of Case Work**

3.1. If the supervisor of the latent print unit determines that a new examiner is ready to start case work prior the completion of all training modules, then the new examiner may be given a competency test. If the examiner passes the competency test, then a memo will be written to the Director of Identification Services indicating such competency. If approved by the laboratory administration, case work can then be assigned to the new examiner.

3.2. New examiner's conducting case work will receive two independent technical reviews in addition to an independent administrative review on all cases for a minimum of six months. This will be done to determine if further training is warranted. If there are no training or other issues that need to be addressed after six months have elapsed, then the second technical review may be terminated. If on the other hand weaknesses are evident, then the weaknesses will be identified and corrective training actions taken and documented until the issue is resolved.

## **4. Notification of Completed Training**

4.1. At the end of the training program, a memo/email shall be written to the Deputy Director stating that the analyst has successfully completed their training and has been administered a competency case that evaluated their analytical skills and their ability to clearly communicate their findings in a report.

4.2. The Deputy Director may review the training files or simply endorse this memo/email and generate a request to the Quality Section requesting that this analyst be authorized to perform casework in that discipline.

4.3. The analyst will perform casework and after gaining experience in conducting analysis and reporting findings in a variety of evidence type/conclusions in the discipline, their experience will be evaluated for the ability to conduct technical reviews. This evaluation period may include technical review ghosting with an experienced examiner. Once the analyst has completed the evaluation period, a memo/email shall be written to the Deputy Director stating that the analyst has successfully completed their evaluation period and has been deemed competent to conduct technical reviews in that discipline.

*Approved by Director: Dr. Guy Vallaro*

4.4. The Deputy Director, after review, may endorse this memo/email and generate a request to the Quality Section requesting that this analyst be authorized to perform technical reviews based upon the analyst's casework experience in that discipline.

5. Retraining

In the event that an examiner requires retraining, the area of retraining will be identified. The retraining will be provided and a competency / evaluation period will be initiated as determined by the Deputy Director of Identification along with the Unit Supervisor and the Quality Section. Refer to SOP-GL-14 and SOP-GL-1 for further guidance.

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## **Training Program for Latent Print Examiner**

### **Introduction**

The training program for a latent print examiner position shall be comprised of formal internal instruction coupled with practical experience based apprenticeship and mentoring. Training may also include external instruction as determined by the unit supervisor/lead or Deputy Director. Previous practical experience and training will be considered by the latent print unit supervisor and approved by the Deputy Director of Identification Services and the Director of the Division of Scientific Services if found to be acceptable. Upon administrative approval, modules areas covered by previous experience and training can be marked as complete by the section supervisor/lead in accessing the new examiner's credentials.

External instruction may be provided through online courses, such as those provided by the National Institute of Justice, and specific courses, which are offered through a number of educational conferences and vendors, such as but not limited to: the International Association for Identification, the Sirchie Fingerprint Laboratories and Ron Smith & Associates.

Internal instruction will be accomplished by assigning the new examiner to senior latent print examiners who will apprentice and mentor the trainee through all outlined modules which have not been administratively accepted as complete upon the initial review of the new latent print examiner's credentials.

*Approved by Director: Dr. Guy Vallaro*

The new latent print examiner's training will be reviewed monthly by the latent print unit supervisor/lead. Details as to the trainee's current status and progress will be documented through practical exercises and observations.

Depending on the trainee's previous level of experience and education (in addition to his/her ability to master the required performance objectives), the completion of the required module related tasks and external training can range anywhere from thirty days for the experienced latent print examiner; and up to eighteen months or more for the unexperienced examiner.

#### MODULE TRAINING

- Module 1: Introduction to the Laboratory
- Module 2: History of Personal Identification
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**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 6 of 23

*Approved by Director: Dr. Guy Vallaro***Module 1: Introduction to the Laboratory****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Orientation to Laboratory Facility and Personnel		Give complete tour of the laboratory and introduce trainee to all management and staff as appropriate.		
Instruction of Organization Structure, Chain of Command, and Code of Ethics		Provide trainee a copy of the organizational chart of DSS. Make sure the trainee is aware of his/her immediate supervisor. Provide pertinent contact phone numbers and email addresses. Provide trainee a copy of GL-5 and ASCLD/Lab Code of Ethics to read and understand.		
Laboratory Security		Assure that background check has been completed. Issue trainee security ID Card and Proximity Reader Card to access the laboratory. Instruct Trainee on the Sign-In Log.		
Read Appropriate Laboratory Manuals and Receive Instruction with Appropriate Safety Equipment		Read Laboratory Quality Manual on Qualtrax Server and meet with Quality Manager. Explain the quality assurance & control program and stress its importance to the overall operation of the laboratory. Read DPS A&O Manual on the laboratory intranet. Read Emergency & Safety Procedures GL2 on Qualtrax Server and meet with the Safety Officer. Review the fire alarm system and building exits. Explain specific procedures for handling hazardous situations such as chemical spills, bio hazards and proper disposal of sharps. Trainee is informed of the Hepatitis B vaccine and the need to be protected.		

