

AUSTIN POLICE DEPARTMENT  
FORENSIC SCIENCE DIVISION  
LATENT PRINT SECTION TRAINING MANUAL

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***Preface***

**Purpose**

This program is designed to train latent print examiners and AFIS technicians assigned to the Latent Print Section of the Austin Police Department Forensic Science Division. Trainees will learn all aspects of the science of fingerprints dealing with interpretation, enhancement, analysis, comparison, evaluation, and courtroom testimony.. Successful completion of this training program results in a latent print examiner or AFIS technician who is technically proficient in AFIS database searches, examinations of physical evidence and presentation of their findings in court as an expert witness.

## Responsibility

The Latent Print Section Technical Leader will supervise the maintenance of this training document. Deviations from this training manual are allowed but must be approved by the Technical Leader. All deviations must be documented in the trainee's training notebook with proper justification.

This training manual encompasses 550 hours of training time. The total number of hours devoted to this program are dependent on the progress of the trainee and prior training and experience.

## *Overview of Training Program*

Chapters	Course of Instruction	Approximate Hours Required
1	Introduction to the Latent Print Section	40
2	Ethics and Professionalism	10
3	Introduction to the Science of Fingerprints	20
4	Obtaining Friction Ridge Exemplars	20
5	Basic Friction Ridge Comparison	40
6	Latent Print Identification	240
7	Basic Image Enhancement	40
8	AFIS Operations and Procedures	80
9	Courtroom Testimony	40
<b>Final</b>	Moot Court and Written Examination	20

Training topics listed above are not required to be presented in the order in which they appear. The training program allows for the trainer to combine multiple topics together, if they are directly related, to enhance the learning process. Each topic consists of required reading, practical exercises, independent study and discussion.

Although the trainee's primary interaction will be with the assigned instructor, this program promotes and encourages discussion with other experienced professionals.

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## **Chapter 1: Introduction to the Latent Print Section**

1. TRAINING HOURS: Forty (40)
2. TRAINING OBJECTIVES: The trainee will attain:
  - A. An understanding of the mission and operation in effect for the City of Austin and the Austin Police Department.
  - B. An understanding of the mission and standard operating procedures in effect for the Forensic Science Division and specifically the Latent Print Section.
  - C. An introduction to the training program for a Latent Print Examiner or an AFIS Technician.
  - D. An introduction to the records and forms as used by the Latent Print Section.
  - E. An introduction to the Latent Print Section library and available reference materials.
  - F. An understanding of local, state and federal fingerprint records.
3. TRAINING OUTLINE:
  - A. City of Austin Policies and Forms
  - B. Austin Police Department Policies and Forms
  - C. Forensic Science Division Procedures and Forms
  - D. Latent Print Section Procedures and Forms
  - E. Latent Print Examiner/AFIS Technician Training Program
4. REQUIRED READING:
  - A. City of Austin Personnel Policies, Public Drive
  - B. Austin Police Department Policy Manual Public Drive
  - C. Forensic Science Division SOP LIMS
  - D. Latent Print Section SOP LIMS
  - E. Latent Print Section Technical Manual LIMS
5. TRAINING STANDARD:
  - A. The trainee must pass an open-book test.

## **Chapter 2: Ethics and Professionalism**

1. TRAINING HOURS: Ten (10)
2. TRAINING OBJECTIVES: The trainee will attain:
  - A. An understanding of the role and purpose of ISO, ASCLD and ASCLD/LAB.
  - B. An understanding of the role of membership in professional organizations
  - C. An understanding of ethics in Forensic Science.
  - D. An understanding of the importance of continuing education.

### 3. TRAINING OUTLINE:

- A. Professional Organizations (i.e. IAI, TDIAI, SWAFS, AAFS)
  - 1. Participation
  - 2. Purpose
- B. Codes of Ethics and Professional Conduct
  - 1. Forensic Science Division
  - 2. Latent Print Section
  - 3. IAI
  - 4. TDIAI
  - 5. SWGFAST
- C. Accreditation – Laboratory Quality Assurance Standards
  - 1. American Society of Crime Lab Directors (ASCLD)
  - 2. American Society of Crime Lab Directors / Laboratory Accreditation Board (ASCLD/LAB)
  - 3. International Organization for Standardization (ISO)
- D. Ethics – Rules or Standards Governing the Conduct of the Members of a Profession
  - 1. Abide by the Spirit and Intent of the Law
  - 2. Do Not Fabricate or Falsify Evidence or Reports
  - 3. Treat Everyone with Respect
  - 4. Follow Department Rules and Regulation
  - 5. Do Not Use Position for Personal Gain
- E. Continuing Education
  - 1. Attending Educational Conferences
  - 2. Attending Classes Offered by Other Agencies (i.e. FBI, DPS)
  - 3. Keeping Abreast of Current Issues and Relevant Court Cases
    - a. Journal of Forensic Science
    - b. Journal for Forensic Identification
    - c. Web Sites (i.e. CLPEX, ONIN)
  - 4. Reading Books and Articles

