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1 Introduction and Orientation

1.1 Overview

The goal of this manual is to provide uniform coordination and quality training in all aspects of the Science of Fingerprints for forensic latent print examiners employed by the Commonwealth of Virginia. This work is intended to be used in a formal training program that will establish a certain minimum standard of professional competency throughout Department of Forensic Science.

1.1.1 The Training Program will be coordinated by the Training Coordinator (TC). The TC is designated by the Section Supervisor in consultation with the Program Manager (PM).

1.1.2 The training period should be completed in approximately one year, which is to include successful completion of all component of the Competency Exam.

1.1.3 The TC will be responsible for the overall training, which will incorporate all of the listed topics, but may delegate certain duties and blocks of instruction to other examiners in the section. The TC is responsible for assuring that the Latent Print Training Record (Appendix B) is completed. The various activities for the Modules will be assessed on a Pass/Fail basis.

1.1.3.1 Passing for a written exam is at least 85% correct responses. See Appendix C for presentation and written paper passing criteria.

1.1.4 Monthly performance evaluations of the trainee will be prepared by the TC and then be provided to the PM and the Laboratory Director of the laboratory in which the trainee is being trained. A template for the report is located in the Quality Manual. The TC is required to discuss each evaluation with the trainee prior to providing it to the PM and Laboratory Director. Any relevant comments by either the trainee or coordinator are to be included with the report.

1.1.5 It is recommended that each new member of the section spend time in each of the laboratories working with examiners and supervisors observing casework, participating in question and answer sessions, attending court and performing supervised casework.

1.1.6 Documentation shall be prepared by the staff members that spent time with the trainee summarizing the activities as well providing the TC with observations and recommendations related to the trainee's knowledge and performance.

1.1.7 Should a trainee demonstrate a deficiency which may impact successful completion of the training program, the TC will notify the trainee's Supervisor, who will notify the Section Supervisor (if different from Supervisor), the PM and the Laboratory Director within five working days.

1.1.7.1 A deficiency can include, but not limited to, failing to obtain an 85% on a test, not meeting expectations on a presentation, submitting assignments past a due date, not exhibiting critical thinking skills, poor decision making or unethical behavior.

1.1.8 Expectations of Trainee

The trainee shall maintain a notebook to document training received. This notebook should include, but is not limited to, daily training received (to include observed events), activities performed by the trainee, all completed assignments, and the training checklist. The Latent Print Training Record shall be dated and initialed by the trainee, and TC as the trainee completes each described objective and assignment. The trainee should provide a weekly written progress report to the TC, to include activities or goals accomplished during the week (i.e., exercises completed, cases work observed, lectures and presentations) as well as objectives for the upcoming week.

As designated by the TC, the trainee may assist with casework during the training, only under the direct supervision of a qualified examiner.

6 Recording Friction Ridge Skin

6.1 Purpose

To familiarize the trainee with the materials, procedures, methods, and techniques of recording finger, palm and sole prints, including those for post-mortem identification. The trainee must gain sufficient practical working knowledge and skill in this subject matter to demonstrate an acceptable proficiency in recording friction ridge skin.

6.2 Objectives

The trainee will attain:

- Knowledge of fingerprint recording equipment necessary for various types of prints (major case, fingerprint only, etc.) and the methods of recording prints (ink and LiveScan).
- The ability to record all friction ridge skin detail on the hands.
- The ability to obtain complete and legible post-mortem record prints and a knowledge of various procedures involved in recovering friction skin from cadavers in differing states of decomposition (to include burn victims, drowning victims, etc.).
- The ability to follow all procedures to handle evidence potentially contaminated with bloodborne pathogens or other hazards.

6.3 Mode of Instruction

6.3.1 Lectures

- Recording Fingerprints
- Attend the Forensic Academy class on postmortem collection.

6.3.2 Demonstrations

Emphasis is placed on practical hands-on work in this training segment. The student will record major case prints (complete record finger and palm prints) of several individuals according to various prescribed methods.

