

154571



# American Board of Criminalistics

4 Mannakee Street, Rockville, Maryland 20850

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NCJRS

JUL 26 1995

ACQUISITIONS

## Final Report

Categorical Assistance Grant #92-IJ-CX-K007

## Development of Specialty Examinations

Leading to

## Certification in Criminalistics

154571

U.S. Department of Justice  
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Criminalistics Section

March 31, 1995

Richard M. Rau, Ph.D.

Program Manager

Forensic Sciences and Criminal Justice Technology

United States Department of Justice

National Institute of Justice

Washington, DC 20531

RE: Final Report — Categorical Assistance Grant #92-IJ-CX-K007, Development of Specialty Examinations Leading to Certification in Criminalistics.

Dear Dr. Rau:

Enclosed is the final report on the ABC grant. As you know, we completed the development of 5 forensic specialty examinations, refined the certification program structure, and have gotten buy-in from a number of key groups and individuals during this grant project. In addition to completing examination development, the ABC completed a Policy/Procedures Manual. A DRAFT of this manual is included in the final report and could be used by other certification efforts as a guide.

Working with NIJ on a grant was a new experience. Without the direction and support you provided, the ABC would not have been able to administer the grant properly. Thank you for your help.

Please contact me on 301-413-5227, if you have any questions.

Sincerely yours,

Richard E. Tontarski, Jr.

cc: President, ABC  
Vice President, ABC  
Secretary, ABC  
Chair, Examinations Committee  
Vice Chair, Examinations Committee  
Secretary, Examinations Committee  
ABC Grant Administrator

AMERICAN BOARD OF CRIMINALISTICS (ABC)

## ABSTRACT

### DEVELOPMENT OF SPECIALTY EXAMINATIONS (CERTIFICATION SUMMARY)

NIJ GRANT 92-IJ-CX-K007

The American Board of Criminalistics (ABC) grant finalized a National Certification Program for forensic scientists working in crime laboratories. The grant was used to complete specialty examination development and validation. The certification program will be self-sustaining once this initial development was completed.

## QUALITY ASSURANCE ISSUE

Forensic Science, and DNA in particular, have been subject to intense scrutiny from the judicial and scientific community. The recent National Research Council report *DNA Technology in Forensic Science* calls for a certification program that ensures:

- "education, training, and experience commensurate with analyses performed..."
- "a thorough understanding of the principles, use, and limitations of methods..."
- "periodic proficiency tests..."
- and "is widely accepted by the forensic science community"
- "is enforceable..."
- "can be implemented within a relatively short time."

This grant allowed the ABC to meet these needs.

## CERTIFICATION PROGRAM

The ABC Certification Program sets clear minimum education, training, and knowledge requirements for examiners working in key forensic science areas -

- Forensic Biology
- Drug Identification
- Fire Debris Analysis
- Trace Evidence - Hairs; Fibers; and Paints and Polymers.

### ***Examinations and Proficiency Testing***

The required Knowledge, Skills, and Abilities (KSA's) were developed by subject area specialists from around the country. These specialists met for training in test development and question item writing. The written tests were evaluated for scientific content, bias, clues and structuring. Pilot examinations were given at national and regional association meetings, and passing scores were calculated. Satisfactory completion of proficiency testing demonstrated one's ability to handle routine casework. Once achieved, the individual is awarded Fellow status in the ABC.

### ***Continuing Education Requirements***

Continuing Education/Professional Development are required for recertification every five years. Re-testing of the written examination is an option.

### ***Enforcement and Liability***

The ABC *Rules of Professional Conduct and Code of Ethics* provide clear standards and establish complete "due process" for resolving examination and certification issues.

Program

Alternative





U.S. DEPARTMENT OF JUSTICE  
Office of Justice Programs

## CATEGORICAL ASSISTANCE PROGRESS REPORT

information provided will be used by the grantor agency to monitor grantee cash flow to ensure proper use of Federal funds. No further monies or other benefits may be paid out under this program unless this report is completed and filed as required by existing law and regulations (Uniform Administrative Requirements for Grants and Cooperative Agreements — 28 CFR, Part 66, Common Rule, and OMB Circular A-110).

1. GRANTEE  American Board of Criminalistics		2. AGENCY GRANT NUMBER  92-IJ-CX-K007	3. REPORT NO.  Final
4. IMPLEMENTING SUBGRANTEE		5. REPORTING PERIOD (Dates)  FROM: Jan 1, 1993      TO: Dec 31, 1994	
6. SHORT TITLE OF PROJECT Development of Specialty Examinations Leading to Certification in Criminalistics		7. GRANT AMOUNT  \$37,643	8. TYPE OF REPORT  <input type="checkbox"/> REGULAR <input type="checkbox"/> SPECIAL REQUEST <input checked="" type="checkbox"/> FINAL REPORT
9. NAME AND TITLE OF PROJECT DIRECTOR Richard Tontarski, Director ATF Laboratory		10. SIGNATURE OF PROJECT DIRECTOR 	11. DATE OF REPORT  March 6, 1995
12. COMMENCE REPORT HERE (Continue on plain paper)			

### INTRODUCTION

Certification is a voluntary process of peer review by which a practitioner is recognized as having attained the minimum qualifications necessary to practice in one or more disciplines of criminalistics.

Forensic Science is that profession and scientific discipline directed to the recognition, identification, and individualization of physical evidence by the application of natural science to law-science matters. Criminalistics is a sub-discipline of forensic science.

In this grant the American Board of Criminalistics (ABC) sought to develop written certification examinations in criminalistics, specifically in the areas of forensic biology, drug identification, fire debris analysis, hairs and fibers, and paint and polymers.

The proposal addressed a critical issue in the field of forensic science: the qualifications of crime laboratory personnel to carry out laboratory examinations and testify in court to their results. Certification already exists in several forensic sciences (pathology, toxicology, and questioned documents) and is under consideration by other forensic organizations, such as the Association of Firearms/Toolmark Examiners. The 1992 report from the National Research Council's Committee on DNA Technology in Forensic Science entitled DNA Technology in Forensic Science strongly endorses the concept of certification of DNA analysts. The crime laboratory proficiency testing program has become an integral part of certification. The American Society of Crime Laboratory Directors supports the concept of certification.

### DISCUSSION OF PLAN

The Peer Groups in each of the four specialties in which certification is initially to be granted by the ABC had already prepared lists of relevant knowledge, skills and abilities (KSAs). They had also solicited examination questions from practitioners in each specialty, based on the established KSAs.

The final test development and validation was largely a mechanical process which was carried out over a two year period.

13. CERTIFICATION BY GRANTEE (Official signature) 	14. DATE  3/29/95
---	-------------------------

## ***I. Test Development Training***

Training for test development was conducted by Educational Testing Service, Princeton, NJ. at the Georgia Public Safety Training Center on March 12 and 13, 1993. Thirty two individuals representing the Exam Committee and Peer Groups from five regional forensic societies were present; the Peer Groups working in clusters to include the specialties of forensic biology, drug identification, fire debris, hair and fibers, and paint and polymers.

The primary focus of the training was twofold. First to provide instruction to participants in terms of a variety of key aspects of any testing program (i.e., test specifications, item writing and editing, establishing a passing score). A second area of focus, using that instruction to guide participants' activities at both a micro level (editing existing items and developing new ones) and a macro level (thrashing out the details about how the various subspecialty groups planned to work over the next eleven months to try to move toward the goal of at least having a foundation of a program). After the end of this training, ABC had developed draft test specifications related to the major groupings of KSA's.

See Appendix I for the Agenda from this meeting.

## ***II. Test Question Item Review***

During the period April through September, 1993 test question item writing was completed in each specialty area and reviewed as to content and protocol as suggested by the Educational Testing Service. This was accomplished by the Exam Committee through the Peer Groups for each specialty. A minimum of 150 questions per specialty were reviewed for scientific content.

## ***III. Analysis of Pilot Examination and Examination Questions***

Consultants were hired through a bid process to complete the test specifications to include:

- A. Statistical review of sixty examinations from the General Knowledge Exam (GKE) sitting held at the AAFS meeting in 1993 containing approximately two hundred questions; and to conduct a one day training seminar for the General Knowledge Exam Committee. This training was held in Atlanta, and dealt with establishment of passing scores and cutoff values.
- B. Provide a technical analysis of approximately 675 questions covering five specialty examinations. The purpose of this analysis was to insure questions and choices are appropriate, logical, readable and conform to sensitivity and bias construction. Analysis was therefore performed in three phases:
  - 1. Screening for bias material, barriers, and clues
  - 2. Structuring based on item grouping and categorical difficulty.
  - 3. Report generation summarizing results of analysis.

## ***IV. Pilot Testing***

Three specialty examinations comprised of forensic biology (one core module, and two additional modules consisting of biochemistry and molecular biology), drug identification, and fire debris analysis were presented at the 1994 American Academy of Forensic Sciences Meeting in San Antonio, Texas. Additional tests were offered at subsequent regional association meetings during the spring and fall of 1994. The results of these sittings are shown in the following charts.

**FIRE DEBRIS SPECIALTY EXAMINATION REPORT (2/95)**

<b>FIRE DEBRIS</b>					
<b>Sitting Location</b>	<b>Exam Sitting</b>	<b># Sat per Site</b>	<b>Candidates/Offering</b>	<b>Candidates Who Passed</b>	<b>% Passed</b>
AAFS (pilot)	1994, Winter	20	17 <sup>^</sup>	15 <sup>^</sup>	88%
CAC	1994, Fall	1	2	2	100%
NEAFS	1994, Fall	1			
AAFS	1995, Winter	2 registered	2	pending	pending
TOTALS	7 Offerings		21	17 to date	89% to date

<sup>^</sup>Three persons sat as "controls" on the examination and did not have fire debris examination experience. No "controls" passed the exam. Two "candidates" did not successfully complete the exam.

**Fellows**

The ABC has issued 7 Fire Debris Fellow Certificates — completed GKE, SE, and PT.

**FORENSIC BIOLOGY SPECIALTY EXAMINATION REPORT (2/95)**

<b>FORENSIC BIOLOGY - MOLECULAR BIOLOGY</b>					
<b>Sitting Location</b>	<b>Exam Sitting</b>	<b># Sat per Site</b>	<b>Candidates/Offering</b>	<b>Candidates Who Passed</b>	<b>% Passed</b>
AAFS (pilot)	1994, Winter	36	31*	23*	74%†
CAC	1994, Fall	4	9	7	78%
MAFS	1994, Fall	1			
NEAFS	1994, Fall	2			
SAFS	1994, Fall	2			
MN BCA	1995, Winter	6	10	pending	pending
AAFS	1995, Winter	4 registered			
TOTALS	7 Offerings		50	30 to date	75% to date

\*Five persons sat as controls on the examination — 1 person with DNA experience and 4 with no DNA experience. The person with DNA experience passed the exam, the other 4 did not. The person with DNA experience is not a "candidate" and is not counted in the totals. Eight "candidates" did not successfully complete the exam.

