



WASHINGTON STATE PATROL

Questioned Documents Training Manual

CRIME LABORATORY DIVISION

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Washington State Patrol3

Forensic Laboratory Services Bureau3

Document Section.....3

Fundamental Training Program.....3

Section I – Preface..... 3

Section II – Program Summary 4

Section III – Module Content 5

MODULE 1: Introduction to Forensic Document Examination 5

MODULE 2: Handwriting Examination..... 6

MODULE 3: Typewritten Documents..... 7

MODULE 4: Printing Processes 7

MODULE 5: Mechanical Devices 8

MODULE 6: Paper 9

MODULE 7: Ink and Writing Instruments..... 9

MODULE 8: Physical Match.....10

MODULE 9: Preservation and Reconstruction10

MODULE 10: Indented Writing11

MODULE 11: Alterations and Obliterations11

MODULE 12: Line Sequencing12

MODULE 13: Dating of Documents.....12

MODULE 14: Courtroom Procedures13

MODULE 15: Scientific Instrumentation and Laboratory Equipment.....13

MODULE 16: Cognitive Bias14

WASHINGTON STATE PATROL
FORENSIC LABORATORY SERVICES BUREAU
DOCUMENT SECTION
FUNDAMENTAL TRAINING PROGRAM

SECTION I – PREFACE

PURPOSE

The purpose of this Fundamental Training Program (FTP) is to provide a training program for a Forensic Document Examiner (FDE). Upon completion of this program, the trainee will be capable of independently examining basic forensic document cases and becoming court qualified as an expert in the field of forensic document examination.

PROGRAM REQUIREMENTS

- a) *Program Attendance:* A trainee must attend all in-house training. It is highly recommended that they also attend the following non-agency training:
 - i) The Federal Bureau of Investigation Fundamentals of Document Examination for Laboratory Personnel course.
- b) *Program Duration:* The course length is a minimum of 24 months under the direct tutelage of a journey-level forensic document examiner.
- c) *Program Standards:*
 - i) The trainee must pass each written examination with a minimum score of 80%
 - ii) The trainee must pass every practical examination. Practical examinations will be graded “pass” or “fail”.
 - iii) Failure of a written or practical examination will result in a retest within 30 days.
 - iv) While the overall program requires a minimum of 24 months, defined periods of time are not designated for the individual training modules since the actual pace of instruction will be dictated by the trainee’s progress and demonstrated proficiency.
 - v) Trainees may complete modules and be signed-off according to the Crime Laboratory Division (CLD) Quality Manual (QM) to perform casework in those specific areas.
 - vi) The trainee will complete or be in the process of completing an original research project. The research project will be chosen by the trainee and approved by the trainer. The trainee will record the results of their research in the form of a scientific paper suitable for publication or presentation at a professional meeting. The provisions covering presentations and publications are specified in the Washington State Patrol (WSP) Forensic Laboratory Services Bureau (FLSB) QM.
 - vii) The trainee will be encouraged to attend and seek membership in recognized professional organizations such as the Southwest Association of Forensic Document Examiners (SWAFDE), the American Society of Questioned Document Examiners (ASQDE), and the American Academy of Forensic Sciences (AAFS).

ADMINISTRATIVE REQUIREMENTS

As a necessary part of the training program, the trainee will be required to maintain records documenting training activities. The following records should be included in a training binder:

- a) a case log book including date, case number, and type of examination performed
- b) divided into sections by category: Electrostatic Detection Apparatus (ESDA[®]) lifts, Video Spectral Comparator (VSC) results, infrared/ultraviolet (IR/UV) photos developed, courtroom displays created, and any other material produced from casework
- c) mock court log including date, case number, and evaluation

In addition, the primary trainer will keep the trainee, Laboratory Manager (LM), and the Quality Process Manager (QPM) apprised of the trainee's progress through training reports. These reports should include any tests or practical problems failed and the remedial actions to be taken, any significant achievements made by the trainee, and any delay in training.

SAFETY

All personnel are mandated to follow the safety procedures outlined in the Safety Manual.

ETHICAL CONSIDERATIONS

By maintaining high professional standards, the WSP CLD Questioned Documents (QD) section strives to uphold ethical standards that will deliver an unbiased, scientifically supported conclusion on every case.