### 4. REQUIRED READING:

- A. Ethics and the Practice of Forensic Science, Bowen Chapter 5
- B. Fingerprint Identification, Leo Chapter 1
- C. Handout: *About ASCLD/LAB*
- D. Handout: *Cult of the Mediocre*
- E. Handout: *Confirmation Bias, Ethics . . .*
- F. Handout: *Ethics in Forensic Science*
- G. Handout: 2016 Attorney General Recommendations

### 5. TRAINING PRACTICAL:

None

### 6. TRAINING STANDARD:

None

## **Chapter 3: Introduction to the Science of Fingerprints**

1. TRAINING HOURS: Twenty (20)
2. TRAINING OBJECTIVES: The trainee will attain:
  - A. An understanding on early methods of personal identification.
  - B. An understanding of the formation of friction ridges.
  - C. An understanding of the scientific observations leading to modern fingerprint identification.
  - D. An understanding of the history of fingerprints.
  - E. An understanding of the terminology used in the science of fingerprints.
  - F. An understanding of the premises of friction ridge identification.
3. TRAINING OUTLINE:
  - A. Personal Identification Methods and Their Uses
    1. Early Non Scientific Methods
    2. Scientific Methods Other Than Fingerprints
  - B. Formation and Physiology of Friction Ridge Skin
  - C. History of the Science of Fingerprints
    1. Pre - Christian Era
    2. Post - Christian Era
    3. 1600 to 1800
    4. 1800 to 1900
    5. 1900 to Present
  - D. Science of Fingerprint Terminology
4. REQUIRED READING:

A. Q&Q Friction Ridge Analysis, Ashbaugh	Chapters 2, 3
B. Fingerprint Techniques, Moenssens	Chapters 1, 2
C. Advances in Fingerprint Technology, Gaensslen, Lee	Chapter 1(2 <sup>nd</sup> Edition)
D. Fingerprint Source Book, NIJ	Chapters 2, 3
E. Handout: <i>The Critical Stage . . .</i>	
F. Handout: <i>Loss of Ridged Skin Before Birth</i>	
G. Handout: <i>The History of Fingerprints</i>	
H. Handout: <i>The Family who Brought . . .</i>	
5. TRAINING STANDARD:
  - A. The trainee must pass a written test.

## **Chapter 4: Obtaining Friction Ridge Exemplars**

1. TRAINING HOURS: Twenty (20)
2. GENERAL TRAINING OBJECTIVES: The trainee will attain:

- A. An understanding of the necessity of recording friction ridges and the proper methods to obtain legible friction ridge detail.
- B. Introductory knowledge of the special systems (inkless and live scan) for recording friction ridge detail.
- C. An understanding of post-mortem conditions and the techniques used to obtain friction ridge detail from deceased persons.
- D. An understanding of the legal challenges to the recording of inked prints.

### 3. TRAINING OUTLINE:

- A. Obtaining Inked Prints
  - 1. Fingerprint Equipment and Maintenance
  - 2. Fingerprint Cards
    - a. Rolled Impressions
    - b. Simultaneous Impressions
  - 3. Palm Prints
  - 4. Major Case Prints
  - 5. Foot \ Sole Prints
- B. Specialized Techniques in Obtaining Friction Ridge Detail
  - 1. Live Scan
  - 2. Inkless Methods
  - 3. Adhesive Strips and Magnetic Powder

### 4. REQUIRED READING:

- |  |               |
|--|---------------|
| A. The Science of Fingerprints, FBI        | Chapters 9-11 |
| B. Scotts Fingerprint Mechanics, Olsen     | Chapter 2     |
| C. Fingerprints and the Law, Moenssens     | Chapter 4     |
| D. Fingerprint Source Book, NIJ            | Chapter 4     |
| E. Article: <i>Inked Major Case Prints</i> |               |
| F. Video – Recording Fingerprints          |               |

### 5. TRAINING PRACTICALS:

- A. Take a complete set of finger prints from 5 different subjects.
- B. Take a complete set of palm prints from 5 different subjects.
- C. Take a complete set of major case prints from 2 different subjects.

