

CERTIFICATION OF CRIMINALISTS

AB 1079 Crime Laboratory Task Force – May 6, 2009

Jennifer Mihalovich and Greg Matheson

Certification

- Certification is the process by which individual practitioners of a profession are deemed competent by a peer review process to practice that profession.

Licensure

- The granting of a license, which gives a 'permission to practice.' Such licenses are usually issued in order to regulate some activity that is deemed to be dangerous or a threat to the person or the public or which involves a high level of specialized skill. The danger and skill elements inspire governments not to allow a free-for-all, but to regulate the activity, and licensing is a well-established and convenient method of regulation.

- In the case of certain occupations and professions, licensing is often granted through a professional body or a licensing board composed of advanced practitioners who oversee the applications for licenses. This often involves accredited training and examinations.
- Many privileges and professions require a license, generally from the state government, in order to ensure that the public will not be harmed by the incompetence of the practitioners. Engineering, medical practitioners, nurses, lawyers, psychologists, and public accountants are some examples of professions that require licensure. Licensure is similar to professional certification, and sometimes synonymous; however, certification is an employment qualification and may not a legal requirement for practicing a profession.

History of Certification / Licensure

- Doctors, lawyers, teachers, architects, accountants, engineers, and others are required to demonstrate a level of competence that has been established by their peers to be the minimum qualifications necessary to be able to provide their professional services to the public.
 - The remaining discussion will use the term certification. It is recognized that certain professions require a license versus certification.

History of Certification - Medical

- American Board of Medical Specialties Board
Certification for medical doctors was established
On June 11, 1933, a handful of physicians met to talk about the education and certification of medical specialists.
- The Advisory Board for Medical Specialties created the framework for standards of excellence in the various specialties that physicians pursue and the public relies upon.

History of Certification - Legal

- The first State Board of Law Examiners in California was established in 1919 by order of the California Supreme Court.
- The name was changed in 1927 when The State Bar of California was officially established
 - ▣ Committee of Bar Examiners is responsible for administering the requirements for admission to practice law in California.

History of Certification – CPA

Certified Public Accountant

- Self-regulation by the accounting profession can be traced to just after the Securities and Exchange Commission was established by the Securities Act of 1933 and the Securities Exchange Act of 1934.
- The SEC was given statutory authority to set accounting standards and oversight over the activities of auditors.
- The role of establishing auditing standards was left to the accounting profession.

History of Certification - Architects

- The California Architects Board was created in 1901 by the California Legislature to fulfill the mission of protecting the health, safety, and welfare of the public through the regulation of the practice of architecture in California.

History of Certification - Engineers

- **1965** NCSBEE Fundamentals of Engineering (FE) examination.
- **1966** NCSBEE Principles and Practice of Engineering (PE) examination.
- **1973** NCEE Fundamentals of Surveying (FS) examination.
- **1974** NCEE Principles and Practice of Surveying (PS) examination.
- **1979** NCEE Records Program is created to replace the National Engineering Certificate.
- **1984** All Member Boards use uniform national engineering examinations.

History of Certification – Cosmetologists / Barbers

- 1927 - Board of Barber Examiners and Board of Cosmetology established
- 1992 - Board of Barber Examiners and Board of Cosmetology merged to create the Board of Barbering and Cosmetology
- 1997 - the Board of Barbering and Cosmetology was eliminated by the California Legislature. Duties, powers, and functions of the Board were transferred to the Department of Consumer Affairs administered by the Bureau of Barbering and Cosmetology.
- January 1, 2003 - the Board of Barbering and Cosmetology was reinstated.

History of Current “Certified” Professions

- Medical information in the Edwin Smith Papyrus may date to a time as early as 3000 BC. The earliest known surgery in Egypt was performed around 2750 BC
- Ancient Egyptian law, dating as far back as 3000 BC, had a civil code that was probably broken into twelve books.
- The practice of architecture began ~ 10000 BC

History of Current “Certified” Professions

- Ancient economic thought of the Near East facilitated the creation of accurate records of the quantities and relative values of agricultural products. Methods formalized in trading and monetary systems by 2000 BC.

History of Current “Certified” Professions

- Earliest civil engineer known by name is Imhotep. He probably designed and supervised the construction of the Pyramid of Djoser in Egypt around 2630-2611 BC.
- The first archaeological evidence of cosmetics usage is found in Egypt around 3500 BC

History of Criminalistics

- Criminalistics is a very young profession.
 - The first crime laboratory in California was established in 1923 at the Los Angeles Police Department.

Disciplines within Criminalistics

- Biology
- Narcotics
- Fingerprints
- Firearms
- Toxicology
- Trace Evidence
- Crime Scenes
- Questioned Documents
- Digital Evidence (newest discipline)

Oversight of the Profession

- The call for the oversight of the criminalistics profession began in the 1970s.
- The profession began to consider the development of a process of self-review and to establish certification criteria.

Initial Introduction of Certification

- President of the American Academy of Forensic Sciences (AAFS) communicated to the AAFS Executive Committee to recommend certification of forensic scientists and methods for the work done by forensic sciences in 1974.

Initial Introduction of Certification

- Developments in the health care field leading to more professional review and governmental regulation, a study of the forensic sciences by the Forensic Sciences Foundation, and the growth of certification programs such as American Board of Clinical Chemistry and the American Industrial Hygiene Association lead to this recommendation.

Initial Introduction of Certification

- The Committee on Certification was charged with making a recommendation to the Academy regarding the desirability and feasibility of a certification program, and outlining the implementation of such a program.
- Their report was to be presented to the Executive Committee of the Academy in the fall of 1974.

Criminalistics Certification Study Committee

- Criminalistics Certification Study Committee (CCSC) formed by the AAFS in 1976
 - A plan for certification of criminalists was being developed in conjunction with the Forensic Sciences Foundation with a grant obtained from the Law Enforcement Assistance Administration.

CCSC Bylaws

- "The Board of Directors shall establish, maintain, and revise as necessary, standards and qualifications for the granting, issuing, and renewing of certificates and/or other forms of recognition in cognizance of special qualifications in the following specific disciplines of criminalistics: Forensic chemistry; Firearms and/or toolmark identification; Forensic Serology; Particulate Evidence; Imprint Evidence; Generalists, and any other specific discipline the Board from time to time deem appropriate."

CCSC – Definition of Criminalist

- Criminalistics as "that profession and scientific discipline directed to the recognition, identification, individualization, and evaluation of physical evidence by application of physical and natural sciences to law-science matters."
- This was a starting point to develop an evaluation process designed to assess a potential candidate for certification.