QUALITY ASSURANCE

The QD Laboratory complies with all ASCLD/LAB, ISO, and WSP QD Technical Procedures Manual (TPM) regulations on the integrity of evidence handling, examination procedures, and laboratory report writing. To ensure professionalism, all forensic document examiners must pass proficiency examinations provided by Collaborative Testing Services (CTS). Furthermore, trainees must also pass competency examinations given to them by their primary trainer. In addition, all laboratory reports must undergo peer review, administrative and technical, as outlined in the WSP QM.

Instrumentation used in the QD Laboratory such as the ESDA[®] and VSC are detailed in the QD TPM and ASTM guidelines.

SECTION II – PROGRAM SUMMARY

This training program is to be used in conjunction with the Southwestern Association of Forensic Document Examiners (SWAFDE) Training Manual revised 2006. All criteria listed in this manual are in agreement with the SWAFDE Training Manual; however, any references to the Washington State Patrol procedures or requirements will supersede those outlined in the SWAFDE Training Manual.

COURSES

Module 1: Introduction to Forensic Document Examination

Module 2: Examination of Handwriting

Module 3: Typewritten Documents

Module 4: Printing Processes

- Module 5: Mechanical Devices
- Module 6: Examination of Paper
- Module 7: Ink and Writing Instruments
- Module 8: Physical Match Examinations
- Module 9: Preservation and Reconstruction of Documents
- Module 10: Indented Writing Examinations
- Module 11: Alterations and Obliterations
- Module 12: Line Sequencing
- Module 13: Dating of Documents
- Module 14: Courtroom Procedures
- Module 15: Scientific Instrumentation/Laboratory Equipment
- Module 16: Cognitive Bias

These modules are designed to provide for a well-rounded basis of knowledge and experience essential for becoming a fully qualified forensic document examiner. The order in which these modules will be taught and their inclusion in the training program is at the discretion of the primary trainer.

Please refer to the Southwestern Association of Forensic Document Examiners Training Manual for more details on module content, assessment criteria, and reference materials.

SECTION III – MODULE CONTENT

MODULE 1: INTRODUCTION TO FORENSIC DOCUMENT EXAMINATION

The purpose of this module is to give the trainee an overview of the functions of the Washington State Patrol Questioned Document Laboratory, the history of Forensic Document Examination, methodology and procedures, overview of the various examinations performed, and the theories and principles governing Document Examination.

LEARNING OBJECTIVES:

1. Describe the history of Forensic Document Examination, including pioneers in the field, related literature, and famous cases.
2. Identify the qualifications and training a Forensic Document Examiner should have and organizations related to the field.
3. Summarize the practices and procedures applicable to the methodology and evidence control as described in the QD TPM.
4. Identify other fields dealing with handwriting and their relationship to Forensic Document Examination.
5. Briefly describe the various types of examinations and evidence that are involved in Forensic Document Examination, the equipment, and resource available in the field.

6. Explain the mission of the Washington State Patrol, Forensic Laboratory Services Bureau, and the functions of the Questioned Document Laboratory in support of that mission.

REFERENCE LIST:

See SWAFDE Module 1 Reference List, pgs. 311-312

ASTM Standard E 1658-08

ASTM Standard E 2388-05

ASTM Standard E 444-09

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 2-7, 32

Beyerstein, Barry L. and Dale F. Beyerstein, eds. The Write Stuff. New York: Prometheus Books. 1992.

Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapters 1-2

MODULE 2: HANDWRITING EXAMINATION

This module will enable the trainee to develop the knowledge and skills to examine handwriting, hand printing, and signatures. By obtaining knowledge of the proper procedure for examining handwriting, the trainee will be able to carry out examinations of handwriting.

LEARNING OBJECTIVES:

1. Describe the history and development of handwriting, including handwriting styles taught during different time periods across the globe.
2. Briefly explain the principles of, and processes underlying motor control and learning to write.
3. Express the theories and principles of handwriting identification.
4. Identify and explain the various handwriting characteristics.
5. Distinguish between Style Characteristics, Class Characteristics, and Individual Characteristics.
6. Outline the internal and external factors that affect handwriting.
7. Demonstrate the procedures involved in a handwriting examination and explain the range of possible conclusions by preparing a basic case for examination and creating a preparatory report.
8. Demonstrate knowledge of ethnic writing characteristics.

REFERENCE LIST:

See SWAFDE Module 2 Reference List, pgs. 313-323

ASTM Standard E 2195-09

ASTM Standard E 2290-07a

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 8-12

Huber, Roy A and A.M. Headrick. Handwriting Identification: Facts and Fundamentals. New York: Taylor and Francis Group. 1999.

Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapters 4-6, 11-16

MODULE 3: TYPEWRITTEN DOCUMENTS

This module will enable the trainee to identify typewritten documents and distinguish different types of typewritten processes. The trainee will also develop skills to classify typewritten text and conduct and examination and comparison between questioned and known typewriting, and different types of typewriters.

LEARNING OBJECTIVES:

1. Outline the history of typography, and the development of the keyboard and typewriter.
2. For each category of typewriter: List and explain the fundamentals of operation, distinguishing features, and class and individual features.
3. Demonstrate suitable examination techniques for the classification of questioned typewriting.
4. Demonstrate suitable examination techniques for the comparison of questioned and known typewriting.
5. Demonstrate suitable examination techniques for the comparison of questioned typewriting and known typewriters.
6. Demonstrate suitable examination techniques for carbon ribbon or correction tape comparisons.

REFERENCE LIST:

See SWAFDE Module 3 Reference List, pgs 324-328

ASTM Standard E 2494-08

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 15.

Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapter 22

MODULE 4: PRINTING PROCESSES

This module will enable trainee document examiners to initially identify different types of printing processes by utilizing laboratory equipment and fundamental examination procedures. The trainee may then establish a foundation and background in printing processes for the purposes of comparisons between questioned and known documents.

LEARNING OBJECTIVES:

1. Learn printing process terminology and become familiar with various processes.
2. Designate periodic intervals to review samples and secure documents microscopically.
3. Demonstrate the various techniques used in the examination of printing processes.
4. Keep updated information and samples on new printing process technology through various sample sources and technical articles.
5. Understand parameters of the scope of printing process examinations by the forensic document examiner and know when to suggest and or consult with printing process experts.

REFERENCE LIST:

See SWAFDE Module 4 Reference List, pgs. 329-331

ASTM Standard E 2389-05

ASTM Standard E 2390-06

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 14, 16-19, 23

MODULE 5: MECHANICAL DEVICES

This module will enable the trainee to develop the knowledge and skills to carry out standard and appropriate forensic examination techniques and determine the features of mechanical devices. By obtaining knowledge of the manufacturing processes of mechanical devices, the trainee will be able to classify, differentiate, and identify the type of machine, or actual machine, used to produce a document.

LEARNING OBJECTIVES:

1. Outline the history, development, and types of mechanical devices commonly associated with forensic document examination.
2. Explain the general features and characteristics of mechanical devices commonly associated with forensic document examination.
3. Identify and describe the class characteristics that assist in determining the type of machine used to produce a document.
4. Obtain known specimens from a mechanical device, then describe the features identifying the actual machine producing the document
5. Explain the process of identifying printing plates.

REFERENCE LIST:

See SWAFDE Module 5 Reference List, pgs. 332-338

ASTM Standard E 2285-08

ASTM Standard E 2286-08a

ASTM Standard E 2289-08

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 20 and 21

MODULE 6: PAPER

This module will enable the trainee to develop the knowledge and skills to carry out examinations of paper to determine the origin, authenticity, and general properties of paper. By obtaining knowledge of the manufacturing process of paper, the trainee will be able to identify and apply standard and appropriate forensic examination techniques with this type of evidence.

LEARNING OBJECTIVES:

1. List and explain the evolution and the manufacturing process involved in the production of paper.
2. List and explain the properties of paper including the identifiable feature and the various types of paper manufactured.
3. Demonstrate the various techniques used in the examination of paper, including the use of a micrometer.
4. Explain the theory of security papers and their common features.

REFERENCE LIST:

See SWAFDE Module 6 Reference List, pgs. 333-341

ASTM Standard E 2325-05e1

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 24 and 25

MODULE 7: INK AND WRITING INSTRUMENTS

This module will enable the trainee to develop the knowledge and skills to carry out examinations of ink and ink writing to determine the origin, authenticity and general properties of the writing. By obtaining knowledge of the manufacturing process of ink and writing instruments the trainee will be able to identify and apply standard and appropriate forensic examination techniques with this type of evidence, or determine that the evidence is appropriate for a more specialized examination by other personnel.

LEARNING OBJECTIVES:

1. List and explain the evolution of ink and the instruments used to apply ink to paper.
2. List and explain the properties of ink including the identifiable features of the various types of writing instruments.
3. Demonstrate the various techniques used in the examination of ink.
4. Differentiate ink strokes of various writing instruments on paper and determine the stroke direction of a ball point pen and pencil writing.