†This percentage excludes all "controls" —  $23/31 = 74\%$ . Percent Passing = candidate passing/candidate sitting —  $22/32 = 69\%$ .

**Fellows**

The ABC has issued 13 Molecular Biology Fellow Certificates — completed GKE, SE, and PT. A total of 15 persons are Forensic Biology Fellows of one type or the other. Five of these persons are Fellows in both Molecular Biology and Biochemistry.

**FORENSIC BIOLOGY SPECIALTY EXAMINATION REPORT (2/95)**

<b>FORENSIC BIOLOGY - BIOCHEMISTRY</b>					
<b>Sitting Location</b>	<b>Exam Sitting</b>	<b># Sat per Site</b>	<b>Candidates/Offering</b>	<b>Candidates Who Passed</b>	<b>% Passed</b>
AAFS (pilot)	1994, Winter	34	32 <sup>‡</sup>	22 <sup>‡</sup>	69%
CAC	1994, Fall	2	5	5	100%
MAFS	1994, Fall	1			
NEAFS	1994, Fall	1			
SAFS	1994, Fall	1			
MN BCA	1995, Fall	6	9	pending	pending
AAFS	1995, Winter	3 registered			
TOTALS	7 Offerings		48	27 to date	73% to date

<sup>‡</sup>Two additional persons with no traditional serology experience sat as "controls" on the examination. One person with university level teaching experience passed the examination. The other "control" did not pass. No "controls" are counted in the totals or percentages. Ten "candidates" did not successfully complete the exam. Percent Passing = candidate passing/candidate sitting —  $22/32 = 69\%$ .

**Fellows**

The ABC has issued 7 Biochemistry Fellow Certificates — completed GKE, SE, and PT. A total of 15 persons are Forensic Biology Fellows of one type or the other. Five of these persons are Fellows in both Molecular Biology and Biochemistry.

**DRUG IDENTIFICATION SPECIALTY EXAMINATION REPORT (2/95)**

<b>DRUG IDENTIFICATION</b>					
<b>Sitting Location</b>	<b>Exam Sitting</b>	<b># Sat per Site</b>	<b>Candidates/Offering</b>	<b>Candidates Who Passed</b>	<b>% Passed</b>
All Regional Pilots	1993, Fall	38	35 <sup>11</sup>	28 <sup>11</sup>	80% <sup>♦</sup>
AAFS (pilot)	1994, Winter	13	12 <sup>*</sup>	12 <sup>*</sup>	100%
MAFS	1994, Fall	2	5	2	40%
NEAFS	1994, Fall	2			
SAFS	1994, Fall	1			
TOTALS	7 Offerings		52	42 to date	81% to date

<sup>11</sup>Three Drug Peer Chairs sat for and passed the exam. They are not counted in the sitting total or in the number of persons who passed the exam. Seven "candidates" did not successfully complete the exam.

<sup>♦</sup>This percentage excludes the Peer Chairs —  $28/35 = 80\%$ .

<sup>\*</sup>One person sat as a "control." That person did not have drug identification experience and did not pass the exam. All the "candidates" with drug identification experience passed the exam.

**Fellows**

The ABC has issued 18 Drug Identification Fellow Certificates — completed GKE, SE, and PT.

GENERAL KNOWLEDGE EXAMINATION REPORT (2/95)

GKE				
Sitting Location	Exam Sitting	# Sat	# Passed	% Passed
CAC	prior to ABC exams	---	116 Converted	---
AAFS	1993, Winter	114	92	81 %
SAFS	1993, Spring			
MAFS	1993, Fall			
NEAFS	1993, Fall			
SAFS	1993, Fall			
AAFS	1994, Winter	50	41	82 %
Washington State Patrol	1994, Winter			
CAC	1994, Spring	17	14	82 %
MAAFS	1994, Spring			
CAC	1994, Fall	31	20	65 %
MAAFS	1994, Fall			
MAFS	1994, Fall			
NEAFS	1994, Fall			
SAFS	1994, Fall			
AAFS	1995, Winter	13 registered	pending	pending
Minnesota BCA	1995, Winter	7	pending	pending

GKE				
Sitting Location	Exam Sitting	# Sat	# Passed	% Passed
CAC	1995, Spring			
MAAFS	1995, Spring			
SAFS	1995, Spring			
Illinois State Police	1995, Spring			
Nassau Co. NY PD Lab	?			
Kansas City, MO Lab	?			
TOTALS	16 Offerings to date	232	167 <sup>©</sup>	79% <sup>©</sup>

©A total of 283 Diplomate certificates have been issued. This includes persons who successfully completed the CAC exam. The percentage = persons who passed ABC exam/persons who sat for ABC exam =  $167/212 = 79\%$ .

### Historical Perspective

Total # of GKE offerings as of July, 1994 = 9

Total # of Diplomate certificates issued as of July, 1994 = 263

As of 8/94, the ABC had received 324 applications.

As of 2/95, there have been 366 applicants. This total includes pre-paid examinations and persons who failed the GKE.



## **V. Proficiency Administration Committee Overview**

During the grant period the Proficiency Administration Committee procedures for proficiency test oversight were completed. Proficiency tests are required for Fellow Status with the ABC following successful completion of the specialty examination.

Refer to Appendix 2 (ABC Manual), Section L for these procedures.

Appendix 2 contains procedures and policies for development, administration, scoring, and review of both the general knowledge and specialty examinations.

This ABC Manual was produced separate from the grant.  
It will allow all policies and procedures of the ABC to be reproduced by  
any other certifying organization as a guideline.

## **CONCLUSIONS**

The certification program of the American Board of Criminalistics, once widely accepted within the forensic science community, will have important short and long term impact on the criminal justice system. Certification will enhance the capabilities of crime laboratories by encouraging laboratory personnel to improve their knowledge, skills, and abilities as they prepare for the certification examination. Certification will also improve the public perception of the forensic science profession.

To this date 328 individuals have taken the General Knowledge Examination with an 80% pass rate. One hundred persons have completed the Specialty Knowledge Exam leading to Fellow status.

Widespread participation in the certification program depends on several factors.

Whether or not the courts of the United States will recognize certification as indicating a special level expertise in a criminalistics discipline. The favorable response of courts to certification of clinical chemists, forensic pathologists and the like suggests they will regard certified criminalists as having greater expertise.

Whether or not the generalist (a practitioner in many sub-disciplines as opposed to a specialist, say in DNA) will be willing to incur expense of both time and money to become certified in several areas.

Whether or not Laboratory Directors will be willing to allocate scarce training resources to allow employees to meet ongoing training requirements for recertification. And, whether they are willing to accept the additional costs of taking certification examinations which may be passed onto the laboratory through negotiated union wage and benefit packages. ABC has addressed this by setting up a liaison with the American Society of Crime Lab Directors (ASCLD).

## SUMMARY

In this grant, the American Board of Criminalistics has addressed an issue in the field of Forensic Science, namely the qualifications of forensic science practitioners. Enhancement of the capabilities of crime lab personnel will be furthered by the development of a series of independently verified specialty examinations with proficiency testing of actual performance in the areas of forensic biology, drug identification, fire debris analysis, hairs and fibers, and paints and polymers. Additional sub-disciplines including glass analysis, microscopy, and blood alcohol analysis are being investigated and implemented. The possibility of liaisons with other organizations dealing with firearms/toolmark analysis and latent fingerprint identification are also being investigated. The grant was successful in allowing the ABC to achieve these goals.

Appendix

1

Test Development Training

American Board of Criminalistics  
and  
Educational Testing Service

Georgia Public Safety Training Center  
March 12-13, 1993

**Friday, March 12**

- 8:30 - 9:00 Introduction (Frank Schehr)
- 9:00 - 12:00 ETS Presentation on Test Development Practices
- 1:00 - 2:00 Test Item Critique Exercise
- 2:00 - 5:00 Item Writing and Editing with ETS Response

**Saturday, March 13**

- 8:30 - 9:00 Discussion of Friday's Item Writing
- 9:00 - 10:00 ETS Presentation on Standard Setting
- 10:00 - 3:00 Item Writing and Editing with ETS Response
- 3:00 - 4:30 Peer Review of Items ) 330-420
- 4:30 - 5:00 Wrapping Up

## RELIABILITY

**Reliability** refers to the consistency of test scores from measurement to measurement. Scores on a test are reliable to the extent that they are free from measurement error.

## VALIDITY

**Validity** refers to the appropriateness, meaningfulness, and usefulness of the specific inferences made from test scores. A test is valid to the extent that it fits the purpose for which it is being used.

- \* An unreliable test cannot be valid.
- \* A reliable test can be valid only if it is used for the correct purpose.

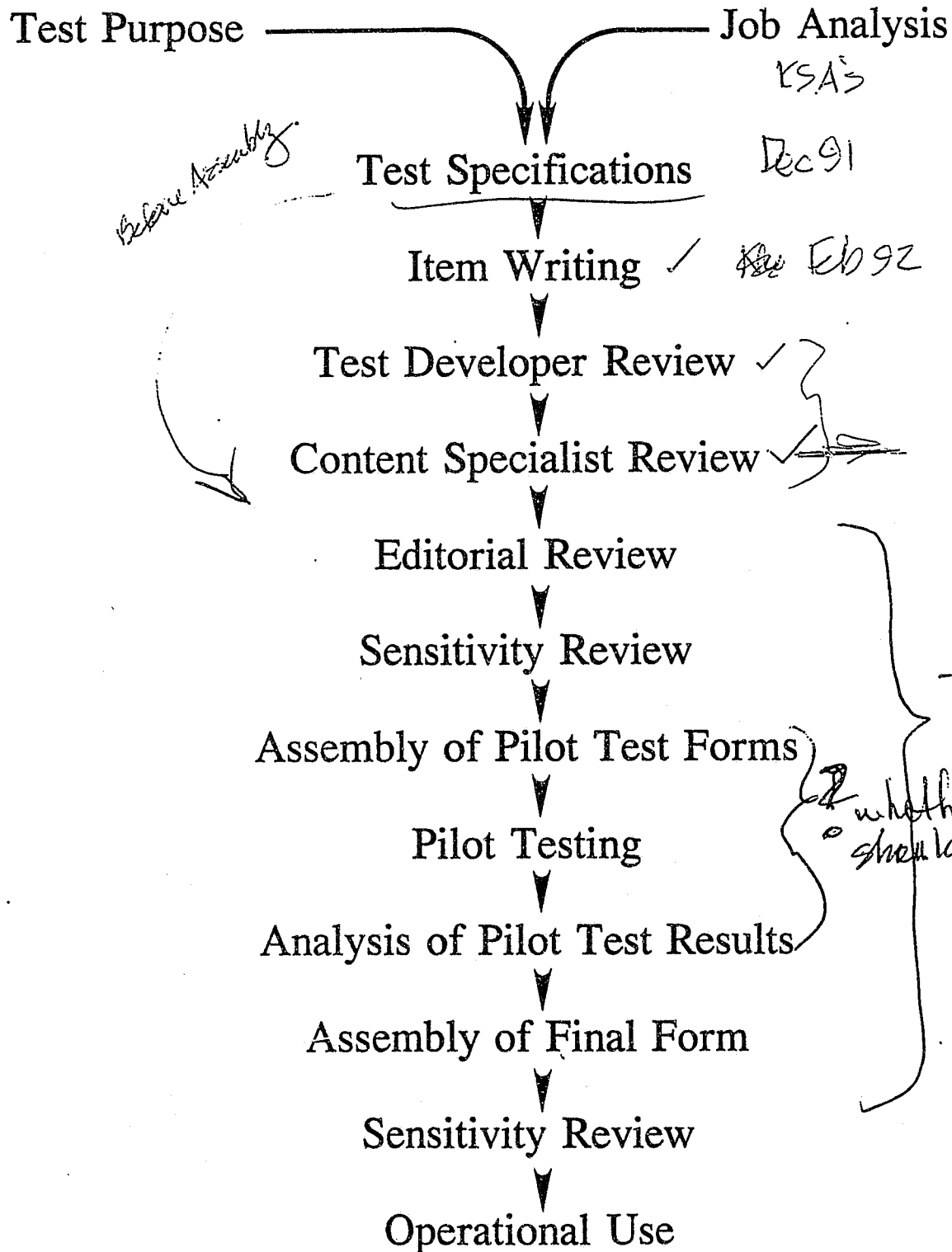
## THE GOAL

To create a test that effectively and fairly distinguishes between qualified and unqualified candidates.

