



# OBJECTIVES FOR TRAINING

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## FOREWORD

The American Board of Forensic Document Examiners, Inc. was organized with the goal of establishing standards of qualification for this scientific field. In keeping with this goal, the Board initially prepared and published the first edition of the Objectives for Training. The second edition also promotes this principle and is designed to be in keeping with published codified standards such as those set forth by ASTM International.

In addition, the objectives outlined in this publication are designed to:

1. Establish what the Board considers to be essential aspects of training and a minimum level of competency;
2. Assist those desiring to establish training programs;
3. Ensure that training programs provide the education and experience necessary to successfully complete certification testing; and
4. Assist those seeking information regarding qualifications of forensic document examiners.

The Board recognizes the existence of numerous outlines for training programs that, when followed, should provide the basis to meet these objectives.



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## INTRODUCTION

The Board recognizes the necessity for long-term mentor affiliation between trainee and principal trainer. A proper training program will provide a proper assessment of a trainee's strengths and weaknesses, a better record of training experience and scope, uniformity in training, and a basis for the determination that the Objectives for Training have been met.

The Board recognizes the following as the training standard of our field and as necessary aspects of a training program:

1. The program is a minimum of two years of full-time training in duration within a four-year timeframe.
2. The training is conducted under the full-time direct tutelage of a principal trainer who is a qualified forensic document examiner.
3. The training program includes each aspect of forensic document examination.
4. Participants of the training program can demonstrate a level of competency appropriate for conducting all aspects of forensic document examination and are capable of successfully completing ABFDE certification testing.
5. The trainee will have access to appropriate literature and instrumentation appropriate to the areas of instruction.
6. Appropriate documentation of the training program will be maintained.

The following provide sources of supplemental training but are not recognized as the primary source or sources of training and are not intended to replace a two-year full-time training program:

1. Distance learning courses;
2. Short term affiliation with forensic document examiner;
3. Short courses, classes, programs, or training conferences recognized by the Board. Commonly these courses range from a few days to a few weeks in duration and can be offered by private organizations or law enforcement agencies; and
4. Attendance at meetings, seminars, workshops, or conferences recognized by the Board.



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An important part of training is the selection of participants. Recommended qualifications for a candidate to a training program include the following:

1. Possession of a baccalaureate degree from an accredited college or university in a science, police science, or related area;
2. Documentation of natural or corrected vision of 20/20 in each eye;
3. Documentation of successful color and form blindness tests; and
4. Good oral and written communications skills.

As important as the selection of a good trainee candidate is the selection of a well-qualified instructor. Recommended qualifications for an instructor include the following:

1. A forensic document examiner eligible for certification by the American Board of Forensic Document Examiners, Inc.;
2. Active participation in Board recognized regional or national professional organizations involving forensic document examination;
3. Completion of a two year training program in keeping with the Board and these objectives and has at least 5 years full time post-training experience in the field;
4. A history of written and published research papers of scientific merit;
5. Court testimony as an expert witness in the field of forensic document examination on at least twenty occasions; and
6. Experience providing instruction in forensic document examination to investigators, college students, or other trainees.

These objectives for training are designed to provide for a well-rounded basis of knowledge and experience essential for becoming a fully qualified forensic document examiner. It is recognized that some agency needs will require special emphasis on certain portions of the discipline. However, the special emphasis should be supplemental to the training and not at the expense of other essential aspects.



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### DEFINITION OF TERMS

An appropriate minimum standard of competency in forensic document examination is achieved through the education, training, and experience gained through a 2 year full-time training program that meets the objectives for training listed in this publication. This level of competency encompasses a working knowledge of aspects routinely found in the daily practice of forensic document examination and/or an understanding of the principles surrounding these practices along with peripheral areas of examination that arise infrequently. This publication defines each term as follows:

**Understand-** To have knowledge of the basic principles or facts. Implies that further research may be needed before conducting certain examinations.

**Working Knowledge-** To have substantial knowledge and case experience. Implies the ability to conduct routine examinations without further research.



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The Objectives for Training lists the most fundamental aspects for the training program in forensic document examination. Upon successful completion of a minimum two-year training program, a trainee should have an understanding of the procedures and protocols of each section. In addition, a trainee should also have a working knowledge of the published standard methodologies as applied to routine examinations referenced in these sections.

#### **SECTION I THE FORENSIC SCIENCE LABORATORY**

1. Have an understanding of the history of forensic science.
2. Have an understanding of the various disciplines in forensic sciences.
3. Have a working knowledge of how questioned document examination interacts and differs from other forensic science disciplines, and other handwriting related fields.
4. Have a working knowledge of standard evidence rules with respect to chain of custody, security, preservation, handling, documentation, case organization, storage, and retrieval.
5. Have a working knowledge of note-taking requirements.
6. Have a working knowledge of conclusion and report writing.