REFERENCE LIST:

See SWAFDE Module 7 Reference List, pgs. 342-348

ASTM Standard E 1422-05

ASTM Standard E 1789-04

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 13

Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapters 17-19

MODULE 8: PHYSICAL MATCH

This module will enable the trainee to develop the knowledge and skills to carry out physical match examinations to determine whether two or more fragments were at one time joined to form a single object. By obtaining knowledge and understanding the properties of the materials examined, the trainee will be able to identify and apply standard and appropriate forensic examination techniques with this type of evidence.

LEARNING OBJECTIVES:

1. List and explain the types of materials susceptible to physical matches.
2. List and explain the physical properties of materials susceptible to physical matches including the associated identifiable cut or tear patterns.
3. Demonstrate the various techniques used in the examination and preservation of physical matches.

REFERENCE LIST:

See SWAFDE Module 8 Reference List, page 349

ASTM Standard E 2287-09

ASTM Standard E 2288-09

MODULE 9: PRESERVATION AND RECONSTRUCTION

This module will enable the trainee to incorporate the correct techniques and tools to reconstruct damaged documents, such as burnt or charred, wet or water soaked, and shredded or torn. Adequate preservation and reconstruction of the documents may allow partial or full recovery of original information or detail.

LEARNING OBJECTIVES:

1. Explain and demonstrate the process of collecting, preserving and examining, burnt or charred documents.
2. Explain and demonstrate the process of collecting, preserving and examining, wet or soaked documents.
3. Explain and demonstrate the process of collecting, preserving and examining, shredded or torn documents.

REFERENCE LIST:

See SWAFDE Module 9 Reference List, page 350

MODULE 10: INDENTED WRITING

This module will enable the trainee to develop the knowledge and skills to examine paper products to enhance, visualize and record visible and latent indentations.

LEARNING OBJECTIVES:

1. Explain how indentations are produced, including the different types that can be recovered.
2. Demonstrate how to evaluate and record visible indentations.
3. Demonstrate how to visualize, evaluate and record latent indentations.
4. Discuss and demonstrate reporting techniques, including indentation evidence conclusions.
5. List and explain potential interferences in electrostatic detection device examinations.
6. List and demonstrate other uses for electrostatic detection device examinations.

REFERENCE LIST:

See SWAFDE Module 10 Reference List, pgs. 351-354

ASTM Standard E 2291-03

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 26

MODULE 11: ALTERATIONS AND OBLITERATIONS

This module will enable the trainee to develop the knowledge and skills to carry out examinations and identify characteristics that may indicate an alteration has occurred on a document.

LEARNING OBJECTIVES:

1. List the basic types of alterations that can be found on documents.
2. List characteristics of alterations that can be found during the examination of documents.
3. Explain why some characteristics may not be indicative of alterations but may occur in the normal preparation, handling, and storage of documents.
4. Describe the examination techniques that can be used to identify alterations on documents.
5. Demonstrate ability to detect added, altered, obliterated entries.

REFERENCE LIST:

See SWAFDE Module 11 Reference List, page 355

ASTM Standard E 2331-04

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 27

Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapter 10

Hilton, Ordway. Detecting and Deciphering Erased Pencil Writing. Springfield: Charles C. Thomas. 1991.

MODULE 12: LINE SEQUENCING

This module will enable the trainee to develop the knowledge and skills to carry out examinations of line sequences to determine, if possible, the sequence of preparation of various entries occurring on a single document. By obtaining this appropriate knowledge, the trainee will be able to identify and apply standard and appropriate forensic examination techniques with this type of evidence.

LEARNING OBJECTIVES:

1. Recognize the different materials used in the preparation of documents and the limitations they pose to line sequencing problems.
2. List and explain the characteristics that occur at line crossings, which are useful in determining the sequence of lines.
3. Demonstrate the various techniques used in the examination of line sequences.

REFERENCE LIST:

See SWAFDE Module 12 Reference List, pgs. 356-357

MODULE 13: DATING OF DOCUMENTS

This module will enable the trainee to develop the knowledge and skills to carry out examinations of the various materials present in a questioned document to determine, if possible, the date of preparation of the document. By obtaining the appropriate knowledge the trainee will be able to identify and apply standard and appropriate forensic examination techniques with document evidence.

LEARNING OBJECTIVES:

1. Recognize the different materials used in the preparation of documents and the characteristics of these materials that allow for the determination of their age.
2. Understand the premise of commercial availability and the concept of date marks.
3. Demonstrate the various techniques, or an understanding of the techniques, used in the determination of physical or chemical characteristics of the materials used in the preparation of documents.