In order to accomplish this goal, the test will have to be:

1. reliable;
2. valid;
3. of appropriate length;
4. of appropriate difficulty; and
5. free from bias against subgroup of candidates.

# TEST DEVELOPMENT SEQUENCE



Content Outline  
Sergeant

30-40 questions

- I. Laws, Regulations, General Orders
  - A. DeKalb County general orders
  - B. Police/Department of Public Safety organization
    - 1. Activities and responsibilities of different units
    - 2. Relative rank and authority of police, fire, EMS personnel
  - C. Eye-witness identification
    - 1. Lineups and showups
  - D. Civil vs. criminal situations
    - 1. Recognizing circumstances where police are/are not authorized to act
  - E. Constitutional Law/Bill of Rights
    - 1. Rules of evidence (hearsay evidence, exclusionary rule, privileged testimony)
    - 2. Miranda warnings
    - 3. Search and seizure
  - F. Departmental rules and regulations
  - G. Use of force
  - H. Admissions, confessions, Miranda warnings
    - 1. Spontaneous statements
    - 2. Dying declarations
  - I. Search and seizure (house, vehicle, inventory, container, stop and frisk, plain view, curtilage)
    - 1. Consent searches
    - 2. Warrant searches
    - 3. "Immediate presence"
  - J. Laws of arrest (warrant/warrantless arrests)

Content Outline - Sergeant (con't)

15-20 questions

II. Knowledge and Application of Law Enforcement Techniques

A. Patrol observation/assignment (patterns, developing BOLO's, etc.)

B. Duties at the scene of a crime

C. Handling physical evidence

D. Interviews and interrogations

E. Report writing

1. Clarity

2. Completeness

F. Traffic enforcement/vehicle pullovers

1. Uniform rules of the road

2. Pursuit

3. Special enforcement, special areas of focus

G. Domestic incidents

1. Family violence act

H. Accident investigation

I. Arrest paperwork

J. Arrest techniques

1. Mechanics of handcuffing

2. Patdowns and strip searches

3. Searching female prisoners

4. Making multiple arrests

5. Putting the prisoner in the squad car



Content Outline - Sergeant (con't)

25-35 questions

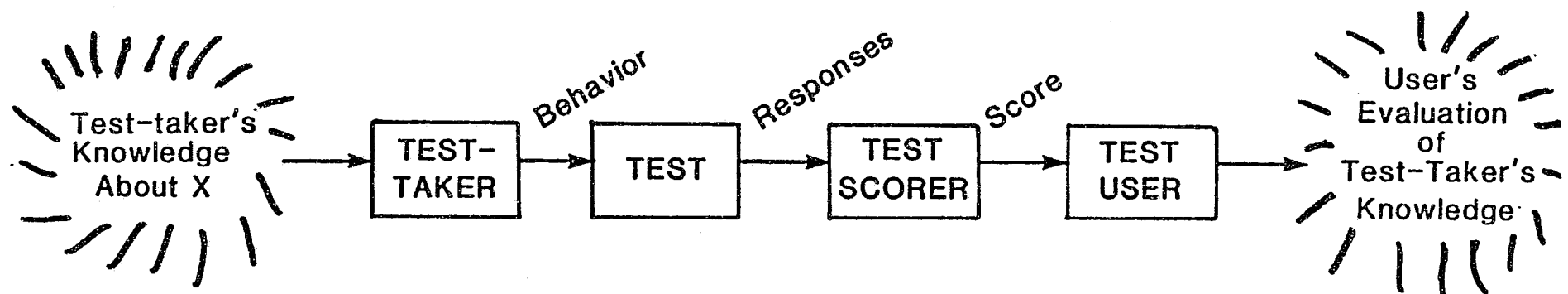
III. Principles of Supervision, Management, Employee Relations

- A. General principles of management and supervision
- B. Employee relations
  - 1. Racial/ethnic/sexual harassment
- C. Motivating employees
- D. Assignment of personnel
  - 1. Work station
  - 2. Special situations
- E. Employee evaluation
  - 1. Objectivity and fairness
  - 2. Individual needs versus departmental goals
- F. Training (e.g. in-service before roll call)
- G. Personnel code
- H. Discipline and grievance procedures
- I. Departmental rules and regulations specific to employee relations/personnel actions
- J. Handling citizen complaints

NCLEX-RN Test Plan  
PHASES OF THE NURSING PROCESS

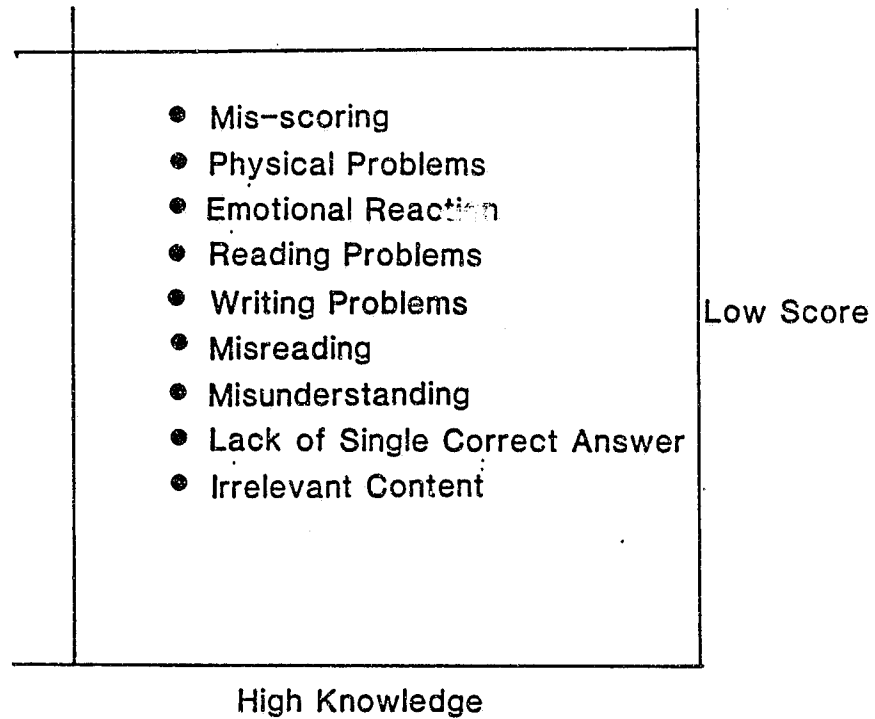
	I Assessment (20%)	II Analysis (20%)	III Planning (20%)	IV Implementation (20%)	V Evaluation (20%)
CLIENT NEEDS					
<b>A. Safe, Effective Care Environment (25-31%)</b> 1. Coordinated care 2. Quality assurance 3. Goal oriented care 4. Environmental safety 5. Preparation for treatments and procedures 6. Safe and effective treatments and procedures					
<b>B. Physiological Integrity (42-48%)</b> 7. Physiological adaptation 8. Reduction of risk potential 9. Mobility 10. Comfort 11. Provision of basic care					
<b>C. Psychosocial Integrity (9-15%)</b> 12. Psychosocial adaptation 13. Coping/adaptation					
<b>D. Health Promotion/Maintenance (12-18%)</b> 14. Continued growth & development 15. Self-care 16. Integrity of support systems 17. Prevention and early treatment of disease					

Every item must address one of the 17 Client Needs and the nurse performing one of the five steps of the Nursing Process.

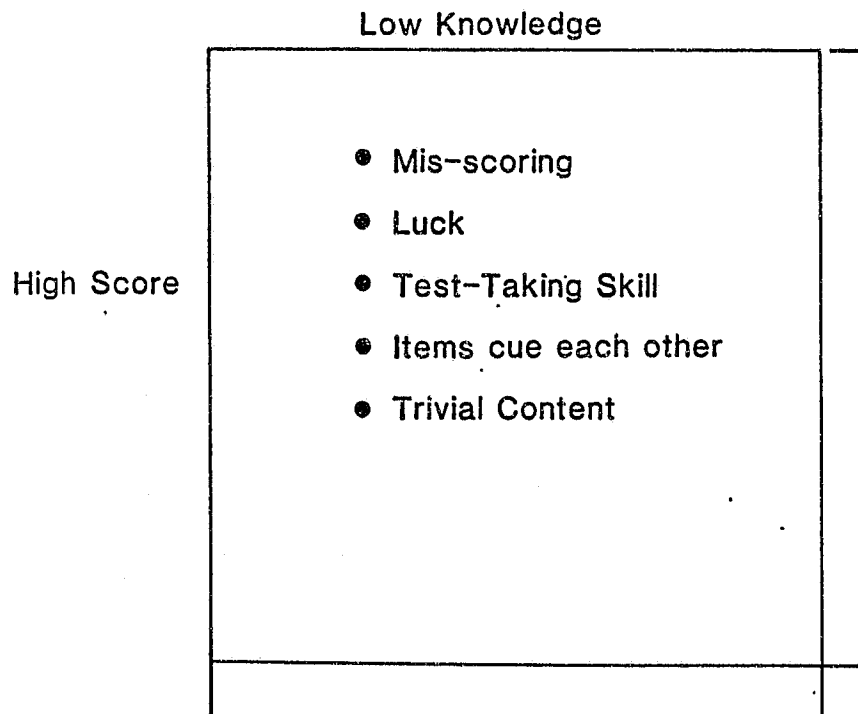


Test-Taker's Score	High	FALSE POSITIVE (MISS)	TRUE POSITIVE (HIT)
	Low	TRUE NEGATIVE (HIT)	FALSE NEGATIVE (MISS)
		Low	High
		Test-Taker's Knowledge	

## FALSE NEGATIVES



## FALSE POSITIVES



## TEST ITEM TERMINOLOGY

Tape lift collection procedures are most commonly used to recover

} STEM

KEY →  
(right answer)

- \*a. trace evidence from bodies and clothing.
- b. standard paint samples from vehicles.
- c. small bloodstains for typing.
- d. fingerprints from paper.