### 6. TRAINING STANDARD:

- A. The trainee must pass a written test.
- B. The trainee must satisfactorily complete all practical exercises.

## **Chapter 5: Basic Friction Ridge Comparison**

1. TRAINING HOURS: Forty (40)
2. TRAINING OBJECTIVES: The trainee will attain:
  - A. The basic skills necessary for comparing inked and latent friction ridge detail.
  - B. The use of friction ridge flow and characteristics to determine identification or exclusion.
  - C. Understanding of how to use ridge flow and search clues to orient prints for searching
  - D. The basic concept of friction ridge quality.
  - E. An understanding of what constitutes a valid identification.
  - F. Knowledge of key terms used in friction ridge comparison.
3. TRAINING OUTLINE:
  - A. The Use of Ridge Flow (Patterns)
  - B. Friction Ridge Characteristics
    1. Ending Ridge
    2. Bifurcation
    3. Dot
  - C. Natural Breaks in Friction Ridge Flow
  - D. Sufficiency in Detail to Establish Identity
  - E. Consultation in Difficult Prints
4. REQUIRED READING:
  - A. Scott's Fingerprint Mechanics, Olsen Sr.
  - B. Fingerprint Techniques, Moenssens
  - C. Fingerprint Source Book, NIJ
  - D. Handout: *An Analysis of Standards* . . .
  - E. Handout: *Friction Ridge Characteristics* . . .
  - F. Handout: *Demystifying Palm Prints*

Chapter 1  
Pgs. 252-270  
Chapter 9
5. EXERCISES:
  - A. Inked to Inked 90 Singles
  - B. 1 to 5 Match 85 Sets
  - C. 1 to 5 Match 30 Sets
  - D. Full Pattern (B 1-20)
  - E. Delta Pattern (B 1-20)
  - F. Palm Print Exercise
  - G. 3 Selected Latent Print Comparison Exercises
6. TRAINING STANDARD:
  - A. The trainee must satisfactorily complete all practical exercises.

## **Chapter 6: Latent Print Identification**

1. TRAINING HOURS: Two-Hundred Forty (240)
2. TRAINING OBJECTIVES: The trainee will attain:
  - A. Familiarization with latent office and procedures.
  - B. An understanding of the three levels of detail.
  - C. The ability to orientate finger and palm latent prints for comparison.
  - D. An understanding of the nature of ridge color reversal.
  - E. An understanding of pressure distortion, slippage, overlays and artifacts.
  - F. An understanding of other features associated with friction ridge prints (i.e. scars, creases, blisters).
  - G. An understanding of the basics of report writing.
  - H. An understanding in the equipment used by the Latent Print Section.
  - I. Recognizing forged or fabricated latent prints.
  - J. An understanding of error rates.
  - K. Understand the purpose of proficiency tests.
3. TRAINING OUTLINE:
  - A. Analysis of Friction Ridges
    1. Determining Suitability
    2. Finger Orientation
    3. Scientific Method
    4. Distortion and Disruption
    5. Simultaneous Impressions
    6. False Ridge Detail
    7. Class and Individual Characteristics
  - B. Comparison of Friction Ridges
    1. Determining Sufficiency of Detail to Establish Identity
    2. Consultation on Difficult Prints
  - C. Evaluation of Friction Ridges
    1. Identification
    2. Exclusion
    3. Inconclusive
  - D. Verification
  - E. Comparison Aids
    1. Enlargement
    2. Enhancement
    3. Magnifiers
  - F. Quantitative and Qualitative Considerations
    1. The Three Levels of Detail
    2. Forced Areas
    3. Rarity of Features Present
    4. Tolerance
  - G. Palm Print Comparison
    1. Ridge and Crease Clues for Orientation
  - H. Foot Print Comparison
    1. Areas of the Foot



- I. Report Writing
  - 1. Laboratory Information Management System (LIMS)
  - 2. Use of a Worksheet
  - 3. Notifying Detective of Results
- J. Receiving of Latent Print Envelopes
  - 1. Determining AFIS Suitability
  - 2. Sealing and Filing of Non-Suitable Envelopes
  - 3. Chain of Custody
  - 4. Printing Digital Photographs Submitted by CD
- K. Types of Errors
  - 1. Erroneous Inclusion
  - 2. Erroneous Exclusion
  - 3. Administrative
- L. External and Internal Proficiency Tests
  - 1. Comparison Exercises
  - 2. Collaborative Tests