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**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 7 of 23

*Approved by Director: Dr. Guy Vallaro*

		Trainee is made aware of, and instructed in, the proper use of personal protective equipment.  Trainee is made aware of chemical and eyewash stations.  Trainee is made aware of fire extinguisher locations.   Review the LP SDS manual and make sure that trainee knows where it is located.  Review LP Section SOPs  Meet with firearms section for instruction on firearm safety and review FA SOP I-1 sec. D.5.		
Discuss the following laboratory policies.		Case confidentiality Inquiries from the press Inquiries from defense attorneys Receipt of a subpoena Providing copies of case files Reexamination of evidence		
Evidence Storage		Show and explain evidence storage areas in the LP Section including evidence and case file storage.		
Discuss office supply purchases		Explain the quartermaster system and set up new trainee with proper supplies and equipment.		
Suggested Resources		MSDS Sheets for applicable chemicals. Safety for the Identification Specialist by Nancy Masters. OSHA Website: <a href="http://www.osha.com">www.osha.com</a> Hepatitis Website: <a href="http://www.hepnet.com">www.hepnet.com</a> Work Place and Safety Health: <a href="http://www.cdc.gov">www.cdc.gov</a>		
20 Question Test		Trainee will be given a 20 question test pertaining to the above materials (80% shall be passing).		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 8 of 23

*Approved by Director: Dr. Guy Vallaro***Module 2: History of Personal Identification****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Research Early History of Personal Identification		Prepare a timeline illustrating the various types of identification methods.		
History and Current methods of Friction Ridge Identification		Prepare a 15 to 30 minute PowerPoint presentation of the history and current methods of friction ridge identification		
Suggested References		Quantitative-Qualitative Friction Ridge Analysis, by David Ashbaugh The Fingerprint Source Book, by NIJ Advances in Fingerprint Technology, by Lee & Gaensslen		



**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 9 of 23

*Approved by Director: Dr. Guy Vallaro***Module 3: The Biology of Friction Ridge Skin****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Friction Ridge Skin Anatomy		Read : Ridgeology by David Ashbaugh <a href="http://onin.com/fp/ridgeology.pdf">http://onin.com/fp/ridgeology.pdf</a> Friction Ridge Skin, by James Cowger Fingerprint Source Book, chapters 2 & 3 <a href="http://www.ncjrs.gov/pdffiles1/nij/225320.pdf">www.ncjrs.gov/pdffiles1/nij/225320.pdf</a>		
Oral Exercise		Be able to explain the growth properties of friction ridge skin and its relation to the fundamental principle of uniqueness.		
Presentation		Demonstrates the ability to explain friction ridge development and the principal functions of the Eccrine, Apocrine and Sebaceous glands.		
Illustration Exercise		Researches and then prepares a series of hand drawn illustrations depicting the various areas and zones of the palmar surface to include ridge flow and flexion crease characteristics.		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 10 of 23

*Approved by Director: Dr. Guy Vallaro***Module 4: Current Methods of Fingerprint Identification****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Research and Understands Fingerprint Pattern Definitions		Displays a fundamental knowledge of the Henry system and pattern classification: Arch, Tented Arch, Ulnar Loop, Radial Loop, Plain Whorl, Double Loop Whorl, Central Pocket Loop and Accidental Whorl.		
Short Paper		Prepares a short paper on the Henry System.		
NCIC		Understands what NCIC stands for and why it was established.		
III		Understands what III stands for and how it is utilized.		
Suggested Reference		FBI: The Science of Fingerprints Chapters 2,5,8		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 11 of 23