California Association of Criminalists

- Founded in 1954 by sixteen practicing criminalists from throughout California
- Oldest established regional forensic science organization in the United States.
- Largest regional professional organization for criminalists with over 700 members

CAC – First Discussion of Certification

- 1975 – Professional certification of criminalists discussed
- 1977 – Certification Committee formed paralleling the CCSC.
 - ▣ "Standards for General Criminalist as a specialist in general criminalist" guidelines were developed.
 - ▣ The first Knowledge, Skills, and Abilities (KSA) for General Criminalist were developed by the CAC Committee.
- 1978 – CAC Certification Committee continues

1. Ability to perform crime scene investigation

- ▣ Crime scene search principles and strategies
- ▣ Evaluation of potential of evidence at scene
- ▣ Knowledge of proper methods for collection and preservation of all types of physical evidence
- ▣ Ability to perform crime scene reconstruction
- ▣ Knowledge of investigative process (relationship of crime scene investigation to overall investigation)
- ▣ Ability to interpret bloodstain patterns

2. Basic scientific knowledge relating specifically to the field of criminalistics

- ▣ Genetics
- ▣ Statistics
- ▣ Scientific method
- ▣ Instrumental analysis
- ▣ Familiarity with scientific literature
- ▣ Ability to research scientific literature
- ▣ Immunology
- ▣ Physics
- ▣ Geology
- ▣ Photography
- ▣ Forensic pathology
- ▣ Microscopy
- ▣ Material sciences
- ▣ Instrumentation

3. Communication skills

- ▣ Report writing
- ▣ Testimony
- ▣ Oral communication skills
- ▣ Preparation of court exhibits

4. Knowledge of specific evidence types

- Glass
- Hair
- Fibers
- Paint
- Soil
- Botany
- Drugs
- Blood alcohols/Toxicology
- Documents

4. Knowledge of specific evidence types

- Fingerprints
- Firearms, toolmarks
- Physiological fluids
- Explosives
- Firearm patterns, residues
- Personal identification
- Impression evidence
- Wood
- Paternity blood grouping

5. Basic legal knowledge

- ▣ Investigative procedures
- ▣ Rules of evidence
- ▣ Courtroom procedures
- ▣ Criminal codes

6. Basic knowledge of profession

- ▣ Ethical conduct requirements
- ▣ Concepts of identification and individualization
- ▣ Continuing education requirements

Next Step – CCSC & CAC

- The initial proposal from the CAC was taken to the broader national criminalistics community through the efforts of the Criminalistics Certification Study Committee (CCSC) beginning in 1976.

CAC Hiatus of Certification

- In 1977, CAC suspended their work on certification due to the national effort being undertaken by the CCSC.

CCSC National Effort Continues

- A national referendum of practitioners the CCSC's proposal was rejected in 1978.
- In 1980, the CCSC announced its decision not to proceed with the development of a national certification program, there was little incentive to continue working on the project.

CAC Efforts Resumed



- 1986 — CAC Resuming the Certification Process
- November 1987 — Examination Committee Established
- February 1989 — CAC Piloted the Certification Examination

National Efforts Resumed

- July 1988 — National Meeting Hosted by McCrone
- August 1988 — Certification of Criminalists
(Report to the Profession)
- February 1989 — AAFS Annual Meeting
- 1989 — ABC Incorporation
- 1990 — Initial Organization of the ABC
- 1990 — Initial Examination Committee
- 1992/93 — Specialty Examination Development

Certification Effort

- Barnett, P. “Certification Programs for Criminalists – Historical Development”, Forensic Science Review Vol 20 No 1 January 2008 pp19-43

Certifying Bodies

- American Board of Criminalistics
- American Board of Forensic Document Examiners
- American Board of Forensic Toxicology
- American Board of Medicolegal Death Investigators
- Board of Forensic Document Examiners
- American Board of Forensic Document Examiners
- International Institute of Forensic Engineering Sciences
- Association of Firearms and Toolmark Examiners
- American Board of Pathology
- Digital Forensics Certification Board

Certifying bodies

- International Association for Identification
 - Bloodstain Pattern Analysis
 - Crime Scene Investigation
 - Footwear
 - Forensic Art
 - Forensic Photography/Imaging
 - Latent Print
 - Tenprint Fingerprint



American Board of Criminalistics

ABC Purpose

- The American Board of Criminalistics (ABC) was formed by a majority of the nation's forensic science associations to establish a certification process.

- The current ABC member organizations are:
 - ▣ California Association of Criminalists
 - ▣ Northeastern Association of Forensic Scientists
 - ▣ Mid-Atlantic Association of Forensic Scientists
 - ▣ Southern Association of Forensic Scientists
 - ▣ Midwestern Association of Forensic Scientists
 - ▣ American Academy of Forensic Science – Criminalistics Section
 - ▣ ASTM Committee E30 (Forensic Science)
 - ▣ American Society of Crime Laboratory Directors (ASCLD)

ABC Objective

- To set and measure professional levels of knowledge, skill and abilities.
- To guide professionals in the attainment of professional levels of competence.
- To provide a means of evaluating the competence of practitioners.
- To provide a formal process for the recognition of practitioners who meet the professional level of competence.

ABC Rules of Professional Conduct

- The rules describe conduct in the profession of forensic science (criminalistics) and are meant to encompass not only work done by Applicants, Affiliates, Fellows and Diplomates, but to the extent possible, work supervised by them as well.
- They meet general acceptance by peers in that profession.
- They specify conduct that must be followed in order to apply for, receive, and maintain the certification status provided for by the American Board of Criminalistics.

ABC Rules of Professional Conduct

- Comply with the By-laws and regulations of the ABC.
- Treat all information from an agency or client with the confidentiality required.
- Treat any object or item of potential evidential value with the care and control necessary to ensure its integrity.
- Ensure that all probative exhibits in a case receive appropriate technical analysis.
- Ensure that appropriate standards and controls to conduct examinations and analyses are utilized.

ABC Rules of Professional Conduct

- Ensure that techniques and methods which are known to be inaccurate and/or unreliable are not utilized.
- Ensure that a full and complete disclosure of the findings is made to the submitting agency.
- Ensure that work notes on all items, examinations, results and findings are made at the time that they are done, and appropriately preserved.
- Render opinions and conclusions strictly in accordance with the evidence in the case (hypothetical or real) and only to the extent justified by that evidence.

ABC Rules of Professional Conduct

- Testify in a clear, straightforward manner and refuse to extend themselves beyond their field of competence, phrasing their testimony in such a manner so that the results are not misinterpreted.
- Not exaggerate, embellish or otherwise misrepresent qualifications, when testifying.
- Consent to, if it is requested and allowed, interviews with counsel for both sides prior to trial.
- Make efforts to inform the court of the nature and implications of pertinent evidence if reasonably assured that this information will not be disclosed to the court.

ABC Rules of Professional Conduct

- Maintain an attitude of independence and impartiality in order to ensure an unbiased analysis of the evidence.
- Carry out the duties of the profession in such a manner so as to inspire the confidence of the public.
- Regard and respect their peers with the same standards that they hold for themselves.
- Set a reasonable fee for services if it is appropriate to do so, however, no services shall ever be rendered on a contingency fee basis.
- Find it appropriate to report to the Board any violation of these Rules of Professional Conduct by another Applicant, Affiliate, Fellow or Diplomate.

ABC Examinations

- Comprehensive Criminalistics Examination (CCE)
 - a comprehensive examination covering all disciplines found in a crime laboratory as well as the areas of safety and ethics.
- Drug Analysis (DA)
- Molecular Biology (MB)
- Fire Debris Analysis (FD)
- Trace Evidence- Hairs and Fibers (THF)
- Trace Evidence – Paints and Polymers (TPP)

ABC Levels of Certification

- **Diplomate**
 - ▣ Successful passing of an ABC exam
 - ▣ Continuing Education
 - ▣ Continuing professional involvement
- **Fellow**
 - ▣ Successful passing of an ABC exam
 - ▣ Continuing Education
 - ▣ Continuing professional involvement
 - ▣ Successful passing of a proficiency test
- **Affiliate**
 - ▣ Successful passing of an ABC exam
 - ▣ Certificate eligible

ABC Diplomate Qualification Criteria

□ *Education*

- a minimum of an earned baccalaureate degree, or equivalent, in a natural science or an appropriately related field from an accredited institution.