#### 4. REQUIRED READING:

- A. Friction Ridge Skin, Cowger Chapters 6 - 8
- B. Q & Q Friction Ridge Analysis, Ashbaugh Chapters 4 - 8
- C. Individualization: Principles and Procedures, Tuthill Chapters 1- 5
- D. Method for Fingerprint Identification, IEEGFI Part II
- E. Fingerprint Source Book, NIJ Chapters 10, 12, 15
- F. Article: *Latent Print Reporting and Inconclusive . . .*
- G. Article: *I.A.I. Document Seminar – St. Louis, Missouri*
- H. Article: *Scientific Principles of Friction Ridge Analysis*
- I. Article: *Recognition . . . of Reverse Color Latent Prints*
- J. Article: *Incipient Ridges and the Clarity Spectrum*
- K. Article: *Edmond Locard – Numerical Standards and ‘Probable’ Identifications*
- L. Article: *Detection of Forged and Fabricated Latent Prints*
- M. SWGFAST Document: . . . *Simultaneous Impression*
- N. Article: *The One Dissimilarity Doctrine in Fingerprint Identification*
- O. Article: *Complexity, Level of Association . . .*
- P. Article: *Clues in Friction Ridge Comparisons: Tonal Reversals*
- Q. Article: *Analysis of Distortion in Latent Prints*

#### 5. SUPPLEMENTAL READING:

- A. Holy Grail Reference CD (Langenburg)
- B. IAI Publications Archive CD's
- C. Reference Grail, [www.clpex.com](http://www.clpex.com)
- D. SWGFAST Guidelines

#### 7. TRAINING PRACTICALS:

- A. Ridge path Exercise #2
- B. Delta Exercise (B 1-20)
- C. Ridge Flow (A 1-40)
- D. Delta (A 1-40)
- E. Phalange (A 1-40)

- F. Ridge Path Exercise #3
- G. Difficult Comparison Exercise 1 to 30
- H. Palm Print Exercise
- I. Foot Print Exercise
- J. Distortion Exercise
- K. Analysis of Friction Ridge Skin Exercise (CD)

8. TRAINING STANDARD:

- A. The trainee must satisfactorily complete all practical exercises.
- B. The trainee must satisfactorily pass a written test.
- C. Once trainee has begun comparing prints; a proficiency test will be completed once a month until released for independent case work.

## **Chapter 7: Basic Image Enhancement**

1. TRAINING HOURS: Forty (40)

2. TRAINING OBJECTIVES: The trainee will attain:

- A. An overview of Photoshop software and its uses in Forensic work
- B. An overview of the nature of digital imaging and enhancement
- C. An understanding of how to adjust tonal values in a digital image
- D. An understanding of how to manipulate color to improve latent visualization
- E. Knowledge of how to calibrate a digital image to actual size
- F. Knowledge of how to create a digital contact sheet
- G. An understanding of how to set up the History Log in Photoshop
- H. Knowledge of how to set up and use actions within Photoshop
- I. An overview of court decisions involving Image Enhancement

3. TRAINING OUTLINE:

- A. Photoshop tools used in Latent Print work
  - a. Move and Hand tools
  - b. Tools for adjusting tonal values
    - i. Brightness and Contrast
    - ii. Levels
    - iii. Curves
    - iv. Dodge and Burn
  - b. Selection tools
    - i. Marquee tool
    - ii. Lasso and Magnetic Lasso tool
    - iii. Magic Wand tool
    - iv. Cropping tool
  - c. Eyedropper tool
    - i. ruler
  - d. Pencil
    - i. Selecting Size/Shape/Hardness/Color
  - e. Eraser tool
  - f. Paint Bucket

- g. Blur/Sharpen/Smudge
  - h. Type Tool
  - i. Zoom Tool
- B. Filters used in Latent Print work
  - a. Sharpen
- C. Image Adjustments
  - a. Channel Mixer
  - b. Black and White adjustment
  - c. Invert color
- D. Image Sizing and Rotation
  - a. Resolution
  - b. Constrain Proportions
  - c. Image Interpolation
  - d. Resizing the Canvas
  - e. Transform and Free Transform
- E. Color Modes and Bit Depth
  - a. Grayscale
  - b. RGB
  - c. Indexed Color
  - d. CMYK
  - e. 8 bit and 16 bit
- F. Working with Layers
- G. Histogram
- H. Image History
- I. Creating and Using Actions and Action Sets
- J. Image Formats
  - a. Lossy vs. Lossless
  - b. Joint Photographic Experts Group (JPG)
  - c. Tagged Image File Format (TIFF)
  - d. Photoshop (PSD)
  - e. Raw
  - f. GIF
  - g. BMP (Bitmap)
- K. Calibration Steps for Images
- L. Documenting Image Enhancement Steps
- M. The SWGIT group documents
- N. Preparing Images for AFIS searching
- O. Documenting Analysis of Images
- P. Court Cases Involving Image Enhancement
  - a. Florida v. Reyes, 2002
  - b. California v. Jackson, 1995
  - c. Washington State v. Hayden, 1995
- Q. Preparing a Digital Contact Sheet using CSX script