*Approved by Director: Dr. Guy Vallaro***Module 5: Recording Known Standards****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Fingerprinting Methods		Understands various methods utilized to record friction ridge skin (inked, inkless, powder, live-scan)		
Major Case Prints		Understands the proper recording methods which are necessary to obtain major case prints.		
Practical Exercise		Practices taking good quality impressions including major case prints utilizing materials available at the laboratory.		
Post-Mortem Exemplars		Understands the methods utilized in the recording of post-mortem prints including the re-hydration of mummified friction ridge skin.		
Suggested References		The Use of Embalming Fluids in the Restoration of Mummified Fingers, S. Cook, JFI 45(5)  RE: The Use of Embalming Fluids in the Restoration of Mummified Fingers, S. Cook, JFI 45(5) by G. Laskowski JFI 47(1)		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 12 of 23

*Approved by Director: Dr. Guy Vallaro***Module 6: Introduction to Latent Prints****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Latent Print Residue		Understands the composition of latent print residue.		
Latent Print Persistency		Researches factors which affect the persistency of latent print residue.		
Forgery & Fabrication		Researches and understands methods of friction ridge forgery and fabrication including techniques for their detection.		
SWIGFAST		Reads and understands all current SWIGFAST or other appropriate standards.		
IAI Ethics		Reads and understands ethics of the friction ridge identification profession.		
Presentation		Prepares a 20 to 30 minute PowerPoint presentation relating to the above completed tasks.		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 13 of 23

*Approved by Director: Dr. Guy Vallaro***Module 7: Latent Print Processing****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
SOP LP 04		Read and Understand		
Research Processing Methods		Process the following items: Glass Notebook paper Paper currency Waxed paper Plastic bags Handguns and/or Long-arms Thermal paper Unfinished wood Finished wood Vinyl surfaces Fabric Rough surfaced items Adhesive side of different types of tape Non-adhesive side of different types of tape Fingerprints in blood Fingerprints in grease Fingerprints on skin		
Sequential Processing		Understands the benefits of properly using sequential processing.		
Team Approach to Evidence Processing		Understands the team approach of processing evidence through multiple disciplines and what types of LP analysis can be detrimental to other forensic disciplines.		

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**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 14 of 23

*Approved by Director: Dr. Guy Vallaro***Module 8: Latent Print Capture Methods****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Photographic Principles/Concepts		The trainee will be familiar with the following photographic principles and concepts: a. The relationship between shutter speed and f-stop b. F-stop and image sharpness c. The inverse square law d. Diffused lighting e. Direct lighting f. Side lighting g. Fill light h. Reflected lighting i. Tent lighting j. Transmitted lighting k. Transmitted lighting –dark field l. Transmitted lighting – reflected top fill		
Alternate Light Sources		Practical experience utilizing an ALS and appropriate barrier filters.		
Ultraviolet Light Sources		Practical experience utilizing an UV light and appropriate barrier filters.		
Digital Images		Proper capture and preservation of digital images. Understands the effects of image compression and the difference between lossy and lossless image file types. Proper techniques for digitally enhancing friction ridge evidence. Review and understand SOP LP 12, Analog and Digital Image Asset Management.		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 15 of 23

*Approved by Director: Dr. Guy Vallaro*

		Display a fundamental understanding of all applicable digital imaging software programs utilized in the latent print section. Read and understand State v. Swinton.		
Suggested References		Polaroid Photomacrography with the MP-4 Nikon SLR Cameras, by Shipman Digital Imaging, by Adrian Davies Police Photography, by Larry Miller		

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**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 16 of 23

*Approved by Director: Dr. Guy Vallaro***Module 9: Comparison of Friction Ridge Impressions****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Fingerprint Orientation		Trainee will indicate correct orientation for viewing partial fingerprint impressions.		
Analysis		Trainee will understand the qualitative – quantitative analysis of friction ridge evidence.		
Friction Ridge Detail		Trainee will research and give a 5 minute oral presentation on the various details utilized by latent print examiners in assessing friction ridge impressions.		
Anchor Point and Target Group		Trainee will demonstrate an understanding the meaning of the terms Anchor Point and Target Group as defined in SOP LP 08 and SOP LP 18 sec3.3		
ACE-V		Trainee will prepare a short report as to why ACE-V qualifies as a scientific method. Read Meeting the Fingerprint Admissibility Challenge in a Post-NAS Environment - JFI 430/61(5)2011		
Friction Ridge Distortion		Trainee will have a practical understanding of friction ridge distortion and acceptable tolerances of distortion. A PowerPoint presentation will be presented as to what was learned through experimentation.		
Color Reversal and Positional/Lateral Reversal		The trainee will be able to explain the following conditions: Color Reversal and Positional/Lateral Reversal.		
Conclusions		The Trainee will understand and know when to apply the various conclusions applicable to a latent print examination/analysis.		