□ *Professional Experience and Training*

- a minimum of two years full-time experience (including on-the-job training)
- actively working in Criminalistics (casework, teaching at the post-secondary level, research, supervision, management).

ABC Diplomate Qualification Criteria

- Diplomate status is designed for laboratory directors, supervisors, educators, or where Specialty Examinations have not been planned or developed, (e.g. explosives, soils, etc.) or those no longer able to maintain the proficiency testing requirement for their Fellow status.

ABC Fellow Qualification Criteria

- Fulfill all requirements for Diplomate status
- Document current successful participation in an approved proficiency testing program in either the designated specialty areas or in any area of forensic science for the Comprehensive Criminalistics Examination.
- A minimum of two years experience in the specialty area.
- An ABC Fellow certificate signifies that the analyst is qualified to conduct examinations in the specialty area.

ABC Affiliate Qualification Criteria

□ *Education*

- a minimum of an earned baccalaureate degree, or equivalent, in a natural science or an appropriately related field from an accredited institution.
- Exception: A student graduating at the end of the semester or trimester may sit for the examination if a letter from their professor is provided verifying their graduation status.
- An individual who meets all requirements for certification except for the two year forensic laboratory or teaching experience may sit for any examination and upon successful completion of the examination they become “Certification Eligible” until they complete their two years experience in the specialty tested.

ABC GKE KSA's

- Evidence Collection and Preservation
- Evidence Examination and Data Interpretation,
- Laboratory Safety
- Instrumental/Equipment Usage
- Communication - Report Writing
- Communication - Legal Aspects and Court Testimony
- Rules of Professional Conduct and Code of Ethics
- Forensic Science and Other Applicable Literature

ABC Generic KSA's for all Specialties

- History
- Crime Scene Preservation
- Crime Laboratory Operations-Overview
- Quality Assurance and Quality Control
- Safety
- Legal
 - ▣ Frye
 - ▣ Daubert/Kumho
 - ▣ Brady
- Ethics
- Evidence Handling
- Principles and concepts

ABC Generic KSA's for all Specialties

- Evolution of the discipline
- Results and Conclusions
- General Science Terms and Principles
 - ▣ Definitions and applications
 - ▣ General Chemistry Concepts
 - ▣ General Biology Concepts
 - ▣ General Physics Concepts
 - ▣ General Physiology and Anatomy Concepts
 - ▣ General Statistics
 - ▣ Stoichiometry
 - ▣ Logic
 - ▣ Metric System

ABC Drug KSA's

- Types of drug evidence/composition
- Evolution of the seized drug analysis
- Analysis of Botanicals
- Qualitative Analysis of Controlled Substances
- Quantitative Analysis
- Separation Techniques
- Color Tests
- Thin Layer Chromatography
- Microscopy
- Crystal tests

ABC Drug KSA's

- Instrumentation
 - Gas Chromatography
 - High Pressure Liquid Chromatography
 - Ultraviolet Spectrophotometer
 - Raman Spectrometry
 - Mass Spectrometry
 - Infrared Spectroscopy
 - Capillary Electrophoresis
 - Nuclear Magnetic Resonance Spectroscopy (NMR)

ABC Hairs and Fibers KSA

- Properties of hairs and fibers that allow their characterization, comparison, identification
- Suitability of hairs for nuclear or mitochondrial DNA analysis
- Methods of production/manufacture of fibers and textiles and how they affect the product characteristics
- Occurrence of Hair and Fiber Evidence
- Process Analysis
- Light Microscopy
- Infrared, Raman, Visible, Ultraviolet, Fluorescence, Near Infrared spectrometry
- Gas Chromatography with various detectors and sample introduction techniques (mass spectrometers, pyrolysis)
- Other techniques used in hair and fiber analysis
 - ▣ LC/MS and CE/MS for dyes/additives
 - ▣ TLC for dyes

ABC Paints and Polymers KSA

- Methods of production/manufacture of paints and polymers
- Processes commonly used in the application of paints and coatings
- Fracture match examinations
- Properties of paints and polymers that allow their characterization, comparison, and identification
- Light Microscopy
- Electron microscopy (scanning and transmission)
- Elemental analysis by spectrometry techniques such as energy dispersive X-ray spectrometry, wavelength dispersive spectrometry, Inductive coupled plasma mass spectrometry
- Infrared, Raman, Visible, Ultraviolet, Fluorescence, Near Infrared spectrometry
- Gas Chromatography with various detectors and sample introduction techniques (mass spectrometers, pyrolysis)
- X-Ray Diffraction
- High Pressure Liquid Chromatography with various detectors
- Thin Layer Chromatography

ABC Molecular Biology KSA

- Biological Screening Tests
 - Locating body fluid stains
 - Amylase/saliva
 - Blood
 - Feces
 - Semen
 - Urine

- Anatomy, Physiology, Reproductive Biology
- Cellular and Molecular Biology
- Genetics
- Developmental Biology
- Biochemical Kinetics
- Population Genetics

ABC Molecular Biology KSA

- Phylogeny and Evolution
- Non-human Molecular Applications
- Types of evidence
- Casework documentation and reporting, Results and Conclusions
- Visualization tools/techniques
 - ▣ Microscopy
 - ▣ Electrophoresis
 - ▣ Fluorescence
- Isolation and purification of nucleic acids
- Quantification (yield gel, hybridization, real time qPCR)
- Polymerase Chain Reaction
- DNA Typing Technology

ABC Fire Debris KSA

- Explosive limits
- Chemistry and Physics of Fire
- Manufacture of petroleum based ignitable liquids
- Incendiary chemicals, compounds and common initiation devices
- Dynamic Headspace Adsorption
- Passive Headspace Adsorption
- Other techniques
- Gas Chromatography
- Mass Spectrometry
- Analysis Scheme

ABC

Revocation of Certification

- An intentional misstatement or misrepresentation, or concealment or omission, of a material fact or facts in an application or any other communication to the Board or its representative(s).
- Conviction of an applicant for certification or holder of a certificate by this Board by a court of competent jurisdiction of a felony or of any crime involving moral turpitude.

ABC

Revocation of Certification

- Issuance of a certificate contrary to or in violation of any of the laws, standard rules, or regulations governing the Board and its certification programs at the time of its issuance; or determination that the person certified was not in fact eligible to receive such certificate at the time of its issuance.
- Violations of the Rules of Professional Conduct of the ABC by an applicant or holder of a certificate of this Board.

ABC Recertification

- The certification is valid for five years. All certificates will expire on the fifth anniversary of the Diplomate or Fellow Certificate.
 - ▣ continued participation in the field of Forensic Sciences through training, casework, publishing, etc. or by retesting.
 - ▣ Fellows must successfully participate in annual external proficiency test. Fellows must obtain at least fifteen points of their fifty recertification points engaging in professional development activities directly related to their specialty area.