6.4 Assignments

Read the following:

- The Fingerprint Sourcebook Chapter 4: Recording Living and Postmortem Friction Ridge Exemplars and 5: Systems of Friction Ridge Classification.
- FBI requirements for legible/illegible recording of prints. (https://www.fbi.gov/about-us/cjis/fingerprints_biometrics/recording-legible-fingerprints/capturing-legible-fingerprints)

6.5 Practical Exercises

Collect exemplars (major case prints) from at least three individuals, at least one being post-mortem.

6.6 Mode of Evaluation

6.6.1 Successful completion of written exam.

6.6.2 Demonstration of obtaining legible exemplars from living and deceased individuals.

6.7 References

Scott's Fingerprint Mechanics, Olsen
The Science of Fingerprints, FBI
Fingerprint Techniques, Moenssens
Practical Fingerprinting, Bridges
Fingerprint Handbook, Fields
Fingerprints, Palms and Soles, Cummins and Midlo
Friction Ridge Skin, Cowger
Fundamentals of Criminal Investigation, O'Hara and O'Hara

7 Cognitive Factors in Comparative Analysis

7.1 Purpose

Fingerprint comparisons are conducted using comparative analysis. Comparative analysis is a cognitive process in which the primary "tool" is the examiner's brain. It is important therefore to have an understanding of how the brain "sees" images and how one's view can be influenced by outside factors or extraneous information. The trainee will develop an awareness of how the brain affects what is seen and the implications this can have on the decision making process when conducting fingerprint comparisons.

7.2 Objectives

The trainee will:

- Understand the role the brain plays in the comparative analysis process.
- Develop an awareness of various factors, physical and psychological, that can influence the decision making process when making comparisons.

7.3 Modes of Instruction

Lectures - Cognitive Factors in Forensic Decision Making

7.4 Assignments

7.4.1 Read the following:

- Quantitative-Qualitative Friction Ridge Analysis, Ashbaugh, Pages 103-108.
- The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion, Risinger, California Law Review, 90(1), Jan 2002.
- A Report on the Erroneous Fingerprint Individualization in the Madrid Train Bombing Case, Stacey Journal of Forensic Identification, 54(6), 2004.
- Confirmation Bias, Ethics, and Mistakes in Forensics, Byrd, Journal of Forensic Identification, 56(4), 2006.
- Contextual information renders experts vulnerable to making erroneous identifications, Dror, Forensic Science International, 156, 2006.
- When Emotions Get the Better of Us: The Effect of Contextual Top-down Processing on Matching Fingerprints, Dror, Applied Cognitive Psychology, 19, 2005.
- Why Experts Make Errors, Dror, Journal of Forensic Identification, 56(4), 2006.
- The Fingerprint Sourcebook, Chapter 15: Special Abilities and Vulnerabilities in Forensic Science.

7.4.2 Write a 3-4 page paper explaining how the brain "sees" things, the role of the brain in the comparative analysis process, and factors that can influence the comparison process. Address the potential ramifications of different types of errors and specific steps one can implement into daily work habits that will help prevent negative influences.

7.5 Mode of Evaluation

7.5.1 The paper will be evaluated on the accuracy of the explanations provided. See Appendix C for additional criteria. The trainee will have two attempts to complete this assignment.