#### 4. REQUIRED READING:

- A. Handout: How to Calibrate an Image
- B. Handout: How to Create Actions in Photoshop
- C. Handout: How to Set Up the History Log in Photoshop
- D. Article: *Using Levels to Adjust Image Contrast*

- E. Article: *Using Curves for Precise Contrast Adjustment*
- F. Article: *Better Brightness and Contrast . . .*
- G. Article: *New & Improved Curves . . .*
- H. Article: *. . . Photoshop Black and White Adjustments*
- I. Article: *Admissibility in Court (Reis)*
- J. Article: *Legal Ramifications of Digital Imaging in Law Enforcement*
- K. Trial Memo: California vs. Phillip Lee Jackson

5. PRACTICAL EXERCISES:

- A. Improving Tonal Quality Exercise
- B. Color Handling Exercise
- C. Selective Area Exercise
- D. Image Calibration Exercise
- E. Preparing a Contact Sheet

6. TRAINING STANDARD:

- A. The trainee must complete all practical exercises
- B. The student must successfully pass a written test.

## **Chapter 8: AFIS Procedures / Operations**

1. TRAINING HOURS: Eighty (80)

2. GENERAL TRAINING OBJECTIVES: The trainee will attain:

- A. An understanding of the history of AFIS.
- B. The operational procedures for local, state and federal AFIS databases.
- C. An understanding of direct entry latent inquiries.
- D. An understanding of traced latent inquiries.
- E. The aspects of on screen comparison.
- F. The operational procedures for hit and non-hits.
- G. The aspects of the unsolved latent database.
- H. An understanding of the database maintenance.
- I. General knowledge of automated classification systems.
- J. An understanding of other biometric systems.
- K. Live scan technology and how it differs from other method of recording fingerprints.

3. GENERAL TRAINING OUTLINE:

- A. The History and Science Behind AFIS
- B. Different Types of Searches Performed
- C. AFIS Operations (local, state, federal)
  - 1. Maintaining Chain of Custody
  - 2. Determining Suitability
  - 3. Marking Latent for Entry
  - 4. Documentation in Appropriate Databases
  - 5. Latent Print Entry
    - a. Level of Case Determines Priority and Logical Search Progression

- b. Importing Images From CD Into CAFIS
  - 6. Latent Print Editing
  - 7. Setting Search Parameters
  - 8. Viewing Candidate List
  - 9. Documentation of Viable Candidates
  - D. Database Maintenance
    - 1. Deleting latent prints that are viable candidates or have expired statutes
    - 2. When to Register in the Unsolved Latent Database
  - E. Retrieval of Known Standards
  - F. Compatibility Issues
  - G. How Live Scan Works
  - H. Electronic Transmission Standards (NIST)
  - I. Equipment Maintenance and Calibration
4. REQUIRED READING:
- A. AFIS (Komarinski book) Chapters 1 - 6 & 8
  - B. Advances in Fingerprint Technology, Lee, Gaensslen Chapter 8 (2<sup>nd</sup> Edition)
  - C. Fingerprint Source Book, NIJ Chapter 6
  - D. Article: *The Effect of Friction Ridge Skin Growth . . .*
  - E. Article: *Rethinking the Unsolved Latent File*
5. SUPPLEMENTAL READING
- A. AFIS Operations Guide, Cogent (Local) Chapters 1, 2, 12 - 24 Appendixes A - O
  - B. AFIS Operations Guide, NEC (State)
  - C. AFIS Operations Guide, IAFIS (Federal)
  - D. LIMS Operations Guide, LIMS
7. TRAINING PRACTICALS:
- A. Core, Axis and Pattern Types for State Entry
  - B. Cogent Proficiency Test
  - C. NEC Proficiency Test
8. TRAINING STANDARD:
- A. The trainee must satisfactorily complete all practical exercises.
  - B. The trainee must satisfactorily pass a written test.
  - C. Once trainee has begun comparing prints; a proficiency test will be completed once a month until released for independent case work.