Association of Firearms and Toolmark Examiners

AFTE – History

- AFTE is a non-profit, professional organization composed primarily of practicing Firearm and Toolmark Examiners.
- It has over 600 members located in more than 30 countries throughout the world.
- It was founded in 1969 in Chicago, IL.
- AFTE publishes its own peer-reviewed journal on a quarterly basis.

AFTE – History

- Certification has been a subject of contention within AFTE since the late 1970s when several AFTE members served as part of the Criminalistics Certification Study Committee.
- Dormant until the early 1990s when the AFTE Board of Directors established an ad hoc committee to study the feasibility of certification.

AFTE – History

- 1993 a committee monitored the certification efforts of other professional organizations such as the California Association of Criminalists, the Northeast Association of Forensic Scientists, the Mid Atlantic Association of Forensic Scientists, the Southeast Association of Scientists, the Southwest Association of Forensic Scientists, the American Board of Criminalistics.
 - ▣ CAC and potentially the ABC initiated a certification program for Firearm and Toolmark

- The goal of the committee was changed to the development of a Certification Program for AFTE.
 - ▣ This change approved by the AFTE membership at the annual business meeting in 1994.

AFTE – History

- 1994 – An extensive Certification Survey
- 1995 – a Certification Program which was presented to the AFTE membership and was voted down by a wide margin.
 - ▣ A special mail vote of the membership mandated that the committee revise the plan for future consideration.
- 1996 – A revised Certification Program passed by a narrow margin; however, a motion to fund the program was defeated.

AFTE – History

- 1997 – Grant awarded for the development and validation a series of certification examinations.
- 1999 – The AFTE Board of Directors agreed to offer the written certification examinations free of charge to the first 100 eligible applicants at the 1999 Annual Training Seminar in Williamsburg, VA.
- The revised written certification examinations were offered to eligible AFTE members at the 2000 Annual Training Seminar.

AFTE – History

- *Data from the Fall 2000 AFTE Journal and details the development of the AFTE Certification Program.*

“Summary Report on the Development of Certification Examinations for Practicing Firearm and Toolmark Examiners”.

*Kenneth F. Kowalski, M.S. Project Director,
Arizona Department of Public Safety*

AFTE Certification Subjects

- Three subject areas
 - ▣ Firearm Evidence Examination and Identification
 - ▣ Toolmark Evidence Examination and Identification
 - ▣ Gunshot Residue Evidence Examination and Identification.

- Certification Requirement
 - ▣ An applicant must pass both a written examination and a practical examination to be certified in that subject area.

AFTE Qualification Criteria as of June 1, 2006

- Training and experience equivalent to the Course of Studies described in the AFTE Training Manual.
- Three years paid experience as a court qualified Firearms and/or Toolmark Examiner. Training and experience must equate to five years of total experience as a Firearms and/or Toolmark Examiner.

AFTE Qualification Criteria as of June 1, 2006

- Applicants will be required to possess an earned baccalaureate degree from an accredited academic institution with major course work in physical science, natural science, forensic science, criminalistics, criminal justice, police science, industrial technology or related fields of study.

AFTE Knowledge Factors

- ❑ Laboratory Equipment
- ❑ Firearms/Ammunition
- ❑ Collection/Preservation of Evidence
- ❑ Ballistics
- ❑ Safe Work Practices
- ❑ Distance Determination
- ❑ Firearms Design and Identification
- ❑ Documentation of Physical Evidence and Analytical Results
- ❑ Professional Development
- ❑ Toolmark Identification
- ❑ Firearms-Related Tools
- ❑ Examination of Evidence
- ❑ Maintaining Professional Ethical Standards of Conduct
- ❑ Tools/Equipment

AFTE Skills Factors

- Collection of Evidence
- Serial Number Restoration Techniques
- Firearms
- Firearms-Related Tools
- Gunshot Residues
- Firearms Safety
- Laboratory Techniques
- Laboratory Equipment

AFTE Abilities Factors

- Ballistics
- Firearms/Ammunition Analysis
- Examination/Documentation of Evidence
- Gunshot Residues
- Ammunition Components
- Firearms Design
- Collection of Evidence
- Matters and Procedures of Evidence Examination
- Dissemination of Evidence and Analytical Results
- Safe Work Practices
- Testifying in Legal Proceedings
- Professional Development
- Toolmark Identification
- Preservation of Evidence

AFTE - Recertification

- Every five years
- Continuous training
- Demonstration of proficiency in the subject matter areas certified
- Required to take a proficiency test annually for each area certified
 - ▣ no commercially available GSR exam
 - ▣ in-house tests and external exams from another laboratory are acceptable
- Working in the forensic sciences
 - ▣ performing and reporting examinations, supervising those that perform/report examinations, conducting research, developing methods or training others in the subject matter areas.
- Any member who falsifies recertification documentation is subject to permanent loss of AFTE Membership.

AFTE

Revocation of Certification

- Revocation of certification is not final until the practitioner has had an opportunity to represent himself in accordance with the AFTE Bylaws and the AFTE Code of Ethics.
- Certified status may be reestablished upon reinstatement of AFTE membership or if sufficient evidence is presented to absolve the practitioner of all charges.



International Association of Identification

IAI – History

- The first IAI certification program was initiated for the Latent Print discipline in 1977.
- Since then, several other certification programs have been developed within IAI.

IAI Certification Boards

- Bloodstain Pattern Examiner Certification
- Crime Scene Certification
 - ▣ Level I -- Certified Crime Scene Investigator
 - ▣ Level II -- Certified Crime Scene Analyst
 - ▣ Level III -- Certified Senior Crime Scene Analyst
- Footwear Certification
- Forensic Art Certification
- Forensic Photography Certification
- Latent Print Certification
- Tenprint Fingerprint Certification

IAI Qualification Criteria

- Must be employed in the discipline in which they are applying for certification
- Must be of good moral character, high integrity, good repute, and must possess a high ethical and professional standing
- Require documentation of continued relevant forensic science work experience
- Education and Experience Requirements
 - ▣ Established and approved by each individual Certification Board.
- Training Requirements
 - ▣ Satisfactorily completed a specified training program as developed by the individual Certification Board.
- Endorsements - two letters of endorsement.

Forensic Art Certification

- Qualifications:
 - ▣ Three separate interdisciplinary fields
 - Composite Imaging,
 - Facial Reconstruction
 - Age Enhancement.
 - ▣ 20 hours of training for composite art and facial reconstruction.
 - ▣ 80 hours of training will be required in the field of Age Enhancement.
 - ▣ Two years of active service in the field of forensic art.
 - ▣ Letter stating the status of the applicant's employment with the agency, or the status of the agreement under which the applicants services are provided.

Forensic Art Certification

- Composite Imaging:
 - ▣ Preparation of a suspect image in a criminal case from information gleaned from an interview of a witness or victim.
- Facial Reconstruction:
 - ▣ Preparation of a facial image of a decedent for media transmittal for identification purposes.
- Age Enhancement:
 - ▣ Preparation of an image regarding the appearance of the age of the depicted individual.