7.5.2 Successful completion of written exam.

7.6 References

Quantitative-Qualitative Friction Ridge Analysis, Ashbaugh

The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion, Risinger, California Law Review, 90(1), Jan 2002

A Report on the Erroneous Fingerprint Individualization in the Madrid Train Bombing Case, Stacey, Journal of Forensic Identification, 54(6), 2004
Confirmation Bias, Ethics, and Mistakes in Forensics, Byrd, JFI, 56(4), 2006
Contextual information renders experts vulnerable to making erroneous identifications, Dror, Forensic Science International, 156, 2006
When Emotions Get the Better of Us: The Effect of Contextual Top-down Processing on Matching Fingerprints, Dror, Applied Cognitive Psychology, 19, 2005
Why Experts Make Errors, Dror, Journal of Forensic Identification, 56(4), 2006
The Fingerprint Sourcebook

8 ACE-V Method - Analysis

8.1 Purpose

Provide the trainee with a basis in the analysis of latent prints and the various forces that can affect a latent print. Value determinations, pattern recognition and "smart" searching skills will also be covered. The ability to properly conduct and document the Analysis of latent prints is an essential phase of training. The ability to grasp this subject matter together with early practical application is essential to the successful completion of the Latent Print Examiner Training Program.

8.2 Objectives

The trainee will be able to:

- Define common terminology associated with friction ridge pattern recognition.
- Analyze a latent print and appropriately document the features observed.
- Utilize ridge flow, scars, creases, incipient ridges and other friction ridge details to further the analysis.
- Determine the orientation of latent prints.
- Describe distortion and its effects on latent and known prints (color reversal, pressure, movement, overlays).
- Analyze friction ridge prints to determine the value of the print.
- Relate how to determine if latent prints are of value for comparison, of value for exclusion or of no value for comparison.

8.3 Mode of Instruction

8.3.1 Lectures

- Analysis Presentation
- Fingerprint Orientation and Smart Search Presentation
- Palms Orientation and Smart Search Presentation

8.3.2 Demonstrations

8.3.2.1 The trainee should observe experienced examiners analyzing latent prints. The purpose of this observation is for the trainee to obtain knowledge regarding an efficient workflow to accurately conduct and document latent print analysis.

8.3.2.2 The trainee should be observed by experienced examiners analyzing latent prints. Feedback should be given to the trainee during this process.

8.4 Assignments

8.4.1 Read the following:

- SWGFAST guidelines related to the latent print examinations.
- Unclassified Executive Summary of the Office of the Inspector General's, A Review of the FBI's Handling of the Brandon Mayfield Case
- The Fingerprint Sourcebook, Chapter 9: Examination Process
- Expert Working Group on Human Factors in Latent Print Analysis. "Latent Print Examination and Human Factors: Improving the Practice Through a Systems Approach". February 2012.
- ACE-V: A Model, Vanderkolk, Journal of Forensic Identification. 54. 1. (2004): 45-52.

8.4.2 Analyze approximately 50 latent prints developed from the latent print development processing practical exercises and seek feedback from the TC or designee.

8.4.3 Analyze approximately 50 latent prints obtained from actual casework and seek feedback from the TC or designee.

8.4.4 Provide a 10-15 minute presentation, to an audience that should include the TC and the section supervisor, discussing the following topics:

- Is fingerprint comparison an art or science? Support your opinion.
- Explain “target group” and “anchor point”.
- Explain the use of the GYRO model for documenting the analysis phase.
- Explain each conclusion that can be reached in the analysis phase.
- Is it possible for experts to disagree regarding their conclusions? Support your opinion.
- Differentiate between dissimilarities and discrepancies.

8.5 Practical Exercises

Complete analysis exercise packets 1 through 10.

8.6 Mode of Evaluation

The presentation will be evaluated on if the trainee successfully presents the information within the allotted time to the audience with a minimal amount of visible or distracting nervousness and successfully answering questions from the audience. See Appendix C for additional criteria. The trainee will have two attempts to complete this assignment.

8.7 References

Report of the IAI Standardization II Committee 2010
Fingerprint Techniques, Moenssens
Friction Ridge Skin, Cowger
Fingerprint Handbook, Fields
Advances in Fingerprint Technology, Lee
Fingerprints, Palms and Soles, Cummins and Midlo
Crime Scene Search and Physical Evidence Handbook, FBI
Fingerprints and the Law, Moenssens
Crime Investigation, Kirk

9 ACE-V Method – Comparison and Evaluation

9.1 Purpose

To familiarize the trainee with the fundamentals of latent print comparison and evaluation steps in the ACE-V method.