**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 17 of 23

*Approved by Director: Dr. Guy Vallaro***Module 10: Automated Fingerprint and Palm Print Identification System****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Research		Research and prepare a short paper on AFIS and NGI.		
Capture Requirements		Understand the required capture requirement for AFIS entry of latent impressions and live scan capture.		
Feature Marking		Understands and demonstrated the ability to correctly mark friction ridge features for AFIS search entry.		
Matching Process v. Comparison		Can explain the difference between the AFIS matching process and a comparison conducted by an examiner.		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 18 of 23

*Approved by Director: Dr. Guy Vallaro***Module 11: Preparation of Demonstrative Fingerprint Evidence****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Fingerprint Chart/Exhibit		The trainee will produce a fingerprint chart with software utilized by the Latent Print Section.		
Oral Exercise		The trainee will present the chart and explain the process that he utilized.		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 19 of 23

*Approved by Director: Dr. Guy Vallaro***Module 12: Written and Oral Communication****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Mock Case Reports		Five mock cases will be analyzed by the trainee of which the following scenarios will be reported: a. A suspect identification b. An elimination c. An inconclusive result in which additional inked standards are needed. d. An inconclusive result due to the quality of the latent impression e. No latent prints of value were developed/found.		
30 Minute Presentation		Trainee's choice: Prepare a 30 minute presentation on any forensic topic.		
Public Speaking Techniques		Research public speaking techniques and give a PowerPoint presentation of at least 20 min.		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 20 of 23

*Approved by Director: Dr. Guy Vallaro***Module 13: Supervised Casework****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Justice Trax LIMS-Plus System		Trainee will be instructed on and become proficient in using the JusticeTrax LIMS-Plus System.		
Evidence Processing		Periodically the trainee will be asked to process evidence under the supervision of a latent print examiner. A log will be kept of the materials processed and the result of the processing techniques utilized.		
Latent Print Comparisons		Periodically the trainee will be asked to review latent impressions to known impressions. A log will be kept of each case including the number of latent to known impressions examined and the result of each examination.		
Competency Testing		The trainee will pass a competency test prior to being allowed to accept assigned casework in their name.	N/A	See modules 15 & 16
Report Writing		Trainee will be instructed in preparing a scientific report as it relates to latent print processing and examination.		
Actual Casework w/2 Technical Reviews		Case work is assigned with supervision. Casework is performed under the direct supervision of a latent print examiner who will also be a technical reviewer in addition to a second technical reviewer and an administrative review.		
Casework No Supervision w/2 Technical Reviews		Casework is assigned and processing and examination are performed without direct supervision. Two technical reviews are conducted in addition to an administrative review.		

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 21 of 23

*Approved by Director: Dr. Guy Vallaro***Module 14: Expert Witness Testimony and Moot Court****Trainee:****Trainer****Date Module Completed:****Section Supervisor:**

Task/Objective	✓	Requirement	Date Completed	Trainee/Trainer Initials
Verbal Skills/Direct Examination		The trainee will be judged on his/her ability to explain laboratory protocols for processing and analyzing evidence including the ACE-V methodology.		
Cross Examination		The trainee will be judged on his/her ability to respond to difficult questioning while maintaining his/her composure.  The trainee will be judged on his/her ability to explain their judgement on casework.		

*Approved by Director: Dr. Guy Vallaro***Module 15: Latent Print Comparison Competency****Trainee:****Trainer****Completed:                      Pass      Fail                      Section Supervisor:**

1. The competency test shall consist of at least 5 latent impressions and 3 known sets of exemplars.
  - a. Passing shall be that 80% of all identifiable friction ridge impressions were attributed to their source with no erroneous identifications being made.
2. Oral examination consisting of twenty questions.
  - a. Passing shall be that 80% of all questions were answered satisfactorily.

**LP SOP-16 Latent Print Examiner Training Program**

Document ID: 1211

Revision: 4

Effective Date: 2/22/2017

Status: Published

Page 23 of 23

*Approved by Director: Dr. Guy Vallaro***Module 16: Latent Print Processing Competency****Trainee:****Trainer****Completed:**                      **Pass**    **Fail**                      **Section Supervisor:**

1. The processing competency test shall consist of at least one porous and one non-porous object.
  - a. Passing shall be the successful development of all target impressions.
2. Oral examination consist of twenty questions.
  - a. Passing shall be that 80% of all questions were answered satisfactorily.