#### **SECTION II THE QUESTIONED DOCUMENT SECTION**

1. Have read and studied the recommended textbooks and papers in forensic document examination from the list provided in the Board publication “Syllabus/Bibliography”.



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2. Have a working knowledge of the scientific method and applicable principles behind examinations conducted.
3. Have an understanding of research methodology.
4. Have an understanding of the history of the questioned document field to include well-known cases involving the discipline
5. Have a working knowledge of the ethical responsibilities in forensic document examinations.
6. Have a working knowledge of the theory of individualization and how it applies to forensic document examinations.
7. Have working knowledge of questioned document terminology.
8. Have a working knowledge of standard methodologies for examinations.

## SECTION III LABORATORY EQUIPMENT

1. Have a working knowledge of the use and an understanding of the principles applied in the following equipment:
  - A. Stereoscopic binocular microscope
  - B. Typewriter grids and examination devices
  - C. Electrostatic detection devices
  - D. Infrared, infrared luminescence, and ultraviolet viewing devices
  - E. Comparison microscopes
  - F. Micrometer
  - G. Precision measuring devices
2. Have an understanding of the possible document examination value of the following equipment or procedures:
  - A. Scanning electron microscope
  - B. Spectrophotometer
  - C. Lasers
  - D. Gas chromatography
  - E. Soft X-rays



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- F. High pressure liquid chromatography
- G. Alternative light sources
- H. Computers and peripherals
- I. Other specialized laboratory equipment

### SECTION IV PHOTOGRAPHY AND DIGITAL IMAGING

1. Have an understanding of the basic principles of photography, films and development techniques.
2. Have an understanding of the various types of cameras and digital imaging systems.
3. Have a working knowledge of the forensic value of document photography techniques, such as oblique and transmitted light, on questioned documents.
4. Have a working knowledge of the use of various filters on questioned documents.
5. Have an understanding of the electromagnetic spectrum and the theories applicable to infrared, infrared luminescence, and ultraviolet as applied to document examinations.
6. Have an understanding of digital imaging techniques and editing software.
7. Have a working knowledge of alteration and manipulation techniques.

### SECTION V HANDWRITING – CHARACTERISTICS

1. Have a working knowledge of the difference between class and individual characteristics in handwriting.
2. Have an understanding of the scientific basis for the comparison of handwriting.
3. Have a working knowledge of the elements of handwriting, such as speed, slant, line quality, variation, and skill level.
4. Have an understanding of the various handwriting systems currently used in North America.



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5. Have an understanding of past North American hand writing systems.
6. Have a working knowledge of ethnic characteristics in handwriting.
7. Have an understanding of various foreign handwriting systems.
8. Have an understanding of the physiological and motor skill requirements for writing.
9. Have an understanding of the principle of familial similarity in handwriting.
10. Have a working knowledge of the principle of internal and external influences on handwriting and an understanding of the possible effects on handwriting such as age, drugs, unusual writing positions, etc.
11. Have an understanding of studies of individualization of handwriting.
12. Have an understanding of other writing issues, such as writing prepared using other body parts (i.e. foot writing) or prosthetics.

## SECTION VI HANDWRITING – IDENTIFICATION

1. Have a working knowledge of how handwriting becomes individualized
2. Have a working knowledge of why handwriting contains variation.
3. Have a working knowledge of how to differentiate between variations and differences.
4. Have a working knowledge of the application of appropriate qualitative weight to specific individual characteristics.
5. Have a working knowledge of additional elements involved in the identification of hand printing and numerals.
6. Have a working knowledge of the necessary elements for an identification.
7. Have a working knowledge of the necessary elements for an elimination.





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8. Have a working knowledge for the necessary elements for a various standard qualified opinions.
9. Have a working knowledge of limitations that may affect the examination or the conclusions reached.

### **SECTION VII HANDWRITING – DISGUISE**

1. Have a working knowledge concerning the recognition of disguised or distorted handwriting.
2. Have a working knowledge of the various forms of disguise and their characteristics.
3. Have a working knowledge of the additional examination concerns of ambidextrous subjects.
4. Have a working knowledge of characteristics differentiating disguised handwriting from other abnormal handwriting such as that affected by various physical and mental disorders.