9.2 Objectives

The trainee will be able to:

- Explain the ACE-V methodology for the individualization of latent prints.
- Compare and evaluate latent prints to known exemplars.
- Render proper conclusions of individualization, inconclusive and exclusion.
- Document all conclusions according to policy and procedure.
- Demonstrate knowledge of the policies and procedures for the examination process.
- Describe the quality assurance measures in place in the ACE-V methodology, policies and procedures in the department.
- Articulate how the individualization decision is reached.

9.3 Mode of Instruction

9.3.1 The trainee should develop skills related to conflict resolution and engaging in productive conversations when a difference of opinion occurs in the analysis or comparison phase through conversations with the TC and fellow examiners.

9.3.1.1 https://soundcloud.com/double-loop-podcast, episodes 81 and 93

9.3.2 Lectures - Comparison, Evaluation and Identification of Latent Prints presentation

9.3.3 Demonstrations

9.3.3.1 The trainee should observe experienced examiners comparing latent prints. The purpose of this observation is for the trainee to obtain knowledge regarding an efficient workflow to accurately conduct and document latent print comparisons.

9.3.3.2 The trainee should be observed by experienced examiners conducting comparisons of latent prints. Feedback should be given to the trainee during this process.

9.4 Assignments

9.4.1 Read the following:

- SWGFAST guidelines related to friction ridge examinations.
- Accuracy and reliability of forensic latent fingerprint decisions. Proceedings of the National Academy of Sciences USA, Ulery, 108(19): 7733-7738
- Repeatability and reproducibility of decisions by latent fingerprint examiners, Ulery, PlosPne, Vol. 7 No.3, 2012
- Computation of likelihood ratios in fingerprint identification for configurations of any number of minutiae, Neumann, Journal of Forensic Science, 2007,52:54–64
- Miami-Dade Research Study for the Reliability of the ACE-V Process: Accuracy and Precision In Latent Fingerprint Examinations, Pacheco https://www.ncjrs.gov/pdffiles1/nij/grants/248534.pdf
- The Potential of Blind Collaborative Justice: Testing the Impact of Expert Blinding and Consensus Building on the Validity of Forensic Testimony. Carolyn Wong, Eyal Aharoni, Gursel Rafig oglu Aliyev, Jacqueline Du Bois, May 2015, US Department of Justice.

9.4.2 Compare approximately 50 latent prints developed from latent print development processing practical exercises and seek feedback from the TC or designee.

9.4.3 Compare approximately 50 latent prints obtained from actual casework and seek feedback from the TC or designee.

9.4.4 Provide a 10-15 minute presentation, to an audience that should include the TC and the Section Supervisor, discussing the following topics:

- Describe the Scientific Method and how it relates to fingerprint comparison.
- Explain each conclusion that can be reached in the evaluation phase.
- Is it possible for experts to disagree regarding their conclusions? Support your opinion.

9.5 Practical Exercises

Complete comparison exercise packets 1 through 10.

9.6 Mode of Evaluation

9.6.1 The presentation will be evaluated on if the trainee successfully presents the information within the allotted time to the audience with a minimal amount of visible or distracting nervousness and successfully answering questions from the audience. See Appendix C for additional criteria. The trainee will have two attempts to complete this assignment.

9.6.2 Results for packets 1 through 10 should contain no erroneous individualizations and at least 95% expected results for exclusions and inconclusive decisions.