} OPTIONS

distractors

## FUNDAMENTAL PRINCIPLES OF TEST ITEM WRITING

1. Do not confuse test takers who know the concept.

don't raise false negatives.

2. Do not give clues to test takers who do not know the concept.

don't raise false positives

Appendix 2

AMERICAN BOARD OF CRIMINALISTICS  
POLICY AND PRODECURES MANUAL

July, 1994

American Board of Criminalistics  
4 Mannakee Street  
Rockville, MD 20850



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## A. AMERICAN BOARD OF CRIMINALISTICS CERTIFICATION PROGRAM

### History, Philosophy and Key Elements

This is an overview of the American Board of Criminalistics (ABC), its philosophy, and its key elements - General Knowledge Examination (GKE), Specialty Examinations (SE), Proficiency Testing and Continuing Professional Development.

#### Historical Perspective

The ABC program is based in large part on the work done by the *Criminalistics Certification Study Committee (CCSC)*. From 1975 to 1979 there were more than 25 individuals from all regions of the U.S. and Canada who were active in the CCSC. They represented many disciplines, all regional associations, and a diverse array of laboratories. They studied and deliberated over the problems associated with testing and certification, and surveyed the profession on its views. Despite an affirmative vote of almost 50% for their program by the members of professional associations polled, no certification program was implemented by the CCSC.

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## A. AMERICAN BOARD OF CRIMINALISTICS CERTIFICATION PROGRAM

### History, Philosophy and Key Elements

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The ABC was incorporated in 1989 in response to a need perceived by many criminalists for a national certification program. Since incorporation, more than 30 persons have served on the Board and the Examinations Committee, and almost 200 forensic scientists have served on peer groups, and examination or proficiency committees. These persons have been drawn from a broad cross-section of working criminalists, supervisors, and laboratory directors from government and private laboratories in the U.S., Canada, and the U.K. Each has brought his/her own view of certification to create the program now offered by the ABC.

Over 300 persons have been awarded ABC Diplomate status. The number grows every year with approximately 50 persons per year sitting for the ABC GKE. Almost 100 persons have taken their SE.

Each group, CCSC, CAC and ABC, has seen basic knowledge of other forensic disciplines, as measured by a general knowledge

A. AMERICAN BOARD OF CRIMINALISTICS, cont.

examination, as essential to a certification program.

GKE Examination Philosophy

The General Knowledge Examination (GKE) is the first segment of a comprehensive certification program leading to "Fellow" (for examiners specializing in drug identification, forensic biology (including DNA), fire debris analysis, or trace evidence) or "Diplomate" (for those not seeking Fellow, i.e. lab directors, supervisors, or where Specialty Examinations are not planned immediately, e.g. explosives, soil, GSR, etc.).

The ABC Board's goal for the GKE was to develop a process that answers the question, "Does this person have sufficient knowledge to be able to competently perform the work typically encountered by forensic scientists?" With the assistance of professional testing agencies, an examination was developed to answer that question.

Criminalists must examine evidence within the context of an entire case. They are often the only scientist associated with an investigation, and must have sufficient knowledge and experience to make appropriate recommendations to investigators and attorneys.

The purpose of the specialized examinations conducted is to piece together the crime, and a path to the perpetrator(s). Examiners do not work in isolation. What they do can, and will, impact what "pieces of the puzzle" other examiners can add, or light they can shine on the "path."

The GKE sets a standard for professional knowledge needed to examine evidence within the context of an entire case. Forensic science does not have a standardized academic curriculum that the profession can rely on to teach the basic criminalistics that every examiner needs. This makes the need for obtaining and measuring that knowledge even more critical for our profession.

This broad knowledge is a solid foundation for examiners to develop specialized understanding and skills. This is analogous to the approach taken with all science (i.e. BS before PhD or physician before surgeon). This knowledge foundation facilitates thorough evidence analysis because the examiner is aware of what other tests might be done, their limitations or requirements, and how his/her action or inaction can affect the total forensic investigation. Using this broader knowledge, forensic scientists are better able to maximize evidentiary value and to avoid compromising/contaminating samples.

The ABC program design supports the philosophy that forensic

## A. AMERICAN BOARD OF CRIMINALISTICS, cont.

scientists must have this broad understanding of many aspects of forensic science.

### Certification Program Structure

The ABC Board of Directors is following a certification approach used by many professions that is based on four (4) concepts. 1) No single examination is a total measure of an individual's ability to do the work. Exams measure knowledge and reasoning.; 2) A general understanding of a field is needed before specializing.; 3) Knowledge measured on an examination only reflects the understanding at that point in time. Continuing professional education is needed.; and 4) Practical exercises (proficiency tests) help measure one's ability to apply the knowledge. The legal, medical, industrial hygiene, some aspects of nursing, and accounting professions all follow a similar exam and education approach.

The ABC process leading to "Fellow" has all four components - a measure of general knowledge (GKE), a specialty exam, a proficiency requirement, and a continuing education component. The process leading to "Diplomate" calls for successful completion of the GKE and continuing education. Both awards have a work experience and a Bachelor degree (in a natural, or other appropriate science) prerequisite.

### GKE Examination History

The GKE was developed using the process outlined below. A nationwide structure of Peer Groups was established among the ABC member organizations. After completing their work, they found that the position descriptions and knowledge, skills and abilities (KSA's) they identified closely paralleled similar work done by CAC when they created their *Professional Competency Examination*.

The ABC Examinations Committee reviewed the CAC exam to determine if its questions would meet the needs developed by ABC Peer Groups. The Examinations Committee recommended purchasing the rights to the CAC exam following their review.

In 1991, the ABC purchased the rights to the examination questions and began modifying the test to fit nationwide needs. Using ABC Peer Group decisions, California-specific questions (i.e. laws, CAC Code of Conduct, etc.) were removed. The exam was evaluated by the Educational Testing Service (ETS), arguably the premier test development organization in the U.S. Some questions were added and others were modified based on suggestions from the ETS consultants.

### Examinations Development

ABC Policy Manual Draft 10/94  
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A. AMERICAN BOARD OF CRIMINALISTICS, cont.

The process used to design the GKE exam was recommended by experienced test development companies and has been followed in the design of numerous professional examinations. It is an inclusive approach that gives all members of the forensic community the opportunity for direct involvement and on-going representation. The process has three (3) major steps - 1) develop a position description; 2) describe knowledge, skills and abilities (KSA's) required for the position; and 3) draft questions to measure the knowledge identified. The process also is used to develop the SEs.

The ABC accomplishes these steps through a regional system of Peer Groups formed within the ABC member organizations. Forensic examiners from organizations not members of ABC (e.g. Canadian Society of Forensic Science; ASTM) also participate in the Peer Groups.

The regional Peer Groups identify appropriate KSA's using surveys, and other mechanisms, to get additional forensic community input. The Peer Groups then develop questions which measure the knowledge identified. The Peer Chairs take the Groups' output and, together with a member of the Examinations Committee, finalize the position descriptions, KSA's and examination questions.

Prior to any exam being given, each question is reviewed to ensure that it reflects a KSA and that each question has an authoritative reference to the correct answer associated with it. Final questions are critiqued by a test development company.

The examination is piloted to evaluate how well individual questions, and the test as a whole, perform. Questions are modified or eliminated as needed. Examination refinement is an evolutionary process and continues as each exam is administered. Additional questions are added and poorly performing questions are eliminated (both from the grading and future examinations). Not all questions included in each exam are used for scoring. Some questions are being evaluated for use in future exams, as part of the exam validation and development process. Examination Management Committees (EMC) (GKE and Specialty) oversee this process to ensure the exams remain current and viable.

New SEs are developed as funding and personnel become available. It takes significant resources (primarily people) to work through the exam development process. Those persons interested in working on development of additional SEs should contact the ABC.

Examinations Content and Grading

The GKE consists of about 200 questions. Questions are drawn

A. AMERICAN BOARD OF CRIMINALISTICS, cont.

from the GKE Study Guide references, plus a few questions from current journal articles, and the ABC Code of Professional Conduct. All answers are discernable from the readings. Candidates must understand the general concepts sufficiently to be able to reason through questions and to apply the knowledge. Experience in more than one discipline is helpful, but certainly not essential to pass the GKE.

Specialty examinations range from 150 to 350 questions. These questions also are drawn from their study guide references. The SEs require successful candidates to have an in-depth working knowledge of principles and analytical practices (both fundamental/historical and current) in their specialty.

The number of questions on the examinations for each knowledge/skill area on the GKE and SEs is determined by a weighted percentage (e.g. importance to daily casework). These percentages are agreed upon by Peer Groups during the development of an exam.

The ABC believes that completing each phase of the certification process should be an achievement. Tests that anyone can pass are a disservice to the forensic profession, and the clients and communities we serve.

Persons with no background in criminalistics, and without broad training and experience, would not be expected to pass the ABC certification examination. An individual who has worked for several years in a forensic science laboratory, and who prepares using the study material provided by the ABC should be able to pass the GKE without difficulty. In-depth experience in your specialty area and solid preparation using the ABC specialty area study materials are needed to successfully complete the SEs.

The examinations are scored and statistically evaluated by a professional service. The statistical treatment provides indications of many factors including question performance and test reliability. A testing consultant/statistician reviews the results, makes recommendations for a passing score, and identifies questions to be reviewed by the subject expert panel. The appropriate Examinations Management Committee (EMC) reviews these recommendations and makes adjustments to the final scoring. Poorly performing questions may be deleted from the current exam or modified for future examinations. New questions included in the exam for evaluation/validation purposes are eliminated from scoring. The ABC Board expects that successful candidates will be able to correctly answer 80% of the questions on a GKE or SE.