## **Chapter 9: Court Testimony**

- 1. TRAINING HOURS: Forty (40)
- 2. TRAINING OBJECTIVES: The trainee will attain:
  - A. An introduction to courtroom demeanor.
  - B. An introduction to the American court system; policy and procedure.

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- C. An understanding of significant court cases.
- D. An understanding of the scientific admissibility of friction ridges.
- E. An understanding of the legal admissibility of evidence
- F. An understanding of the basic court terms and definitions.
- G. An understanding of proper case preparation prior to appearance in court.

### 3. TRAINING OUTLINE:

- A. The Criminal Justice System
  - 1. Municipal Courts
  - 2. County Courts
  - 3. Grand Juries
  - 4. State District Court
  - 5. Federal Court
- B. Notification
  - 1. Subpoena
  - 2. By the Witness Office
- C. Preparation
  - 1. Personal Appearance
  - 2. Pre-Trial Conference When Possible
  - 3. Preparation for Testimony
    - a. CV
    - b. Qualifying Questions
  - 4. Review the Courtroom
- D. Custody and Control of Evidence
- E. Introduction of Evidence
- F. Courtroom Procedures
  - 1. Voir Dire (Qualifying the Expert)
  - 2. Direct Examination (Prosecution)
  - 3. Cross Examination (Defense)
  - 4. Re-Direct and Re-Cross
- G. General Rules of the Court
  - 1. Taking the Oath
  - 2. Invoking the Rule
  - 3. Objections
    - a. Sustained
    - b. Overruled
  - 4. Referring to Notes
  - 5. Directing Responses
  - 6. Ultimate Issue
  - 7. Being Excused From the Stand
  - 8. Guilt or Innocence Phase
  - 9. Punishment Phase (Pen Packets)
- H. Defense Tactics
- I. Federal Rules of Evidence
- J. Relevant Court Cases
  - 1. Frye vs. United States (1923)
  - 2. Daubert vs. Merrell Dow (1993)
  - 3. General Electric vs. Joiner (1997)
  - 4. Kumho Tire vs. Carmichael (1999)

5. United States vs. Mitchell (2001)
- K. Court Cases with Errors
  1. Brandon Mayfield
  2. Shirley McKie
  3. Stephen Cowans
  4. US v. Carlos Llera Plaza
  5. US v. Patrick Leroy Crisp

4. REQUIRED READING:

- A. Effective Expert Witnessing, Matson, Daou, Soper
- B. Advances in Fingerprint Technology, Lee/Gaensslen
- C. Fingerprint Source Book, NIJ
- D. Article: *Defending Against the Critic's Curse*
- E. Article: *The Justice System . . .*
- F. Handout: Introduction of Latent Evidence (Questions)
- G. Article: *Non-Verbal Elements of Courtroom Demeanor*
- H. Handout: The Daubert Card (from CLPEX.com)
- I. Article: *The Forensic Science is Challenged*
- J. Article: *Landmark Decisions . . . Friction Skin Identification*
- K. Article: *Rebutting the "No Fingerprint" Defense*
- L. Article: *Lifetime of a Latent Print. How Long? Can You Tell?*

Chapters 1-7  
Chapter 10 (2<sup>nd</sup> Ed)  
Chapters 13 & 14

5. SUPPLEMENTAL READING:

- A. Scientific Evidence in Civil and Criminal Cases, Moenssens, Starrs, Henderson, Inbau
- B. Speaking as an Expert, McKasson, Richards
- C. Strengthening Forensic Science in the U.S.: A Path Forward, NAS Report

7. TRAINING PRACTICAL:

- A. Preparation of curriculum vitae.
- B. Preparation of direct examination questions.
- C. Preparation of a charted enlargement.
- D. Participation in an internal mock court scenario.

8. TRAINING STANDARD:

- A. Trainee must pass a written test.
- B. Trainee can view testimony by other examiners when possible.
- C. Trainee must have acceptable performance in the mock court.

## **Final: Moot Court and Written Examination**

1. TRAINING HOURS: Twenty (20)

2. TRAINING PRACTICAL:

- A. The moot court will consist of a case worked during training.
- B. The final examination will consist of all aspects that have been covered during training.

3. TRAINING STANDARD:

Upon successful completion of practical, moot court and final examination the trainee will be released for independent case work. They will be restricted to doing only property crimes for the first three months. The authority to authorize independent casework rests with the Lab Manager.