9.6.3 Obtain the expected results on the Final Comparison packet. See Appendix D for details of practical exam.

9.7 References

Fingerprint Techniques, Moenssens
Friction Ridge Skin, Cowger
Fingerprint Handbook, Fields
Advances in Fingerprint Technology, Lee
Fingerprints, Palms and Soles, Cummins and Midlo
Crime Scene Search and Physical Evidence Handbook, FBI
Fingerprints and the Law, Moenssens
Crime Investigation, Kirk

10 Automated Fingerprint Identification System (AFIS)

10.1 Purpose

Upon completion the student will possess the knowledge, skills and ability of the procedures for maintaining accountability that includes all the required documentation and the processes that must be followed for a successful search of prints in the Virginia Automated Fingerprint Identification System (AFIS) and the FBI's Next Generation Identification (NGI).

10.2 Objectives

The student will attain:

- The knowledge and skills of the operation of the various automated database systems and their limitations.
- The manner in which to input images into each system, capture/encode minutiae, core and axis placement, delta placement, manner to determine the number of intervening ridges, limitations of each system's requirements for searching that particular database and how to report information needed by each system and the manner in which to request known samples for comparison.
- Knowledge and skills to determine which friction ridge prints are suitable for searching in the automated database systems. Several factors should be considered, which prints will be searched, such as type of evidence and the quality and quantity of minutiae detail.
- An understanding as to why individualizations are not made by solely conducting a comparison on-screen of prints searched in the automated database systems.
- Knowledge of quality checks that are to be completed on the automated database systems.

10.3 Mode of Instruction

10.3.1 Lectures

Automated database searches are responsible for the successful outcome of many criminal investigations, in that, the responsible party for many crimes may only be detected due the presence of their fingerprints at the crime scene. It should be noted that the presence of one's fingerprints at a crime scene does not necessarily incriminate or exonerate an individual.

10.3.2 Demonstrations

The trainee will observe examiners entering latent prints into the various systems in use.

10.4 Assignments

Read the following:

- NEC AFIS user manual.
- FBI IAFIS user manual.
- Fingerprint Source Book, Chapter 6: Automated Fingerprint Identification System.

10.5 Practical Exercises

Enter at least ten latent prints into the VA AFIS and NGI under the supervision of the TC or designee.

10.6 Mode of Evaluation

10.6.1 Demonstration of successfully entering latent prints and declaring hits as applicable.

10.6.2 Successful completion of the Virginia State Police AFIS test.

10.7 References

NEC AFIS user manual
FBI IAFIS user manual
Fingerprint Source Book

11 Photography

11.1 Purpose

The preservation of latent prints is essential, and upon completion of this section the trainee will possess the knowledge and skills necessary to preserve images of latent prints utilizing a digital camera and appropriate lighting.

11.2 Objectives

The trainee will attain the knowledge, skills and ability to apply photography to the latent print discipline:

11.2.1 Equipment

- Different types of cameras and lenses
- Film vs. Digital
- Filters
- Lighting techniques
- Use, maintenance and calibration of cameras and other photographic equipment

11.2.2 Photographic Procedures

- Resolution requirements
- Adjusting for exposure settings including aperture and shutter speed
- Use of lenses
- ISO settings
- White balance
- Use of scales

11.2.3 Photography of chemically developed latent prints.

11.2.4 Photography of latent prints developed with powders.

11.2.5 Photography of patent and plastic prints.

11.2.6 Photography of post-mortem prints.

11.2.7 Fluorescent photographic techniques.

11.3 Mode of Instruction

11.3.1 Lectures

- Exposure / Depth of Field / Focus/ Shutter Speed
- Photographic Theory for the Crime Scene Investigator (VADFS Training Section)
- Nikon Familiarization (VADFS Training Section)
- Latent Print Photography (summary of FBI presentation)

11.3.2 Demonstrations

11.4 Assignments

11.4.1 Read the following**:**

- Fingerprint Source Book, Chapter 8: The Preservation of Friction Ridges
- Advances in Fingerprint Technology, Gaensslen, Lee. Pages, 93
- Friction Ridge Skin, Cowger. Pages 76-78, 111-128, 85-88, 90-93

- Police Photography, Miller
- Close-up and Macro Photography for Evidence Technicians, McDonald

11.5 Practical Exercises

Mock evidence will be processed with all techniques listed (it is acceptable to utilize items processed during the processing training) in the Latent Print Manual and images of latent prints photographed on a variety of surfaces.