A. AMERICAN BOARD OF CRIMINALISTICS, cont.

ABC Historical Overview

1975 TO 1979	The <i>Criminalistics Certification Study Committee</i> worked under the auspices of an NIJ grant to develop a certification program. A survey of the criminalistics community in 1980 indicated that only 38% of the profession endorsed the program draft. The survey also indicated that 69% would apply for certification, if it was offered. Based on these results, the certification effort was abandoned.
July 1989	Walter McCrone hosted a meeting of a number of representatives from the CCSC. Ten of the original organizations were represented by the 16 persons at the meeting. The California Association of Criminalists which had recently completed development of a <i>Professional Competency Examination in Forensic Science</i> was represented. A representative of an Ad Hoc Committee on fire debris analysis certification, formed by the American Academy of Forensic Sciences (AAFS) Criminalistics Section was present.
December 1989	ABC incorporated in NY with July meeting attendees as charter members. Five forensic organizations — California Association of Criminalists (CAC), Mid-Atlantic Association of Forensic Scientists (MAAFS), Midwestern Association of Forensic Scientists (MAFS), Northeastern Association of Forensic Scientists (NEAFS), and Southern Association of Forensic Scientists (SAFS)— became charter member organizations.
September 1991	Liaison with the American Society of Crime Laboratory Directors (ASCLD) established.
February 1992	AAFS Criminalistics Section votes to join ABC.
April 1992	Liaison with the UK Forensic Science Service (FSS) established.
February 1993	First General Knowledge Examination (GKE) offered at the Boston AAFS Meeting.
July 1993	First Diplomate certificates awarded and re-certification professional development program established.
September 1993	ASCLD resolution that "encourages the effort that is being made by ABC . . ."
February 1994	First Specialty Examinations (SEs) offered — Fire Debris, Forensic Biology, Drug Identification — at the San Antonio AAFS Meeting.  Proficiency Testing Program implemented.

ABC Board  
July 1994



## B. ABC DUTIES, DEFINITIONS AND ROLES

### 1. Board of Directors

1.1 Composition - as defined in the By-laws, one representative from each Member Organization, chosen by that organization plus three at-large members.

#### 1.2 Duties include:

1.2.1 Establish the Certification Program.

1.2.2 Define eligibility requirements.

1.2.3 Define certification process.

1.2.4 Define recertification process.

1.2.5 Establish applicable procedures and processes to administer the program.

1.2.6 Set fees for certification.

1.2.7 Research and develop funding possible funding sources; receive funds; account for and distribute funds.

1.2.8 Administer the certification program.

1.2.8.1 Determine date, time and location of certification examinations with the input of the Examinations Committee, Regional Organizations, and other organizations.

1.2.8.2 Prepare and distribute announcements.

1.2.8.3 Prepare and distribute applications.

1.2.8.4 Notify candidates of examination results.

1.2.8.5 Issue certificates to successful candidates.

1.2.8.6 Maintain applicant records and confidentiality.

1.2.8.7 Establish and maintain appeals processes as needed (i.e. ethics violations; examination results; candidates

B. DUTIES, DEFINITIONS, AND ROLES, cont.

applications; etc.).

2. Examinations Committee

2.1 Composition - as defined in the By-laws, one representative from each Member Organization, chosen by that organization.

2.2 The ABC Board of Directors provides direction and oversight to the Examinations Committee through the Examinations Committee Chair.

2.3 Duties include:

2.3.1 Oversee regional Peer Group activities

2.3.1.1 Coordinate formation of the Peer Groups with Member Organizations and other organizations.

2.3.1.2 Establish appropriate communication and review mechanisms.

2.3.2 Develop and maintain Knowledge, Skills, and Abilities (KSA) data on forensic sciences.

2.3.2.1 Serve as a resource and authority for preparation of KSA's.

2.3.2.2 Provide guidance to Peer Groups in the preparation of KSA's.

2.3.2.3 Review and finalize Peer Group KSA's.

2.3.3 Develop and maintain examinations

2.3.3.1 Recommend testing levels (experience, etc.) and examination structure for each examination.

2.3.3.2 Guide Peer Groups in utilizing KSA's to develop examination questions.

2.3.3.3 Review and finalize examinations using questions submitted by the Peer Groups.

2.3.3.4 Establish a mechanism for periodic examination review and update (i.e. GKE Management Committee and other similar

B. DUTIES, DEFINITIONS, AND ROLES, cont.

groups).

2.3.3.5 Recommend which examination modules should be offered.

2.3.4 Prepare candidate learning resources.

2.3.4.1 Prepare the learning resources, study guides, bibliographies and sample tests or questions.

2.3.5 Oversee administration of examinations.

2.3.5.1 Administer all aspects of the examinations at the various testing sites.

2.3.5.2 Administer all aspects of post-examination requirements, such as scoring of examinations, examination performance evaluation, reporting of results, identify areas needing improvement for unsuccessful candidates, etc.

3. Examinations Committee Chair

3.1 The Chair is recommended to the Board by the Examinations Committee and appointed by the Board President.

3.2 Duties include:

3.2.1 Oversee and coordinate all Examinations Committee activities (including GKE Management Committee and Test Site Managers).

3.2.2 Implements Board examination policies.

3.2.3 Reports to the Board and is the primary point of contact between the Board and the Examinations Committee.

3.2.4 Responsible for and provide direction to Examination Committee members and Specialty Coordinators.

3.2.5 Facilitate communication among Specialty Coordinators and Peer Chairs.

B. DUTIES, DEFINITIONS, AND ROLES, cont.

3.2.6 Manages Examinations Committee meetings including setting agendas and documenting decisions and actions.

4. Examinations Committee Vice-Chair

4.1 One member of the ABC Examination Committee shall be designated by the Examination Committee Chair to the role of Vice Chair, Liaison with the General Knowledge Examination Management Committee (GKE/MC). The Vice Chair will serve as a full member of the GKE/MC and Liaison with the ABC Examination Committee. In this role, the Vice Chair will represent the interests of the ABC Examination Committee and report the activities of the GKE/MC back to this Committee.

4.2 Duties include:

4.2.1 As a member of the GKE/MC, the Vice Chair will participate in all of the duties of that Committee. These duties include the construction, review and grading of the GKE.

4.2.2 When the Examination for the next offering has been finalized by the Management Committee, the Vice Chair will provide the appropriate number of examinations and answer sheets to next Site Manager.

4.2.3 The Vice Chair will contact the Test Site Manager before facility arrangements for the site have been finalized and provide to the Test Site Manager with the written guidelines for offering the GKE.

4.2.4 After the deadline for admission to the next GKE has passed, the Vice-Chair will contact the Board secretary for the number of approved candidates for the next offering. The Vice Chair will print the appropriate number of copies of the GKE to provide to the Site Manager.

4.2.5 When the Vice Chair sends the examination to the Site Manager, also included will be answer sheets, candidate critique forms (ABC 404), Offering Summary forms (ABC ???), instructions for completing the demographic data on the answer sheets (ABC ???) and the script for the oral instructions (ABC 402.GKE).

B. DUTIES, DEFINITIONS, AND ROLES, cont.

- 4.2.6 The Vice Chair will receive the following from the Site Manager after completion of the offering: the original answer sheets and one copy of each (sent under separate cover), all examination booklets sent to the Site Manager, the Offering Summary and the candidate critiques.
- 4.2.7 The Vice Chair will submit the answer sheets for grading and statistical evaluation. Upon receipt of the completed grading and evaluation, the Vice Chair will provide this information to the members of the GKE/MC (without candidate names).
- 4.2.8 When completed, the Vice Chair will provide the scores (without names) and Pass/Fail recommendation of the GKE/MC to the Examination Committee for approval. Once approved, the Vice Chair will provide Pass/Fail results to the Registrar for notification of the candidates.
- 4.2.9 The Vice Chair will provide to the non-passing candidates of the previous offering(s) summaries of the subject categories which met or exceeded a miss rate higher than the percentage required for passing.

5. General Knowledge Examination Management Committee

- 5.1 Composition - The General Knowledge Examination Management Committee (GKE/MC) is composed of Diplomates of the ABC. The members are appointed by the President of the ABC from nominees provided by the member regional associations. Members of the GKE/MC are appointed in such a way as to represent a broad geographic area, various regional interests and, as possible, specialty field familiarity. As long as the contract between the ABC and the CAC is in force, the MC will always include a CAC representative.

Members of this committee will serve at the pleasure of the President but, with the exception of the initial members, for not more than three years in a row and their terms will be set in such a manner as to stagger replacement. The Vice Chair of the ABC Examination Committee will serve as a member of the GKE/MC and liaison to the EC.

All actions taken by the GKE/MC shall be specifically and thoroughly documented and provided to the ABC

B. DUTIES, DEFINITIONS, AND ROLES, cont.

Examination Committee.

5.2 Duties include:

- 5.2.1 Necessary upkeep and modifications of the GKE, including meeting the fulfillments of the contract between ABC and the CAC until its provisions are no longer in force.
- 5.2.1 Modification of the GKE between offerings.
- 5.2.2 Evaluation and validation of the questions on the GKE using a statistical item analysis as a guide and providing on-going test development as new questions and topics are required.
- 5.2.3 Updating of the study guide.
- 5.2.4 Evaluate and, as necessary, eliminate questions in the GKE as needed based on statistical evaluation and review. Using statistical item analysis provided by a scoring/testing agency:
  - 5.2.4.1 evaluate the questions on the GKE for performance and designate the questions requiring review.
  - 5.2.4.2 Review designated questions for performance, validity, clarity and citation.
  - 5.2.4.3 Eliminate questions as necessary and adjust raw scores as appropriate.
  - 5.2.4.4 Propose recommended pass/fail points, subject to the approval of the Examinations Committee.
  - 5.2.4.5 Report results and recommendation to the EC through the Vice Chair.
- 5.2.5 Evaluate and modify questions and GKE content as required.
  - 5.2.5.1 Using the data from the above review, modify questions to insure validity, clarity and citation.
  - 5.2.5.2 Assemble the next version(s) of the GKE

B. DUTIES, DEFINITIONS, AND ROLES, cont.

using the modifications from above and/or any substitute questions to provide at least a 10% change in the examination.

- 5.2.5.3 Review and modify as necessary the examination content with respect to the target goals for the appropriate balance of the various KSA's.
- 5.2.5.4 Perform a final review on the proposed next version of the GKE.
- 5.2.5.5 Provide a copy of the next examination and the key to the Vice Chair for production and distribution at least thirty (30) days prior to the next scheduled offering.
- 5.2.6 Perform on-going test development to provide a steady pool of acceptable, categorized and validated questions for insertion into various versions of the GKE for variety of examinations.
  - 5.2.6.1 Add questions for new and developing methods, contemporary current literature and any other changing information.
  - 5.2.6.2 Gather, categorize and validate questions on various topics for replacement pools.
  - 5.2.6.3 Generate and/or gather, categorize and validate questions for new topics and changing methods or information.
  - 5.2.6.4 Update the study guides and provide new literature citations as necessary.
  - 5.2.6.5 Provide a written report of development activities to the Vice Chair for the EC.

6. Specialty Coordinators

- 6.1 Composition - each Specialty Coordinator will be appointed by the Examinations Committee Chair, be an Examinations Committee member (if possible), and have expertise in the specialty they are coordinating.

B. DUTIES, DEFINITIONS, AND ROLES, cont.

6.2 Duties include:

- 6.2.1 Reports to the Examinations Committee Chair.
- 6.2.2 Responsible for and provides direction to Peer Group Chairs.
- 6.2.3 Coordinates all activities of their Specialty Peer Groups.
- 6.2.4 Facilitates communication among his/her Peer Group Chairs.
- 6.2.5 Serves as the primary point of contact for the Examinations Committee and Board to the Peer Groups.
- 6.2.6 Reviews and finalizes Specialty Area Examination Module(s) for their Specialty.