Forensic Art Certification

- Examination:
 - ▣ Written test pertaining to all facets of the forensic art / facial imaging field regardless of the applicant's field specialty or chosen endorsement.
- Portfolio Review:
 - ▣ Effectiveness in applying the skills and knowledge in the field of forensic art will be determined by the certification board's review of a professional portfolio as prepared and submitted by the applicant.

Bloodstain Pattern Analysis Certification

□ Training Requirements:

- Minimum of 240 hours of instruction in associated fields of study related to bloodstain pattern analysis/interpretation.
- Forty hours basic bloodstain pattern analysis/interpretation Course.
- Forty hours photography course.
- Crime Scene Investigation
- Evidence Recovery
- Blood Detection Techniques
- Medico Legal Death Investigation
- Forensic Science and Technology

Bloodstain Pattern Analysis Certification

- The Bloodstain Pattern Analysis Certification Board may approve additional topics and courses.
- Experience:
 - ▣ Required 40 hour Basic Bloodstain Pattern Analysis training course
 - ▣ a minimum of three years work experience in which duties include the discipline of bloodstain pattern analysis/interpretation.

Bloodstain Pattern Analysis Certification

- Examination:
 - The exam is divided into two sections.
 - vocabulary, documentation, wound pathology, investigative procedures, bloodstain history and theory, logic, and mathematics.
 - stain and pattern recognition.
 - The minimum passing score on each section of the examination will be 75%.

Crime Scene Certification

- Level 1 – Certified Crime Scene Investigator
 - ▣ Minimum of one year in crime scene related activities.
 - ▣ Minimum of 48 hours of Crime Scene Certification Board approved instruction in crime scene related courses within the last five years.
 - ▣ Must successfully pass a written test with a minimum score of 75%.

Crime Scene Certification

- Level 2 – Certified Crime Scene Analyst
 - Minimum of three years in crime scene related activities.
 - Minimum of 96 hours of Crime Scene Certification Board approved instruction in crime scene related courses
 - Must successfully pass a written test with a minimum score of 75%.

Crime Scene Certification

- Level 3 – Certified Senior Crime Scene Analyst
 - ▣ Minimum of six years in crime scene related activities.
 - ▣ Minimum of 144 hours of Crime Scene Certification Board approved instruction in crime scene related.
 - ▣ Must successfully pass a written test with a minimum score of 75%.
 - ▣ Must have authored or coauthored an article on some phase of crime scene investigation published in a professional journal OR;
 - ▣ Made a presentation on some phase of crime scene investigation to a professional organization, OR;
 - ▣ Be an active instructor in some phase of crime scene investigation who is currently teaching at least once a year, OR;
 - ▣ Submit a court transcript from an actual case in which the applicant gave testimony on some phase of crime scene investigation.

Crime Scene Certification

- Initial In-house Training may be substituted
- Continuing Education/Professional Development Hours:
 - Advanced Latent Prints Death Investigation
 - Arson Investigation Evidence Photography
 - Blood Pattern Analysis Homicide Investigation
 - Burglary Investigation Laser School
 - Collection & Preservation of Evidence Laws of Evidence
 - Crime Scene Investigation Courtroom Testimony
 - Crime Scene Documentation Psychological Profiling
 - Crime Scene Photography Rape Investigation
 - Crime Scene Reconstruction Report Writing
 - Traffic Accident Investigation Sex Crime Investigation
 - Criminal Investigative Analysis Criminalistics
 - Post Bomb Blast Investigation Footwear and Tire Tread

Footwear Certification

- Education and Experience Requirements:
 - An applicant must possess a Bachelor's Degree plus three years of experience as a footwear examiner; OR
 - An Associate Degree plus five years of experience as a footwear examiner; OR
 - A High School diploma or equivalent plus eight years of experience as a footwear examiner.
- Training Requirements:
 - Must have satisfactorily completed a training program in the examination of footwear evidence to include, but not limited to, terminology, manufacturing processes for footwear, photography of track/mark evidence, enhancement, recovery and preservation of footwear evidence, comparative examination, case note preparation and report writing, legal considerations and courtroom testimony.

Footwear Certification

- Endorsements:
- Examinations:
 - Must successfully pass a written test including, but not limited to, terminology, manufacturing processes for footwear, photography of track/mark evidence, enhancement, recovery and preservation of footwear evidence with a minimum score of 75%.
 - The practical problems shall consist of the evaluation and comparison of a minimum of 3 separate cases with no erroneous inclusions or exclusions. Notes, observations and all supporting data used to reach an opinion must be returned with the original test.

Latent Print Certification

- Technical Training Required:
 - Minimum of 80 Hours of Certification Board approved training in latent print matters, along with criteria listed on the application form.
- Basic Experience Required:
 - Minimum of two years full-time experience in the comparison and identification of latent print material and related matters
 - If less than full-time experience for the given time period is possessed, times must be accumulated to reach an acceptable minimum.

Latent Print Certification

- Education Requirements:
 - A Bachelor's Degree plus two years full-time experience as prescribed by the LPCB or
 - An Associate Degree plus 3 years full-time experience as a latent print examiner equals the Bachelor's Degree requirement or
 - Four years full-time experience as a latent print examiner
- Educational requirements are not applicable to re-certification.

Latent Print Certification

- Examinations:
 - ▣ Comparison of 15 latent prints with inked prints.
 - ▣ Pattern Interpretation of 35 Inked Impressions.
 - ▣ True and false, multiple choice questions relative to the history of fingerprints, pattern interpretation and latent prints.
- Either oral board testing and/or presentation of a case for review to include latent print, inked print, charted enlargements and court qualifying questions and answers.

Forensic Photography Certification

- Technical Training Required:
 - ▣ Minimum of Forty hours of classroom training in photography related subjects.
- Basic Experience Required:
 - ▣ A minimum of two years experience in which duties include the discipline of photography.
- Education Requirements:
 - ▣ Required to possess a minimum of a High School Diploma or Equivalency.

Forensic Photography Certification

□ Examinations:

- The written test shall consist of questions, including, but not limited to, history of photography, cameras, lenses, film, exposure, depth of field, light and color theory, lighting, filters, close-up photography, presentation and digital imaging.
- A minimum passing score of 75% is required.
- Upon successful completion of the written examination, applicant will be sent a practical examination

Ten Print Certification

- Technical Requirements
 - ▣ Minimum of forty hours of Board-approved continuing education/training credits in recording, classifying, filing, and searching of ten print, and
 - ▣ Minimum of forty hours of additional Board-approved continuing education/training credits in ten print, and
 - ▣ Minimum of sixteen hours of Board-approved training in courtroom testimony.
- Experience Requirements
 - ▣ Minimum of two years full-time experience in recording, classifying, filing, and searching ten prints after meeting Technical Requirements.
 - ▣ If less than full-time experience for given time period is possessed, time must be accumulated to reach an acceptable minimum.

Ten Print Certification

- Educational Requirements
 - Minimum of an Associate's Degree or documentation of sixty semester hours or ninety quarter hours of college credit OR
 - Experience can be substituted for the two-year college degree requirement at a rate of one year full-time experience as a ten print examiner for one year of college plus the basic experience as a full-time ten print examiner.