- Prints developed with cyanoacrylate ester on clear plastic bags, soda cans, dark glass bottles, reflective surface (i.e., CD or mirror) and other commonly encountered surfaces.
- Prints developed with dye stains utilizing the ALS on the above listed surfaces.
- Prints developed on a variety of colored porous papers.
- Patent or visible prints.

11.6 Mode of Evaluation

11.6.1 Successful completion of written exam.

11.6.2 Successful completion of practical exam. See Appendix D for details of practical exam.

11.7 References

Fingerprint Source Book
Advances in Fingerprint Technology, Lee and Gaensslen
Fingerprint Techniques, Moenssens
Scott's Fingerprint Mechanics, Olsen Sr.
Friction Ridge Skin, Cowger
Police Photography, Miller
Close-up and Macro Photography for Evidence Technicians, McDonald

12 Digital Imaging and Mideo

12.1 Purpose

Upon completion of this section the trainee will have an understanding of the Mideo software and how it is utilized to complete latent print casework.

12.2 Objectives

12.2.1 Knowledge and understanding to import and export images.

12.2.2 Knowledge and understanding of the folder structure, and, specifically, the information recorded in each folder within the Mideo database.

12.2.3 Knowledge and understanding of the field sets (note taking) capabilities.

- What information is recorded in each field
- Which fields are mandatory
- What is the help dialog box and how is it accessed
- How to clear a field
- How to edit data

12.2.4 Knowledge and understanding of the enhancement tools.

- Adobe Photoshop tools and features
- When is it best to use Photoshop and why

12.2.5 Knowledge and understanding of completing an Analysis on a latent print

- GYRO color scheme
- Use of the Grouping Tool

12.2.6 Knowledge and understanding of the steps/methods to complete a Comparison.

12.2.7 Knowledge and understanding of creating a comparison workspace to document an individualization.

12.2.8 Knowledge and understanding of creating a workspace to document an exclusion.

12.2.9 Knowledge and understanding of the History Log feature.

12.3 Mode of Instruction

12.3.1 The trainee will observe examiners working at least two cases from start to finish to gain an understanding of case approach utilizing Mideo.

The trainee should focus on:

- the importance of developing a consistent approach
- enhancement techniques
- analysis documentation
- comparison methods

12.3.2 The trainee should observe examiners working on the specific features and tools in the Mideo software.

The trainee should focus on:

- navigating in the software
- importing and exporting images
- folder structure
- field sets
- enhancement tools
- grouping tool
- selection tool
- charting tools
- drawing tools
- measurement tools (calibrating an image)
- printing tools
- text tools
- zoom panel
- creating a comparison workspace

12.4 Assignments

12.4.1 The trainee will provide written answers for the following questions:

- Name each folder created for a new case and the purpose of each folder (i.e., what is each folder designed to contain?).
- List the steps to import an image from a CD.
- List the steps to capture and import an image from a scanner.
- List the steps to calibrate an image.
- Explain how to invert an image.
- Explain how to rotate an image.
- Define the GYRO acronym.
- Describe how to zoom in an image (i.e., make the latent appear bigger).
- List the steps to create a comparison workspace.
- List the steps to open an image in Photoshop and how to return it to Caseworks.
- When is it necessary to use Photoshop?
- How are the enhancements done in Photoshop distinguished in the History file from those done in Mideo?

12.4.2 The trainee will provide printed documentation from the Mideo system demonstrating knowledge and skill accomplishing the following specific tasks.