7. Peer Groups

- 7.1 Peer Groups are designed to provide input to the Examinations Committee and the Board on a broad range of certification issues. They are a source of information on examiners' concerns and views nationwide.

The Board recognizes that they are a critical source of information for the proper development of the certification program and encourages their formation in each Specialty Area within each Member Organization and other organizations as needed. They will be formed as each Member Organization, working with the Examinations Committee, feel is necessary.

- 7.2 Composition - specialists in a given discipline (i.e. fire debris peer group, drug peer group, etc.) comprise each Peer Group. The size of each peer group shall be determined by the Member Organization with the assistance of the Examinations Committee. The members are drawn from within the geographic boundaries of the Member Organization. Each Specialty Area pursued by the Examinations Committee shall have Peer Groups formed by each interested Member Organization.

7.3 Duties include:

- 7.3.1 Prepare drafts of the KSA's for their module.



**B. DUTIES, DEFINITIONS, AND ROLES, cont.**

- 7.3.2 Review the KSA drafts submitted by their Peer Group counterparts from other Member Organizations.
- 7.3.3 Prepare examination questions in their Specialty Area module using the KSA's finalized by the Examinations Committee.
- 7.3.5 Assist the Examinations Committee in finalizing KSA's and examinations.

**8. Peer Chairs**

**8.1 Duties include:**

- 8.1.1 Responsible to ABC Specialty Coordinators handling that specialty.
- 8.1.2 Oversee all Peer Group activities.
- 8.1.3 Facilitates communication among his/her Peer Group.
- 8.1.4 Serves as the primary point of contact for the Examinations Committee and Board.

**9. Test Site Manager**

- 9.1 This is ABC's representative at examination sites. The Test Site Manager will be a Board or Examinations Committee member, if possible. In addition they will be a Diplomate, if proctoring the GKE, or a Fellow, if proctoring a Specialty Module (or not be eligible for that specialty).

**9.2 Duties include:**

- 9.2.1 Reports to the Examinations Committee Chair.
- 9.2.2 Oversee and coordinate all aspects of examination administration.
- 9.2.3 Coordinates with Examinations Committee Chair, Registrar, and other proctors, as needed.
- 9.2.4 Arrange for suitable testing site.
- 9.2.5 Arranges for needed on-site materials including sufficient examination copies and answer sheets.

B. DUTIES, DEFINITIONS, AND ROLES, cont.

- 9.2.6 Verifies candidate's identity before administering examination.
- 9.2.7 Along with additional proctors, monitors candidates while they take the examination.
- 9.2.8 Collects and verifies answer sheets and examination booklets.
- 9.2.9 Arranges for secure transportation of answer sheets to test grading service.
- 9.2.10 Submits a report on examination administration to Examinations Committee Chair (ABC ???).

10. Proficiency Administration Committee (PAC)  
(ABC Board Sub-Committee)

See PAC Report - Duties etc. extremely well covered

11. Proficiency Review Committees

See PAC Report - Duties etc.

12. Ethics and Appeals Review Committee  
(ABC Board Sub-Committee)

12.1 Composition - the Committee is appointed by the Board President and consists of three Diplomates (may be Board or Examinations Committee members).

12.2 Duties include:

See Appeals Procedure for Details under Section J.

13. Credentials Committee  
(ABC Board Sub-Committee)

13.1 Composition - the Committee consists of a minimum of three persons (may be Board members); the Chair is appointed by the Board President.

13.2 Duties include:

13.2.1 Administer review and approval of candidate applications.

13.2.2 Establish mechanisms to process candidate

B. DUTIES, DEFINITIONS, AND ROLES, cont.

applications to include verification of information, candidate status notification, and appeals process.

13.2.3 Set application submission requirements (e.g. timetables, forms, response letters, etc.).

13.2.4 Coordinate, as needed with Registrar (person distributing and receiving certification application packets), Examinations Committee and Examination Test Site Managers.

14. Registrar

to be completed

C. DEVELOPMENT OF THE GENERAL KNOWLEDGE EXAMINATION

- 1 The General Knowledge Examination is intended to accurately measure the knowledge of applicants for Diplomate Status.
- 2 The ABC General Knowledge Examination is derived from the California Association of Criminalists (CAC) General Criminalistics Examination.
  - 2.1 The General Criminalistics Examination was produced by the CAC using a process similar to that described in this document, utilizing Peer Groups formed throughout the State of California.
  - 2.2 Members of the original ABC Board of Directors and the Examination Committee sat for the CAC General Criminalistics Examination at the 1991 American Academy of Forensic Sciences (AAFS) meeting held in Anaheim, California.
  - 2.3 They judged the CAC General Criminalistics Examination to be suitable, with appropriate modification, to serve as the ABC General Knowledge Examination, for use on a national basis.
- 3 The CAC solicited input from the ABC as to modifications necessary for the CAC to offer the General Criminalistics Examination on a national basis. The ABC representatives who took the General Criminalistics Examination in Anaheim did a thorough review of the General Criminalistics Examination, making recommendations regarding examination questions that were:
  - 3.1 Too "generalist-oriented", requiring too much detailed knowledge in a specific topic area for a person specializing in a different topic area to be expected to know.
  - 3.2 Specifically related to California law or procedures, therefore irrelevant to those working in other states.
  - 3.3 Confusing, poorly worded, or otherwise needing improvement.
- 4 The CAC used this input, combined with the suggestions of reviewers from a professional test development company, to revise the CAC General Criminalistics Examination.
  - 4.1 Replacement questions were also solicited from the ABC Peer Groups around the country. Many of these new questions were utilized in the revised CAC General

C. DEVELOPMENT OF THE GENERAL KNOWLEDGE EXAMINATION, cont.

Criminalistics Examination.

- 4.2 The revised CAC General Criminalistics Examination was offered to a national audience at the 1992 AAFS meeting in New Orleans, Louisiana, as well as at sites in California.
- 4.3 During these offerings of the revised CAC General Criminalistics Examination, the CAC requested another review by the professional test development company and made a second revision.
- 5 A formal agreement (Appendix B) was signed by which the ABC purchased the rights to the CAC General Criminalistics Examination.
  - 5.1 The General Criminalistics Examination was then revised a third time by the ABC Examinations Committee, making it still better suited for use by a national clientele composed of both "specialists" and "generalists". This document became the ABC General Knowledge Examination.
  - 5.2 The first national offering of the ABC General Knowledge Examination was at the February, 1993 AAFS meeting in Boston, Massachusetts.
  - 5.3 The first regional administration of the ABC General Knowledge Examination was at the Spring, 1993 meeting of the Southern Association of Forensic Scientists (SAFS) in Savannah, Georgia.

D. MANANGEMENT OF THE GENERAL KNOWLEDGE EXAMINATION

1. The General Knowledge Examination is intended to accurately measure the knowledge of applicants for Diplomate status. By a process of continuous review, the General Knowledge Examination will address the advance of forensic science knowledge and technology, thereby retaining its currency and relevancy to the field.
2. More that one version of the General Knowledge Examination may be in use at any given time, allowing unsuccessful candidates to retake the examination without giving them an undue advantage compared to those taking the examination for the first time.
3. New or modified questions for the General Knowledge Examination are periodically produced by the Peer Groups and GKE Management Committee. The questions are made available to the CAC for review, as required by the formal agreement between ABC and CAC (appendix B).
  - 3.1 All new or modified questions are submitted for sensitivity review, then "pilot tested" in an offering of the General Knowledge Examination.
  - 3.2 New or modified questions are not counted for scoring the performance of the candidates sitting for that General Knowledge Examination.
  - 3.3 In the review and critique of that offering of the General Knowledge Exam, the performance of each new or modified question is evaluated.
  - 3.4 Those new or modified questions performing acceptably are deemed validated, and may be incorporated for scoring purposes into a future version of the General Knowledge Exam.
  - 3.5 Those new or modified questions not performing acceptably are further modified and pilot tested again, or are discarded.
- 4 The Examinations Committee, with the assistance of Peer Group Chairs, is responsible for compiling the Study Guide for the General Knowledge Examination. While it is not feasible for the Study Guide to cover every possible question, the goal is to produce a Study Guide sufficiently comprehensive so that anyone qualified to sit for the General Knowledge Examination should have a reasonable expectation of passing it, assuming they read the Study Guide materials.
  - 4.1 The study guide is derived from the citations provided

D. MANAGEMENT OF THE GENERAL KNOWLEDGE EXAM, cont.

by Peer Group members for the questions they have composed.

- 4.2 It must list references covering all KSA items.
- 4.3 It need not list references covering all General Knowledge Examination questions.
- 4.4 Those questions whose citations are not included in the Study Guide should be available in the current literature.
- 4.5 Ideally, the study guide should concentrate on major texts, review papers, or other similar works (as opposed to individual research reports).
- 4.6 An applicant for Diplomate status cannot expect to become sufficiently knowledgeable to pass the General Knowledge Examination simply by reading the references listed in the Study Guide.
  - 4.6.1 A minimum training/experience level (as mandated in the ABC application requirements) will also be needed.
- 4.7 An applicant for Diplomate status should not rely on experience alone to pass the General Knowledge Examination.
  - 4.7.1 Additional study in unfamiliar subject areas will probably be necessary to achieve a passing grade.