REFERENCE LIST:

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 28-30
Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapter 21

MODULE 14: COURTROOM PROCEDURES

This module will enable the trainee to develop knowledge and skills in preparing for and addressing court requirements. The trainee will learn court presentation requirements and how to accurately and effectively communicate.

LEARNING OBJECTIVES:

1. List and explain common courtroom procedures for the presentation of the expert witness and his/her testimony.
2. Discuss and demonstrate the advantages and disadvantages of various types of displays used in handwriting demonstration.
3. Discuss and demonstrate commonly encountered weaknesses in the testimony of the expert witness.
4. Explain common techniques used by attorneys to obtain confused or seemingly confused testimony.
5. Discuss and demonstrate how an expert witness should deal with given stressful situations encountered in the courtroom.
6. Prepare a CV, a set of qualifying questions, and a set of questions for direct testimony.

REFERENCE LIST:

See SWAFDE Module 14 Reference List, pgs. 359-361

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 33-38

Osborn, Albert S. The Mind of the Juror. Albany: Boyd Printing Co. 1937.

Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapters 8-9

MODULE 15: SCIENTIFIC INSTRUMENTATION AND LABORATORY EQUIPMENT

This module should be undertaken in the initial part of the program, or in conjunction with each relevant examination style module. This module provides a solid foundation of instrumentation and equipment that will be utilized as part of all document examination procedures. This overview of scientific instrumentation and equipment is required to give a comprehensive explanation of each apparatus with respect to use, operating principles, operating potential, and interpretation of results. This is achieved through theoretical and practical instruction which ensures a clear application involving document examination evidence.

LEARNING OBJECTIVES:

1. Describe the scientific instrumentation or laboratory equipment utilized for each type of examination.
2. Describe the theory of light and spectrum of light and how it applies to the examination of documents.
3. Explain the theoretical principles of operation and generation of results for each instrument or apparatus.
4. Demonstrate the operation, care and maintenance, and calibration procedure for each instrument or apparatus.
5. Understand the basic principles of photography
6. Demonstrate the application of photographic filters on documents.

REFERENCE LIST:

See SWAFDE Module 15 Reference List, pgs. 362-364

Kelly, Jan Seaman and Brian S. Lindblom, eds. Scientific Examination of Questioned Documents 2nd Edition. London: Taylor and Francis Group. 2006. Chapter 31

Baker, Newton. The Law of Disputed and Forged Documents. Charlottesville: The Michie Co. 1955. Chapters 3, 7

Reis, George. Photoshop CS3 for Forensic Professionals. Indianapolis: Wiley Publishing Inc. 2007.

MODULE 16: COGNITIVE BIAS

This module should be undertaken in the initial part of the training program. This module will provide the trainee with an introduction to Cognitive, Contextual, and Confirmation Bias and its role in forensic science. This overview will give the trainee the resources to become familiar with the different types of bias that can affect forensic science. This module will enable the trainee to develop the knowledge to recognize and minimize bias during the testing of document evidence.

LEARNING OBJECTIVES:

1. Describe the different types of bias that can affect forensic science.
2. Explain how to recognize bias.
3. Describe the steps a forensic scientist can take to minimize bias.

REFERENCE LIST:

Dror, Itiel E. Practical Solutions to Cognitive and Human Factor Challenges in Forensic Science. Forensic Science Policy & Management. 2013; 4(3-4): 1-9.

Dror, Itiel E., Kornfield, Irv, Krane, Dan, Meissner, Christian A., Risinger, Michael, Saks, Michael, Thompson, William C. Context Management Toolbox: A Linear Sequential Unmasking (LSU) Approach for Minimizing Cognitive Bias in Forensic Decision Making. Journal of Forensic Sciences 2015; 60(4): 1111-1112.

Dror, Itiel E. Cognitive Neuroscience in Forensic Science: Understanding and Utilizing the Human Element. Philosophical Transactions B, The Royal Society Publishing. 2015; 370: 1-8.

Found, Bryan. Deciphering the human condition: the Rise of Cognitive Forensics. Australian Journal of Forensic Sciences. 2015; 47(4): 386-401.

Stoel, R. D., Berger, Charles, Dror, Itiel, Kerkhoff, Wim, Mattijssen, Ervin J. A. T. Minimizing Contextual Bias in Forensic Casework. Forensic Science and the Administration of Justice: Critical Issues and Directions. Chapter 5: 67-86.