- Clarified image of a visible latent print (no development needed to photograph) with the Analysis documented using the GYRO tools and appropriate fieldsets completed (Analysis note page).
- Clarified image of a latent print developed with Ninhydrin with the Analysis documented using the GYRO tools and appropriate fieldsets completed (Analysis note page).
- Clarified image of a latent print developed with dye stain/ALS with the Analysis documented using the GYRO tools and appropriate fieldsets completed (Analysis note page).
- Clarified image of a latent print developed with Black Powder preserved on a lift card with the Analysis documented using the GYRO tools and appropriate fieldsets completed (Analysis note page).
- A comparison workspace depicting an individualization.
- A workspace depicting an exclusion.

12.5 Practical Exercises

12.5.1 The trainee will work five mock cases, which include comparisons, from start to finish.

12.5.2 The trainee will complete five comparison packets in Mideo.

12.6 Mode of Evaluation

12.6.1 The trainee will work the mock cases while being shadowed by an examiner demonstrating the necessary skills and knowledge to complete casework utilizing Mideo.

12.6.2 The trainee will obtain the expected result for all Analysis and Comparison conclusions on the latent print images included in comparison packets.

12.7 References

Mideo Systems Latent Works User Manual
DFS Latent Print Technical Procedures Manual
DFS Photography Technical Procedures Manual
Adobe Photoshop Manual

13 Testimony

13.1 Purpose

Upon completion of this section the trainee will possess the knowledge and understanding of the legal aspects of forensic identification as it pertains to latent prints and be able to effectively present expert testimony.

13.2 Objectives

13.2.1 To familiarize the trainee with the functions of a courtroom criminal proceeding.

13.2.2 To have the trainee prepare a current curriculum vitae and convey *voir dire* questioning during testimony.

13.2.3 To familiarize the trainee with proper methods for presenting expert testimony.

13.3 Mode of Instruction

13.3.1 Lectures - LX Expert Witness Testimony presentation

13.3.2 Observation of expert testimony.

13.4 Assignments

13.4.1 Read the following:

- Forensic Science Handbook, Kuzmack, 1982, Pages 1-27
- Fingerprints and the Law, Moenssens, Chapter 3 through 10 and Appendix 1

13.4.2 Completion of curriculum vitae.

13.4.3 Provide a presentation to the TC and the PM focused on how the discipline meets the challenges (prongs) of Daubert and Virginia's admissibility standards.

13.4.4 Provide a presentation to the TC and the PM focused on how the Department meets the challenges of the 2009 NAS report.

13.4.5 Written responses to the following questions:

- Describe the role of the following during a trial:
  - Expert witness
  - Judge
  - Prosecutor
  - Defendant
  - Defense counsel
  - Jury

- Define the following:
  - *Voir Dire*
  - Direct Examination
  - Cross Examination
  - Redirect
  - Chain of Custody
  - Objection
  - Sustained
  - Overruled

- Describe the characteristics of an effective expert witness (i.e., appearance, speech, non-verbal communication, etc.).
- Describe the ASCLD/LAB accreditation process and the benefits of being an accredited laboratory.

13.5 Practical Exercises

13.5.1 Participate in at least one mini-mock trial with the TC focusing on the following aspects of testimony:

- *Voir Dire*
- Chain of Custody
- ACE-V methodology
- Sufficiency
- Scientific certainty
- Bias
- Error rate

Additional sessions may be necessary if deemed appropriate by the TC. This mini-mock is intended to be one-on-one training with the trainee and TC in order to gain practice in verbalizing concepts and to identify areas that may need to be refined prior to the final mock trial.

13.5.2 Conduct at least one mini-mock trial which will encompass all aspects of a potential trial setting.

13.5.3 Provide verbal responses to the following questions:

- What is your name?
- What is your occupation? For whom do you work?
- How long have you been so employed?
- What are your duties in this occupation?
- What education and training do you possess that qualifies you to perform your duties?
- What specific courses have you taken that are directly related to latent print analysis?
- Do you consider yourself an expert in the latent prints?
- What is the definition of an expert witness?
- Is the university/college you graduated from accredited, and if so, by whom?
- Who conducted your training?
- What are their qualifications?
- Are you certified? If not why?
- What literature do you read relating to your job?
- How many latent print comparisons have you performed?
- Do you belong to any professional organizations?
- Explain the ACE-V methodology.
- What is the error rate of the latent print discipline?
- What are the factors affecting the development of a latent print?