Ten Print Certification

- Written Examination
 - ▣ Pattern Recognition and Interpretation.
 - ▣ The question portion covers the permanence/uniqueness of fingerprints, history of fingerprints, pattern interpretation, AFIS, Livescan, and ridgeology. Applicants must score 80% to pass this portion of the test.
- Technical Examination
 - ▣ The technical examination is intended to ensure that the applicant fully understands and can demonstrate ability to obtain and evaluate ten print records for accuracy and quality.
- Case Review
- Oral Board

**CENSURE,
SUSPENSION
OR
REVOCAION
OF
CERTIFICATION**

- ❑ Censure is defined as a warning or reprimand in writing not resulting in loss of certification.
- ❑ Suspension is defined as loss of certification with the opportunity for becoming reinstated at a later time. Revocation is defined as a permanent loss of certification.

CENSURE, SUSPENSION OR REVOCAION OF CERTIFICATION

- ❑ Level One (Censure) – Lowest level of discipline not resulting in loss of certification.
- ❑ Level Two (Suspension) – Certification is suspended for a specified time by the Certifying Board, and the certificant will be required to pass a test commensurate with the violation, if the suspension is due to a technical error.
- ❑ Level Three (Revocation) – Certification is revoked and the former certificant will not be certified by the IAI in that discipline under any circumstances.

**CENSURE,
SUSPENSION
OR
REVOCAION
OF
CERTIFICATION**

- ❑ Testimony misstatements
- ❑ Statements made that are not held within the confines of accepted practices held within the certifying board's community and without basis (due to the confines of current technology)

**CENSURE,
SUSPENSION
OR
REVOCAION
OF
CERTIFICATION**

- ❑ Violation of the IAI Code of Ethics and/or Standards of Professional Conduct as enumerated in the Certification Application and Application for Recertification.
- ❑ Issuance of a Certification contrary to or in violation of any of the laws, standards, rules or regulations of the IAI; or determination that the person certified was not in fact eligible to receive such certificate at the time of the issuance.
- ❑ Technical error(s).

IAI Recertification

- The certification program calls for recertification every five years.
- Applicants must be working in the field of forensic science. Continuing education/professional development credits must have been earned over the five year period since the last certification/recertification period.

IAI Recertification

- Participation/registered attendance at forensic meetings recognized by the individual IAI certification boards.
- Articles published in board recognized forensic journals
- Attendance at or participation in a course or workshop or in-service training recognized by the individual Certification Board
- Holding an office or serving on a committee in a forensic society recognized by the Certification Board or performing an official service for a forensic journal publication.

IAI Recertification

- Membership in a forensic society recognized by the Certification Board
- Primary provider of on-the-job training for novice forensic examiners
- Providing a written summary of an article written by another forensic examiner or related professional
- Teaching forensic related college courses, research and presentations to the general public
- Full-time forensic casework
- May also be required to successfully complete a practical examination/proficiency test provided by the Certification Board.



American Board of Forensic Document Examiners

ABFDE – History

- Established in 1977
- Recognized the need to identify qualified forensic scientists capable of providing essential professional services
- ABFDE provides a program of certification in forensic document examination with the dual purpose of serving the public interest and promoting the advancement of forensic science.
- ABFDE is analogous to the certifying boards in other scientific fields.
- ABFDE is recognized by, and was originally sponsored by the American Academy of Forensic Sciences.

ABFDE Certification

- One category of certification - diplomate
- No "retired" Diplomates or "emeritus" Diplomates
- An examiner is currently certified by the ABFDE or they are not

ABFDE Qualification Criteria

- Baccalaureate degree
- Two-year apprenticeship in a recognized forensic laboratory or with an examiner in private practice who has previously received proper training.
- Full-time training program in a recognized document laboratory
- Full-time practice of forensic document examination
- Engaged in the full-time practice of forensic document examination at the time of their application for certification

ABFDE Qualification Criteria

- Demonstrate a record of appropriate professional activities in forensic document examination, in keeping with the following definitions:
 - ▣ "Document Examination is the practice of the application of document examination to the purposes of the law."
 - ▣ "Forensic Document Examination relates to the identification of handwriting, typewriting, the authenticity of signatures, alterations in documents, the significance of inks and papers, photocopying processes, writing instruments, sequence of writing and other elements of a document in relation to its authenticity or spuriousness."

ABFDE Examination

- Comprehensive written, practical and oral examinations that are based on a wide range of problems frequently encountered in document examination.
 - ▣ authorship of handwriting; the authenticity or spuriousness of a signature; the
 - ▣ source of typewritten material; the presence or absence of alterations, additions, or
 - ▣ deletions on documents; the comparison of inks, papers, and writing instruments; or
 - ▣ similar questions as promulgated by the Board.

ABFDE KSA's

- Could not find any KSA's on ABFDE's website

ABFDE

Revocation of Certification

- A Diplomate or candidate who is found by the Professional Review Committee (PRC) to have violated ethical or professional rules of conduct or competency as set forth by the American Board of Forensic Document Examiners may be subject to disciplinary action as follows:
 - ▣ Oral reprimand; or
 - ▣ Written reprimand; or
 - ▣ Suspension of Diplomate's Certificate for a specific period of time; or
 - ▣ Decertification and removal of Diplomate from ABFDE rolls, including surrender of his/her Certificate.

ABFDE Certificant Revocation

Revocation of Certification

- A misstatement or misrepresentation, concealment, or omission of a material fact or facts in an application or any other communication to the Board or its representative(s).
- Conviction of an applicant for certification or recertification or holder of a Certificate of this Board by a court of competent jurisdiction of a felony or of a crime involving, in the opinion of the Board of Directors, moral turpitude.

ABFDE Certificant Revocation

Revocation of Certification

- Issuance of a Certificate contrary to or in violation of any of the laws, standards, rules, or regulations governing the Board and its certification programs at the time of its issuance; or determination that the person certified was not in fact eligible to receive such Certificate at the time of its issuance.
- Unethical conduct or other conduct by an applicant or holder of a Certificate of this Board which, in the judgment of the Board, brings the specialty of forensic document examination into disrepute.

ABFDE Recertification

- Five Year Renewal Cycle
 - Attending recognized professional conferences, seminars or workshops
 - Approved Questioned Document Related Education Programs
 - Approved points related to proficiency testing



Digital Forensics Certification Board

DFCB – History

- Professional certifications in digital forensics are something the community has needed for years and it is now a reality.
- DFCB professional certifications are independent and community driven.
- Developed with National Institute of Justice funding.
- The terms for the development of this certification program by consensus were followed.
- DFCB will eventually be applying for recognition by the Forensic Specialties Accreditation Board.

DFCB Levels of Certification



- Pilot Examination Preparation is in progress
- Basic certification - foundational certification.
- Digital Forensic Certified Practitioner (DFCP)
- Digital Forensic Certified Associate (DFCA).
- Other special certifications and advanced certifications are being considered.

DFCB Qualification Criteria

- DFCEP or DFCEA designation is only available to Digital Evidence Professionals with a minimum of 5-years experience related to digital evidence or digital forensics
 - ▣ DFCEP must demonstrate 2 or more years of practical experience in the last 3 years.
 - ▣ DFCEA are not required to demonstrate practical experience over the last 3-years.