E. DEVELOPMENT OF THE SPECIALTY EXAMINATIONS

- 1 The Specialty Examinations are intended to accurately measure the knowledge of applicants applying for Fellow status.
- 2 The development of Specialty Exams follows a process recommended by a professional test development company.
  - 2.1 All Examinations Committee members and Peer Group Chairs initially received training and background text information from a professional test development company, to prepare them for the complexities of the tasks involved, and to ensure the validity of the work product.
- 3 The development of a Specialty Examination begins with the writing of Job Descriptions for the specialty in question.
  - 2.1 Each member of the Peer Groups for that specialty writes a Job Description:
    - 2.1.1 This lists in broad terms the major duty requirements of the work performed in that specialty.
    - 2.1.2 This ensures that regional and local variations in requirements are all taken into consideration.
    - 2.1.3 Each Peer Group member submits their Job Descriptions to their Peer Group Chair.
  - 2.2 Each Peer Group Chair then:
    - 2.2.1 Consolidates the Job Descriptions produced by the members of his/her group into a single document.
    - 2.2.2 Eliminates excessive duplication in the Job Descriptions.
    - 2.2.3 Retains every item mentioned which conveys a significantly different idea.
    - 2.2.4 No value judgements are made as to the importance or suitability of any individual item at this point.
  - 2.3 The Peer Group Chairs then forward the documents to the Specialty Coordinator for that specialty.
  - 2.4 The Specialty Coordinator likewise then:



E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

- 2.4.1 Consolidates the Job Descriptions from the different Peer Groups into a single document, the Master Job Description.
- 2.4.2 Eliminates excessive duplication in the Job Descriptions.
- 2.4.3 Retains every item mentioned which conveys a significantly different idea.
- 2.4.4 No value judgements are made as to the importance or suitability of any individual item at this point.
- 2.5 This Master Job Description is then returned to the Peer Group Chairs, who in turn distribute the Master Job Description to their Peer Group members.
  - 2.5.1 Each Peer Group member rates each item on the Master Job Description as to its importance in that specialty, using a scale of 1 to 4 (where 4=most important, and 1=least important).
  - 2.5.2 The individual ratings are averaged by the Peer Group Chairs, and the average ratings produced by the Peer Group are forwarded to the Specialty Coordinator, who in turn averages the ratings from the different Peer Groups to determine the overall average rating for each Job Description item.
  - 2.5.3 In a similar fashion, the Specialty Coordinator obtains consensus recommendations from the Peer Group members, through their Chairs, as to what numerical rating score should be used as the cut-off; i.e., items receiving average rating scores equal to or above this score are retained, while items scoring below the cut-off are dropped from the Master Job Description.
  - 2.5.4 The Specialty Coordinator again averages the recommendations from the Peer Group Chairs to arrive at the consensus cut-off score to be used.
- 2.6 The Specialty Coordinator applies the cut-off score to revise the Master Job Description.
  - 2.6.1 The revised Master Job Description is then returned to the Peer Groups for a second review and comment.

E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

- 2.6.2 After reviewing comments from the Peer Group members, the Peer Group Chairs and the Specialty Coordinator collectively reach a consensus decision on whether further revision of the Master Job Description is necessary.
- 2.6.3 They may make minor changes based on input from the Peer Groups, or if necessary, may call for a second round of formal ratings.
- 2.6.4 When the Peer Group Chairs and Specialty Coordinator are collectively satisfied with the content of the Master Job Description, it is formally adopted as the Specialty Job Description.
- 2.6.5 The Specialty Job Description is then used by the Peer Groups to guide their work in the next step of the development process.
- 2.7 Once formally adopted, a Specialty Job Description is not unchangeable. It is rather a living document, which can be modified when deemed necessary by the Peer Groups. In this way the Specialty Job Description may keep pace with developments in the specialty field.
- 3 The next step in the process is the development of a knowledge, skills, and ability (KSA) list. The development of the KSA list progresses in a fashion almost identical to the development of the Job Description, except that whereas the Job Description dealt with general descriptions, the KSA list deals with specifics.
  - 3.1 The Peer Group members each produce a list of specific KSA's needed to perform the duties enumerated in the Specialty Job Description.
  - 3.2 When producing these KSA lists, no distinction is attempted to be made as to whether a proposed item is knowledge, a skill, or an ability, as these terms tend to overlap. KSA is regarded as an all-inclusive combined term.
  - 3.3 Each Peer Group member devises a KSA list and forwards it to the Peer Group Chair.
  - 3.4 The Peer Group Chairs then:
    - 3.4.1 Consolidate the KSA lists produced by the members of his/her group into a single document.

E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

- 3.4.2 Eliminates excessive duplication in the KSA lists.
- 3.4.3 Retains every item mentioned which conveys a significantly different idea.
- 3.4.4 No value judgements are made as to the importance or suitability of any individual item at this point.
- 3.5 The Peer Group Chairs then forward the consolidated Peer Group KSA lists to the Specialty Coordinator for their specialty.
- 3.6 The Specialty Coordinator likewise:
  - 3.6.1 Consolidates the KSA lists produced by the Peer Groups into a single document.
  - 3.6.2 Eliminates excessive duplication in the KSA lists.
  - 3.6.3 Retains every KSA item mentioned which conveys a significantly different idea.
  - 3.6.4 No value judgements are made as to the importance or suitability of any individual KSA item at this point.
- 3.7 This Master KSA list is then returned to the Peer Group Chairs, who in turn distribute it to their Peer Group members.
- 3.8 Peer Group members rate each KSA item twice.
  - 3.8.1 Each item on the master KSA list is given an Importance Rating: How important is it for a criminalist working in the specialty to possess that particular KSA item in order to acceptably perform the functions and duties of the job position. A scale of 1 to 4 is used (where 4=most important, and 1=least important).
  - 3.8.2 Each item on the master KSA list is giving a Frequency Rating: How often will a criminalist working in the specialty be called upon to exercise that particular KSA item on the job. A scale of 1 to 4 is used (4=most frequently, 1=least frequently).

E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

- 3.9 The individual ratings are averaged by the Peer Group Chairs, and the average ratings produced by the Peer Group are forwarded to the Specialty Coordinator, who in turn averages the ratings from the different Peer Groups to determine the overall Average Rating for each KSA item.
- 3.10 In a similar fashion, the Specialty Coordinator obtains consensus recommendations from the Peer Group members, through their Chairs, as to what numerical rating score should be used as the cut-off; i.e., items receiving average rating scores equal to or above this score are retained, while items scoring below the cut-off are dropped from the master KSA list.
- 3.11 The Specialty Coordinator again averages the recommendations from the Peer Group Chairs to arrive at the consensus cut-off score to be used for each KSA item.
- 3.12 The Specialty Coordinator applies the cut-off score to revise the Master KSA list.
  - 3.12.1 Using the importance rating cut-off, low rated items are deleted.
  - 3.12.2 The revised Master KSA list is then returned to the Peer Groups for a second review and comment.
  - 3.12.3 After reviewing comments from the Peer Group members, the Peer Group Chairs and Specialty Coordinator collectively reach a consensus decision on whether further revisions of the KSA lists are necessary.
  - 3.12.4 They may make minor changes based on input from the Peer Groups, or if necessary, may call for a second round of formal rating.
  - 3.12.5 When the Peer Group Chairs and Specialty Coordinator are collectively satisfied with the content of revised Master KSA list, it is formally adopted as the Specialty KSA list.
- 3.13 Once formally adopted, a Specialty KSA list is not unchangeable. It is rather a living document, which can be modified when deemed necessary by the Peer Groups. In this way, the KSA lists keep pace with developments in the specialty field.

E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

- 4 The approved Specialty KSA list is used by the Peer Group members to guide their efforts in writing examination questions.
  - 4.1 Questions are written for each Specialty KSA item by each Peer Group.
  - 4.2 Peer Group Chairs are free to divide the work assignments as they see fit, perhaps dividing the Specialty KSA items among the Peer Group members evenly, or perhaps assigning the more difficult Specialty KSA items to Peer Group members with special expertise in these particular Specialty KSA areas.
  - 4.3 The average Frequency Rating for each Specialty KSA is used by the Specialty Coordinator to determine what proportion of questions on a Specialty Examination should be devoted to each Specialty KSA item. This determination allows the Specialty Coordinator to advise the Peer Groups as to how many questions must be produced for each Specialty KSA item.
  - 4.4 Sufficient questions should be produced to allow construction of at least two versions of the exam to begin with, as well as an adequate number of replacement questions to allow for elimination of unacceptable questions.
  - 4.5 Each question must be in multiple-choice format, with one key and three distractors. These guidelines should be followed:
    - 4.5.1 Key unambiguously superior to distractors.
    - 4.5.2 Avoidance of "dangling" stems, negative stems (as in "which of the following is NOT..."), or "trick" questions (as in double negatives).
    - 4.5.3 Distractors and key of similar length and form so as to not attract attention to any one choice.
    - 4.5.4 No "throw away" distractors (all must be worthy of consideration by the examinee).
  - 4.6 Questions are produced by the Peer Group members as individual items, using one question per form (ABC 400). The following items are listed on the form:
    - 4.6.1 Specialty designation.

E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

- 4.6.2 KSA item number.
- 4.6.3 Authoritative reference.
- 4.6.4 Question stem (the question itself).
- 4.6.5 Question distractors (incorrect answers).
- 4.6.6 Question key (correct answer).
- 4.6.7 Copyright information (if the question uses a quote or illustration taken from a copyrighted publication).
- 4.7 Each question must have an authoritative reference listed wherein the key answer can be found. As much as possible, cited references should be limited to the "open" literature available to the scientific community at large.
- 4.8 Peer Group Chairs assign unique identifying numbers to each question received from Peer Group members for tracking purposes and also for historical records.
  - 1000-1999, CAC
  - 2000-2999, CSFS
  - 3000-3999, MAAFS
  - 4000-4999, MAFS
  - 5000-5999, NEAFS
  - 6000-6999, NWAFS
  - 7000-7999, SAFS
  - 8000-8999, SWAFS
  - 9000-9999, AAFS Criminalistics Section
- 4.9 Each question is identified by question number, specialty and Member Organization designations:
  - 4.9.1 For example, the twentieth question written by the CAC Forensic Biology Peer Group would be designated "Biology question #1020", while the fourteenth fiber question written by the MAFS Hair/Fiber PG would be designated "Fiber question #4014", and the ninth hair question written by the SAFS Hair/Fiber PG would be designated "Hair question #7009".
  - 4.9.2 The different Peer Groups from a particular Member Organization can utilize the same one thousand numbers for their questions. For example, the third question written by the NEAFS

E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

Paint/Polymer PG would be designated "Paint/Polymer question #5003", while the third question written by the NEAFS Drug Analysis PG would be designated "Drug question #5003".

- 4.10 Peer Group Chairs are responsible for keeping track of the authors of each question produced by their own group.
- 4.11 All questions written by Peer Group members are collectively reviewed by all Peer Group Chairs and Specialty Coordinator. Using the professional test development company criteria as well as their own knowledge and expertise, the questions are divided into three categories:
  - 4.11.1 Those that are acceptable as submitted.
  - 4.11.2 Those which require modification.
  - 4.11.3 Those which should be discarded completely.
- 4.12 Questions needing revision are returned to their authors with a description of the problem and guidance as to the modifications necessary.
  - 4.12.1 Peer Group members may collaborate in the production or revision of individual questions.
  - 4.12.2 When a question is revised, the appropriate Peer Group Chair adds an alpha character to the numerical designation of the question. For example, the fifth question written by the MAAFS Arson Debris PG would be designated as "Arson question #4005", while the first revision of this same question would be designated "Arson question #4005A", the second revision as "Arson question number #4005B", and so on.
  - 4.12.3 The Specialty Coordinator is responsible for maintaining archival records of the original form of all questions submitted by the Peer Groups, as well as copies of any revisions.
  - 4.12.4 Generally, only the most current revision of a question will be used on the Specialty Examination, but there may be exceptions.
- 4.13 To preserve the confidentiality of the Specialty Examination content, Peer Group members are not privy to

E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

the entire pool of questions, only to those questions produced by their own group.

- 4.14 Only the Peer Group Chairs and Specialty Coordinator have access to the entire pool.

5 Piloting and validation of the Specialty Examination

- 5.1 When the initial question pool is complete, the Specialty Coordinator begins assembly of the first drafts of the Specialty Examination.