### **SECTION VIII HANDWRITING – KNOWN SPECIMEN STANDARDS**

1. Have an understanding of the various types of known specimen standards.
2. Have a working knowledge of what constitutes adequate known specimen standards.
3. Have an understanding of how to obtain a dictated handwriting standard.
4. Have a working knowledge of common sources for non-request specimen standards.
5. Have a working knowledge of common problems concerning known specimen standards submitted for comparison.



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6. Have an understanding of common techniques that can be used by investigators to discourage disguise in exemplars.
7. Have an understanding of current court requirements regarding admissibility of specimen standards.

### **SECTION IX HANDWRITING – FORGERIES**

1. Have an understanding of the legal definition of forgery.
2. Have a working knowledge of the different types of forgeries, how they are produced, and their unique characteristics.
3. Have an understanding of other methods by which a signature may be reproduced or transferred.
4. Have a working knowledge of differentiating genuine signatures and forgeries.
5. Have a working knowledge of the standard examination methods used to determine the writer of a forgery.
6. Have an understanding of the additional elements associated with extended forged writings.
7. Have a working knowledge of the effects of excessive speed, carelessness, size restrictions, etc., on genuine signatures.
8. Have a working knowledge of how to differentiate between retouching indicative of forgery and similar markings found in genuine signatures.

### **SECTION X TYPEWRITING – GENERAL**

1. Have an understanding of the history of typewriters.



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2. Have a working knowledge of the fundamentals of typewriting comparisons, class and individual characteristics.
3. Have a working knowledge of the various forms of typewriters (i.e., typebar, ball element, printwheel), the differences in their characteristics, and the basic mechanics of the various classes of typewriters.
4. Have an understanding of the manufacture and sale of typewriters and typewriter parts. Have a working knowledge of how this affects typewriter classification.
5. Have an understanding of the various typewriter classification systems available.
6. Have a working knowledge of at least one classification system.
7. Have a working knowledge of what constitutes adequate typewriter standard specimens.
8. Have a working knowledge in the use of typewriter grids.
9. Have a working knowledge of basic typewriter nomenclature.

## **SECTION XI**

### **TYPEWRITING – IDENTIFICATION**

1. Have a working knowledge of characteristics that indicate a certain class of typewriter.
2. Have a working knowledge of what constitutes an individual characteristic.
3. Have a working knowledge of what constitutes sufficient characteristics to warrant an identification or an elimination of a specific machine.



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### **SECTION XII TYPEWRITING – RIBBON**

1. Have a working knowledge of the forensic value of typewriter ribbons.
2. Have a working knowledge of the various types of typewriter and correction ribbons.
3. Have a working knowledge of how to differentiate between fabric and plastic ribbons from a typed specimen.
4. Have a working knowledge of how individual characteristics of a typed text can be caused by the ribbon.
5. Have an understanding of the capabilities of specialized ink testing of typewriter ribbon ink.
6. Have an understanding of paper fiber transfer and its characteristics.

### **SECTION XIII COMPUTER PRINTERS**

1. Have a working knowledge of the various types of printers e.g., dot matrix, thermal, laser, the history of computer printers, and the class characteristics of each.
2. Have a working knowledge of the fundamentals of printer comparisons.
3. Have an understanding of the common class characteristics of computer printers as found on a hard copy.
4. Have a working knowledge of the common individual characteristics of computer printers as found on a hard copy.
5. Have a working knowledge of the different characteristics of impact and non-impact printers.
6. Have a working knowledge of font classification.



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7. Have a working knowledge of what constitutes an individual characteristic.
8. Have an understanding of how various computer hardware and software components can affect a printer.
9. Have an understanding of the multi-typeface capabilities of printers and how this affects examinations and comparisons.
10. Have an understanding of current trends in the printer field.

### **SECTION XIV PHOTOCOPIERS**

1. Have an understanding of the history of photocopiers.
2. Have an understanding of the class characteristics of common copying processes, toners, and fusing methods.
3. Have an understanding of the common class characteristics of photocopiers as found on the copies.
4. Have a working knowledge of the common individual characteristics of photocopiers as found on the copies.
5. Have a working knowledge of alteration and manipulation techniques of photocopies.

### **SECTION XV FACSIMILES**

1. Have an understanding of the history of facsimile machines.
2. Have an understanding of the imaging processes of facsimile machines.
3. Have an understanding of the properties of facsimile machines.
3. Have a working knowledge of basic principles of class and individual characteristics of facsimile machines.



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4. Have an understanding of a TTI classification system.
5. Have a working knowledge of the limitations of examinations of documents produced from a facsimile machine.
6. Have an understanding of alteration and manipulation techniques using facsimile machines.