DFCB Founder Qualification Criteria

- The Founders process offers the opportunity to become certified by demonstrating expertise and experience. Those seeking certification will be required to sit for a comprehensive exam.
- Score a minimal number of points on the DFCB Assessment Scoring Sheet and provide supporting documentation.
- Meet the DFCB Code of Ethics and Standards of Professional Conduct
- Pass a background review
- Develop 15 usable test questions with multiple choice answers.
 - These questions, once validated and approved will be considered as part of a pool of questions to be used for upcoming digital forensics certification tests.

DFCB KSA's

- Legal
- Ethics
- Storage Media
- Mobile and Embedded Devices
- Network Forensics
- Program and Software Forensics
- Quality Assurance, Control, and Management

DFCB

Revocation Of Certification

- ❑ No information on revocation of certification
- ❑ Does have Code of Ethics
- ❑ Does have Rules of Professional Conduct

DFCB Recertification

- Maintenance fee of \$75.
- Continuing Education Credits,
- update their status as a practitioner or associate
- Reaffirm compliance with Code of Ethics and Standards of Professional Conduct.



American Board of Forensic Toxicology

The Mission of the ABFT

- Forensic toxicology encompasses the measurement of alcohol, drugs and other toxic substances in biological specimens and interpretation of such results in a medicolegal context. The purpose of the American Board of Forensic Toxicology is to establish and enhance voluntary standards for the practice of forensic toxicology and for the examination and recognition of scientists and laboratories providing forensic toxicology services.

ABFT – History

- The need to identify qualified forensic scientists who can provide essential professional services for the nation's judicial and executive branches of government has long been recognized.
- The American Board of Forensic Toxicology was organized in 1975 to provide, in the interest of the public and the advancement of the sciences, a certification program in forensic toxicology.

ABFT – Certification

- The ABFT is analogous to the certifying board in the various medical specialties and scientific fields.
- The objective of the Board is to establish, enhance, and revise as necessary, standards of qualification for those who practice forensic toxicology, and to certify as qualified scientists those voluntary applicants who comply with the requirements of the Board.
- Certification is based upon the candidate's personal and professional record of education and training, experience, achievement, and a formal written examination.

ABFT Levels of Certification

- Diplomat
- Forensic Toxicologist Specialist

ABFT Diplomate Qualification Criteria

- Persons of good moral character, high integrity, and good repute and must possess high ethical and professional standing.
- Education
 - ▣ Doctorate of Philosophy or Doctor of Science degree in one of the natural sciences,
 - ▣ Adequate undergraduate and graduate education in biology, chemistry, and pharmacology or toxicology.

ABFT Diplomate Qualification Criteria

- Three years of full-time professional experience
 - ▣ postdoctoral education/training in toxicology or closely related disciplines
 - ▣ Practice
 - ▣ Research
 - ▣ teaching
 - ▣ administration.
- One year of the professional experience must have been acquired during the five years immediately preceding the date of application.
- Appropriate professional activities in forensic toxicology
- Engaged in the practice of forensic toxicology at the time of application for Certification.

ABFT Specialist Qualification Criteria

- Persons of good moral character, high integrity, and good repute and must possess high ethical and professional standing.
- Education
- Bachelor's Degree in one of the natural sciences
- biology, chemistry, which may include pharmacology or toxicology.
- Three years of full-time professional experience
 - ▣ One year of the professional experience must have been acquired during the three years immediately preceding the date of application.
- Appropriate professional activities in forensic toxicology
- Engaged in the practice of forensic toxicology at the time of application for Certification.

ABFT Examination

- Successfully pass a comprehensive written examination on the principles and practice of analytical toxicology

ABFT KSA's

- The KSAs were not available on the ABFT website.

ABFT Recertification

- Diplomate and Forensic Toxicology Specialist are valid for five years
 - ▣ Renewable according to standards and under conditions established by the Board, for an appropriate fee.
 - ▣ Not transferable

ABFT

SUSPENSION OR REVOCATION OF CERTIFICATION

- Certificates may be suspended or revoked for appropriate cause, under an elaborate system of safeguards for the diplomates concerned

ABFT – Guide to Ethics

- ABFT expects all persons holding a Certificate of Qualification to maintain the good moral character, high integrity, good repute, and high ethical and professional standing which are initial and continuing qualifications for recognition by the Board, and to conform to the following principles of ethical conduct:
- Conduct themselves with honesty and integrity at all times.
- Perform all professional activities in Forensic Toxicology with honesty and integrity
- Refrain from any knowing misrepresentation of their professional qualifications, knowledge and competence, evidence and results of examinations, or other material facts.

ABFT – Guide to Ethics

- Hold in proper confidence all information obtained or received in the course of their professional practice, and refrain from misuse of any such information.
- Strive to be aware of and alert to any actual or potential conflicts of interest, and strive to avoid or appropriately resolve any such conflicts.
- Maintain and enhance their qualifications and competence for the practice of Forensic Toxicology, to the best of their ability.
- Act in accordance with the long-standing precepts for ethical practice of the profession of Forensic Toxicology, and refrain from any action or activity, which would tend to bring disrepute upon or otherwise harm the profession of Forensic Toxicology or the American Board of Forensic Toxicology.



Cost of Certification

Cost of Certification

□ ABC

- \$50.00 non-refundable, non-transferable application/processing fee
- \$200.00 non-refundable but transferable Examination fee.
- Ed Rhodes Scholarship for sitting fee
- CAC Application Fee if receive Ed Rhodes Scholarship

□ Digital Forensics Certification Board

- \$350 - Candidate Assessment Fee (\$125 refunded if applicant does not meet requirements)

Cost of Certification

- ABFDE
 - \$250 Written, Practical and Oral Exam
- AFTE
 - Written test -\$50.00
 - Practical test -\$200.00
- IAI
 - \$150
- ABFT
 - \$150

Cost of Recertification

- ABC
 - ▣ Recertification is \$40
 - ▣ Submit a signed copy of the ABC Rules of Professional Conduct.
- ABFDE - Could not find a fee
- DFCEB - Maintenance Fee is \$75
- ABFT – \$100

Cost of Recertification

AFTE

- ▣ Recertification is \$25 per area.
- ▣ College degree will not apply to applicants for recertification if they were certified prior to this restriction taking effect.

IAI

- ▣ Recertification is \$150.

Additional Certifying Bodies

- America Board of *Medicolegal* Death Investigation
- American Board of Forensic Odontology
- American Board of Forensic Anthropology
- National Academy of Forensic Engineers
- American Board of Pathology
- American Association of Colleges of Nursing
- National Association of Forensic Nurses
- America Board of Psychiatry and Neurology
- American Board of Forensic Psychology



Forensic Specialties Accreditation Board

FSAB – History

- 1995 – The Strategic Planning Committee of the American Academy of Forensic Sciences recommended the AAFS assume a role in establishing a formal mechanism whereby the different credentialing processes of the various certifying boards can be objectively assessed.
- 1996 – The AAFS “Professional Oversight” committee and the AAFS “Mini-Task Force on Criteria for Specialist Certifying Boards” started the “Accreditation and Certification Task Force.”

FSAB – History

- 2000 – The **Forensic Specialties Accreditation Board (FSAB)**, was formed and incorporated to develop a voluntary program to objectively assess, recognize and monitor the various forensic science specialty boards which seek accreditation.