13.6 Mode of Evaluation

13.6.1 The presentation will be evaluated on if the trainee successfully presents the information within the allotted time to the audience with a minimal amount of visible or distracting nervousness and successfully answering questions from the audience. See Appendix C for additional criteria. The trainee will have two attempts to complete this assignment.

13.6.2 Successful completion of a final mock trial (as defined in the QM final competency testing requirements).

13.7 References

Legal Aspects of Forensic Science, Kuzmack
Fingerprints and the Law, Moenssens

Appendix A - Individual Training Plan (ITP) Template

For each section listed below include the following information:

- List previous documented training received
- Provide detailed plan, including assignments, exercises, exams and presentations to be completed with dates, for each section.

The objectives listed in the Latent Print Training Manual should be used as a guide for questions during the assessment to determine the individual's knowledge level.

History and Legal Aspects
Biology and Physiology
Quality Assurance and Quality Control
Latent Print Development Techniques
Recording Friction Ridge Skin
Cognitive Factors in Comparative Analysis
ACE-V Method - Analysis
ACE-V Method - Comparison and Evaluation
Automated Fingerprint Identification System (AFIS)
Photography
Digital Imaging and Mideo
Testimony

The expected completion of this training plan is _____.

Appendix B - Latent Print Training Record

Trainee: _____ Laboratory: _____

Lectures /Assignments/ Exercises / Exams	Date completed	Trainee Initials	TC initials
1.3.1 Orientation • Quality Manual • Departmental Administrative Policies • Regional Operating Procedures • Latent Print Section Procedures Manual • Latent Print Section Training Manual • DFS Safety Manual • Organizational Chart of DFS • DFS Section specific presentations			
2 History and Legal Aspects			
2.3.1 Lectures • Courts Early Years • History of Fingerprints • Fingerprint Critics			
2.4.1 Assignment • Reading			
2.5.2 Exam • History and Legal			
3 Biology and Physiology			
3.3.1 Lecture • Biology and Physiology			
3.4.1 Assignment • Reading			
3.4.2 Assignment • Biology and Physiology presentation			
3.5.1 Exercise • Diagram – skin structure			
3.5.2 Exercise • Diagram – volar pads			

Appendix C - Presentation and Paper Evaluation Criteria

Presentations

Trainee	
Appearance	
Presentation:	
Introduction	
Organization	
Graphics	
Typos	
Succinct	
Accuracy	
Presenter:	
Eye Contact	
Use of fillers	

Comments:

Papers

Introduction	
Content	
Grammar	
Typos	
Professional Nomenclature	
Organization	
Conclusion	
Bibliography/References	
Use of tables, pictures, etc.	

Appendix D - Guidelines for Practical Finals

Final Comparison Packet

Contains 13 latent prints and 3 sets of exemplars, which have been previously vetted and agreed upon by the Latent Print Technical Resource Team.

Practical Latent Print Photography Competency

- Consists of six items with one latent marked per item with a P# to ensure the correct latent is captured.
  - latent lift
  - paper processed with ninhydrin
  - clear glass processed with black powder
  - plastic grocery bag processed with cyanoacrylate ester and dye stain
  - firearm magazine processed with cyanoacrylate ester and dye stain
  - clear plastic soda bottle processed with cyanoacrylate ester
- Capture one latent image per item.
- Import the images into the appropriate Mideo folder.
- Name the file lab name (in place of the case number), the item number followed by the latent number.
  - Example: Western W-1 P1
- No enhancement techniques shall be performed on the images.