### **SECTION XVI PRINTING PROCESSES**

1. Have an understanding of the history of printing.
2. Have an understanding of the basic mechanics of the various printing processes.
3. Have a working knowledge of class characteristics of various printing processes to include letterpress, flexography, gravure, intaglio, silk screen, and offset.
4. Have a working knowledge of the basic principals of class and individual characteristics of the printing processes.
5. Have an understanding of the forms of typography.
6. Observe various types of printing presses in operation.
7. Have a working knowledge of security features in printed documents.
8. Have a working knowledge of the common methods used in counterfeiting.

### **SECTION XVII OTHER MECHANICAL DEVICES**

1. Have an understanding of the basic mechanics involved in the manufacture and use of checkwriters, notary seals, rubber stamps, price marking devices, writing machines, adding machines, and cash registers.



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2. Have an understanding of how various mechanical devices develop individual characteristics and how they affect the final product.
3. Have a working knowledge of the characteristics of a signature prepared by a writing machine.
4. Have a working knowledge of domestic manufacturer characteristics of checkwriter impressions.
5. Have a working knowledge of what constitutes proper and adequate known specimen standards.

## SECTION XVIII INK

1. Have an understanding of the history of ink and various writing instruments and how they are currently manufactured.
2. Have a working knowledge of physical properties of ink.
3. Have a working knowledge of writing instrument characteristics.
4. Have a working knowledge of non-destructive differentiation tests that can be performed on ink.
5. Have an understanding of the possibility of examinations for sequence of strokes, direction of an ink line and pressure of strokes.
6. Have an understanding of destructive analyses of ink, such as thin layer chromatography.
7. Have an understanding of the limitations of ink comparison tests.
8. Have an understanding of various techniques available to date a document by ink.
9. Have an understanding of the use and detection of common invisible inks.



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### **SECTION XIX PAPER**

1. Have an understanding of the history of paper and how it is currently manufactured.
2. Have a working knowledge of non-destructive differentiation tests that can be performed on paper.
3. Have a working knowledge of the physical properties of paper, such as size, color, watermarks, security features, etc.
4. Have an understanding of destructive and non-destructive tests that can be performed on paper.
5. Have an understanding of the limitations of paper comparison tests.
6. Have an understanding of various techniques available to date a document by paper.
7. Have a working knowledge of edge matching.

### **SECTION XX ALTERATIONS, OBLITERATIONS, INDENTED IMPRESSIONS, AND ERASURES**

1. Have a working knowledge of types of alterations and obliterations.
2. Have a working knowledge of characteristics of alterations and obliterations.
3. Have a working knowledge of characteristics of physical and chemical erasures.
4. Have a working knowledge of detection and decipherment techniques used in the examination of alterations, obliterations, and erasures.
5. Have a working knowledge of techniques to differentiate alterations and original entries.
6. Have a working knowledge of techniques to restore various forms of obliterated text.





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7. Have a working knowledge of methods to detect and decipher indented impressions.
8. Have a working knowledge and experience using an electrostatic detection device.

### **SECTION XXI MISCELLANEOUS DOCUMENT PROBLEMS**

1. Have an understanding of various techniques for dating a document. Have an understanding of the limitations of document dating.
2. Have an understanding of techniques and common solutions used to restore and preserve charred documents.
3. Have an understanding of various photographic or imaging techniques used to decipher charred documents.
4. Have an understanding of the possible forensic value involved with staples, tape, adhesives, binding material, and folds.

### **SECTION XXII COURTROOM TESTIMONY**

1. Have an understanding of general codes of conduct and dress expected in a courtroom.
2. Have an understanding of court procedures regarding expert testimony.
3. Have a working knowledge of expressing technical findings in non-technical terms.
4. Have a working knowledge of court citations involving various aspects of questioned document examination testimony.
5. Have an understanding of critical review of forensic document examination testimony.
6. Have an understanding of the strengths and weaknesses of various forms of demonstrative aids and be able to lay out and prepare at least one form effectively.



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7. Prepare a series of individualized voir dire and direct examination questions and a current curriculum vitae.
8. Observe the pretrial conference and testimony of experienced document examiners in several instances.
9. Testify in several mock trials.

## SECTION XXIII RESEARCH AND DEVELOPMENT

1. Keep abreast of current research results through the study of board recommended periodicals, attendance at Board recognized professional organization meetings, and review of research papers.
2. Have an understanding of the effect of current technology trends on the questioned document field.
3. Have a working knowledge of published methodologies in the field.
4. Conduct a research project culminating in a formal research paper. Present the paper at a Board recognized professional organization meeting.