FSAB

- Accreditation of certification bodies requires proof of rigorous adherence to numerous criteria established by the FSAB.
- The process for accreditation of certification bodies has similarities in scope and structure to ASCLD/LAB accreditation of forensic laboratories.
- Accreditation criteria includes:
 - Proof of incorporation
 - Presentation of constitution or by-laws

FSAB

- Accreditation criteria continued
 - Proof of established policies and procedures
 - Proof of an enforceable code of ethics or code of professional conduct
 - Proof of established and sufficient testing criteria and study guide material.
 - A certificate
 - Required continuing education
 - Recertification

FSAB Accredited Certification Bodies

- American Board of Criminalists – March 1, 2004
- American Board of Medicolegal Death Investigators – March 1, 2005
- American Board of Forensic Toxicologists – March 1, 2006
- Board of Forensic Document Examiners – March 1, 2006
- American Board of Forensic Document Examiners – March 1, 2007
 - International Institute of Forensic Engineering Sciences – March 1, 2007
- American Board of Forensic Odontology – March 1, 2008



Certification in California

Certifying bodies with California members

- American Board of Criminalists (ABC)
- American Board of Forensic Document Examiners (ABFDE)
- American Board of Forensic Toxicologists (ABFT)
- Association of Firearms and Toolmark Examiners (AFTE)
- American Society of Clinical Pathologists
- International Association of Identification (IAI)
- Law Enforcement and Emergency Services Video Assoc.

ABC Certificate holders

- 133 in California Laboratories
- Areas of Expertise
 - ▣ General Criminalistics – 114
 - ▣ Molecular Biology – 7
 - ▣ Trace – 2

Data from Task Force Laboratory Director Survey

ABC Certified Individuals in CA

Number of Certified Individuals

- 114 Diplomates
- 54 Fellows
- 1 Affiliate

Number of Traditional Fellow

- Biochemistry – 4
- Molecular Biology – 25
- Drugs – 9
- Fire Debris – 6
- Paints and Polymers – 3
- Hairs and Fibers – 3

■ Data from Michael Haas – ABC Registrar May 2009

AFTE Certificate holders

- 12 – in six different California Laboratories

IAI Certificate holders

- 43 in twelve different California Laboratories
- Breakdown of IAI Certificates
 - ▣ Crime Scenes – 15
 - ▣ Footwear – 1
 - ▣ Forensic Photography – 2
 - ▣ Impression Evidence – 1
 - ▣ Latent Prints – 24

ABFT Certificate holders

- 4 in two California Laboratories

ABFDE Certificate Holders

- 7 in four different California Laboratories

DOHS License Holders

- Laboratories may not have included this data in their surveys
- Telephonic interviews were conducted to obtain the data



Certification in Education

Certification of Recent Graduates

- Currently there are no college programs requiring certification as a capstone event
- Student knowledge of certification is limited
- Students are very willing to become certified
- Students would be a tremendous asset to the certifying entities

■ Max Houck - West Virginia University

FEPAC accredited college programs

- Currently, there is no FEPAC requirement for certification of the students
- The educational programs must be aware of the requirements of the profession
 - ▣ QAS for DNA Testing Laboratories educational requirements

Forensic Science Assessment Test - FSAT

- The Forensic Science Assessment Test (FSAT) was developed by representatives of the American Board of Criminalistics (ABC), Forensic Educators Programs Accreditation Commission (FEPAC), Council of Forensic Science Educators (COFSE) and the American Society of Crime Laboratory Directors (ASCLD).

Forensic Science Assessment Test - FSAT

- The former ABC General Knowledge Examination was the starting point for the test which was developed for students in their last semester of an academic Forensic Science program, either a graduate or undergraduate program.
- Results from this test can be used by students to show prospective employers their level of forensic science knowledge. Additionally, students may wish to use the test to compare their knowledge to other individuals in their peer group. Academic programs can also use the results of the examination as a measure of program assessment.

Forensic Science Assessment Test - FSAT

- The FSAT is given at each participating academic institution and administered by the program director or another faculty member.

The logo for the National Academies of Sciences, Engineering, and Medicine (NAS). It features a solid orange square on the left, followed by a blue horizontal bar. The letters "NAS" are written in white, bold, sans-serif font on the blue bar.

NAS

Committee on Identifying the Needs of the
Forensic Science Community on Certification
February 2009

NAS

- The American Bar Association has recommended that, “Crime laboratories and medical examiner officers should be accredited, examiners should be certified, and procedures should be standardized and published to ensure the validity, reliability, and timely analysis of forensic evidence.”

NAS

- An excellent description of the certification process is contained in the following excerpt from the National Association of Medical Examiners (NAME) website:
 - In general, certification boards consist of respected professionals in a particular area of professional practice who develop standards for education, training, and experience that are required before one can become 'certified' in a particular professional discipline. Successful completion of a written and/or practical examination is also usually required. In essence, 'certification' usually means that a particular individual has completed a defined course of education, training, and experience, and has passed an examination prepared by peers which demonstrates that the individual has obtained at least the minimum level of competence required to practice the specific discipline. A number of 'Certification Boards' exist for people in various scientific disciplines....

NAS

- Some organizations, such as the American Board of Criminalists (ABC), offer examiner certification programs, but some certification organizations appear to lack stringent requirements.
- The American Academy of Forensic Sciences has formed a Forensic Specialties Accreditation Board to accredit certifying organizations. Organizations are invited to participate if they meet established requirements, such as periodic recertification, a sufficient knowledge base for certification, a process for providing credentials, and a code of ethics.

NAS

- Each of these entities has specific educational, training, and experience requirements, including a series of competency tests—both written and practical—and participation in proficiency testing, and provide continuing education/active participation by means of publication, presentation, and membership in professional organizations

NAS

- The professional forensic science community supports the concept of certification. ASCLD recommends that laboratory managers support peer certification programs that promote professionalism and provide objective standards.
- In 2002, the Technical Working Group on Forensic Science Education recommended certification of an individual's competency by an independent peer-based organization, if available, from a certifying body with appropriate credentials.

NAS

- Recommendation 6:
 -Standards should reflect best practices and serve as accreditation tools for laboratories and as guides for the education, training, and certification of professionals.....

NAS

- Recommendation 7:
 - ▣ Laboratory accreditation and individual certification of forensic science professionals should be mandatory, and all forensic science professionals should have access to a certification process.

NAS

- Recommendation 7:
 - ▣ In determining appropriate standards for accreditation and certification, the National Institute of Forensic Science (NIFS) should take into account established and recognized international standards, such as those published by the International Organization for Standardization (ISO).

NAS

- Recommendation 7:
 - ▣ No person (public or private) should be allowed to practice in a forensic science discipline or testify as a forensic science professional without certification.

NAS

- Recommendation 7:
 - Certification requirements should include, at a minimum, written examinations, supervised practice, proficiency testing, continuing education, recertification procedures, adherence to a code of ethics, and effective disciplinary procedures....

The Quality Triangle

After the incorporation of the ABC the forensic science quality triangle started to become the new paradigm for forensic sciences.



Conclusion

- Certification programs are well established
- Established accreditation of certification bodies is well established and identifies credible programs
- Recommend utilizing well established accredited certifying bodies