5.1.1 Using the frequency ratings determined earlier, the proportional content of the Specialty Examination is decided.

5.1.2 To allow discarded questions to be replaced with piloted questions, the pilot Specialty Examinations should contain more questions than intended for the actual Specialty Examination.

5.1.3 Ideally, two versions of a Specialty Examination are produced.

- 5.2 The Peer Group Chairs and Specialty Coordinator may pre-pilot the Specialty Examination among themselves.

5.2.1 This identifies gross problems prior to administering a pilot Specialty Examination to groups of volunteers.

5.2.2 This may reduce the amount of modifications necessary after each Specialty Examination is piloted.

- 5.3 The remaining question pool is then submitted to the professional test development company for sensitivity review.

- 5.4 Each version of a Specialty Examination is then subjected to pilot testing. Due to the limited number of criminalists specializing in certain specialties, large scale piloting is impossible.

5.4.1 Each Peer Group Chair recruits a small number of Diplomate or Candidates (3-5) from their own Member Organization to pilot Specialty Examinations.

5.4.2 Persons who are neither Diplomates nor Candidates



E. DEVELOPMENT OF SPECIALTY EXAMINATIONS, cont.

may pilot Specialty Examinations by invitation from the Board or Examinations Committee.

- 5.4.3 All versions of a Specialty Examination may be piloted simultaneously, or separately.
- 5.4.4 The pilot Specialty Examinations are graded and the results subjected to statistical analysis to identify poorly performing questions.
  - 5.4.4.1 Poorly performing questions are either discarded or modified to improve their quality.
  - 5.4.4.2 Discarded questions are replaced with additional questions from the pool.
  - 5.4.4.3 When an adequate number of acceptably performing questions have been piloted to cover the Specialty KSA list, the Specialty Coordinator assembles the final version(s) of a Specialty Examination, which has (have) now been validated.

## F. MANAGEMENT OF SPECIALTY EXAMINATIONS

- 1 The Specialty Examinations are intended to accurately measure the knowledge of applicants for Fellow status. By a process of continuous review, the Specialty Examinations will address the advance of forensic science knowledge and technology, thereby retaining their currency and relevancy to the specialty.
- 2 More than one version of a Specialty Examination may be in use at any given time, allowing unsuccessful candidates to retake the examination without giving them an undue advantage compared to those taking the examination for the first time.
- 3 New or modified questions for the Specialty Examinations are periodically produced by the Peer Groups and Specialty Examination Management Committees, especially when Job Descriptions or KSAs are revised.
  - 3.1 All new or modified questions are submitted for sensitivity review, then "pilot tested" by appearing in an offering of the Specialty Examination.
  - 3.2 New or modified questions are not counted for scoring the performance of the candidates sitting for that Specialty Examination.
  - 3.3 In the review and critique of that offering of the Specialty Examination, the performance of each new or modified question is evaluated.
  - 3.4 Those new or modified questions performing acceptably are deemed validated, and may be incorporated for scoring purposes into a future version of the Specialty Examination.
  - 3.5 Those new or modified questions not performing acceptably are further modified and pilot tested again, or are discarded in their entirety.
- 4 The Specialty Coordinator, with the assistance of Peer Group Chairs, is responsible for compiling the Study Guide for the specialty in question. While it is not feasible for any Study Guide to cover every possible question, the goal is to produce a Study Guide sufficiently comprehensive so that anyone qualified to sit for the Specialty Examination should have a reasonable expectation of passing it.
  - 4.1 The Study Guide is derived from the citations provided by Peer Group members for the questions they have composed.
  - 4.2 It must list references covering all KSA items.

**F. MANAGEMENT OF SPECIALTY EXAMINATIONS, cont.**

- 4.3 It need not list references covering all Specialty Examination questions.
- 4.4 Those questions whose citations are not included in the Study Guide should be available in the current literature of that specialty.
- 4.5 Ideally the Study Guide should concentrate on major texts, review papers, or other similar works (as opposed to individual research reports).
  - 4.5.1 It is recognized that applications for certification may come from qualified individuals in the private sector who do not have ready access to restricted circulation government publications.
  - 4.5.2 Therefore, an attempt should also be made to limit the cited references to the "open" literature available to the general scientific community.
  - 4.5.3 Restricted circulation references should be avoided, if possible. However, for some specialties (e.g. Drug Analysis), the use of restricted circulation references (e.g. Drug Enforcement Administration publications) may be required. In this event, a notation should be made in the guide as to the procedures required to obtain the references in question. Most restricted circulation government publications can be obtained through the Freedom of Information Act or other official channels.
- 4.6 An applicant for Fellow status cannot expect to become sufficiently knowledgeable to pass a Specialty Examination simply by reading the references listed in the Study Guide.
  - 4.3.1 A minimum training/experience level (as mandated in the ABC application requirements) will also be needed.
- 4.7 An applicant for Fellow status should not rely on experience alone to pass a Specialty Examination.
  - 4.7.1 Additional study in unfamiliar subject areas will probably be necessary to achieve a passing grade.

G. APPLICATION HANDLING

1. It is the goal of the ABC to initiate and maintain a system which documents all written correspondence between American Board of Criminalistics, Inc. and an applicant.
2. Requests for application packets will be forwarded to the Registrar.
  - 2.1 The Registrar shall mail an application packet (ABC 101-110, 40X-Y, 5XX, 606) to the applicant.
  - 2.2 If Specialty Examination information is requested, the appropriate Study Guide will be mailed to the applicant.
3. Upon receipt of an application, the Registrar shall:
  - 3.1 Create a file for the applicant (including the Application Checklist, ABC 149), keeping paperwork pertaining to that applicant in that file folder.
  - 3.2 Label these files by name and sort alphabetically.
  - 3.3 Review the application for completeness.
    - 3.3.1 If any required item is missing, form ABC 151 is sent to the applicant.
    - 3.3.2 If the missing information is not received in a timely manner, a second attempt shall be made to contact the applicant.
  - 3.4 Enter the applicant information into the computer database which contains at least the following fields:
    - social security number
    - name (as specified in the application)
    - work address
    - home address
    - phone number
    - date application is approved
    - certificate number
    - CAC      Yes      No
  - 3.4.1 Each time information is entered into the applicant's file, ABC 149 shall also be updated.
  - 3.5 Mail the two copies of the complete application to the Chairperson of the Credentials Committee.

G. APPLICATION HANDLING, cont.

- 3.6 Mail the two copies of the Proficiency Test paperwork (if included) to the Chair of the Proficiency Administration Committee.
- 3.7 Photocopy the application fee checks.
  - 3.7.1 Note on check if CAC member.
  - 3.7.2 Send the original check to the ABC Treasurer with proof of mailing.
  - 3.7.3 Maintain the photocopied check in applicants file.
- 3.8 Prepare a card with the name of the applicant; attach one of the photos to it. Retain the other photo in the file.
- 4. Upon receipt of approval of an application from the Credentials' Committee Chair, the Registrar shall:
  - 4.1 Complete and mail form ABC 152 to the applicant.
    - 4.1.1 Information to be added to form ABC 152 by the Registrar is to be updated quarterly by the Secretary of American Board of Criminalistics, Inc.
    - 4.1.2 Place a copy of ABC 152 in applicant file.
  - 4.2 The application approval date is added to the applicants database file.
- 5. Upon receipt of denial of application from the Credentials Committee Chair, the Registrar shall mail form ABC 153 or ABC 154 to the applicant.
  - 5.1 Place a copy of ABC 153 or 154 in applicant file.
- 6. Upon receipt of the sitting fee from an approved applicant, the Registrar shall:
  - 6.1 Assign a certificate number and add it to the applicant's database file.
  - 6.2 Mail form ABC 155 (a postcard) to the applicant.
    - 6.2.1 Place a copy of ABC 155 in applicant file.
  - 6.3 Photocopy the sitting fee checks.

G. APPLICATION-HANDLING, cont.

- 6.3.1 Note on check if CAC member.
- 6.3.2 Send the original check to the ABC Treasurer with proof of mailing.
- 6.3.3 Maintain the photocopy of the check.
- 7. No less than 15 days prior to the offering of an examination, the Registrar shall:
  - 7.1 Produce a list of the applicants with a reserved seat for that examination.
    - 7.1.1 The list is arranged by certificate number and contains each applicants place of business.
  - 7.2. Mail the list and the cards with photos to the Test Site Manager of the examination; a copy of the list is mailed to the Examination Committee Vice-Chair.
    - 7.2.1 The Examination Committee Vice-Chair will provide the Registrar with the name of the Test Site Manager of the exam.
- 8. Following the offering of an examination, the Registrar shall mail form ABC 156 to those applicants with reserved seats who did not attend the examination.
  - 8.1 Place a copy of ABC 156 in applicant file.
  - 8.2 The Test Site Manager of an examination will send to the Registrar within 10 days of the offering of the examination a complete list all applicants with reserved seats who did not attend the examination.

## H. CREDENTIALS COMMITTEE

1. The purpose of the Credentials Committee is to ascertain the applicant's qualifications to sit for the General Knowledge Examination or a Specialty Examination.
2. The Chair of the Credentials Committee receives two copies of an applicants packet from the Registrar and:
  - 2.1 Reviews packet for completeness
    - 2.1.1 If the application packet is not complete, contact the Registrar or the applicant to obtain missing items.
  - 2.2 Assigns a member of the Credentials Committee to act as the investigator.
  - 2.3 Files one copy of the application packet and mails the other to the assigned investigator.
3. Upon receipt of the application packet, the assigned investigator:
  - 3.1 Reviews packet for completeness.
    - 3.1.1 If the application packet is not complete, contact the Registrar, Chair of the Credentials Committee, or the applicant to obtain missing items.
  - 3.2 Investigates the applicant.
    - 3.2.1 Discuss applicant with at least one of the references; education, employment, training, character, and specialties are among the topics that may be discussed.
    - 3.2.2 Confirm educational background through discussion with reference or by examining copies of diploma, transcript, or other documentation.
    - 3.2.3 Confirm employment through discussion with reference or by examining application packet.
    - 3.2.4 Discuss applicant with others if necessary.
  - 3.3 If the applicants qualifications are approved:
    - 3.3.1 Notify the Chair of the Credentials Committee by mailing the completed Credentials Committee Checklist (ABC 201).

H. CREDENTIALS COMMITTEE, cont.

- 3.4 If there is a problem with an applicant's qualifications, the investigator will discuss with the Chair of the Credentials Committee or applicant as appropriate, to investigate thoroughly and resolve the problems if possible.
  - 3.4.1 If the problems are resolved, notify the Chair of the Credentials Committee by returning the completed Credentials Committee Checklist (ABC 201).
  - 3.4.2 If the problem is not resolved, notify the Chair of the Credentials Committee by returning the completed Credentials Committee Checklist (ABC 201).
- 3.5 Upon receipt of notification of an application problem which the investigator is unable to resolve, the Chair of the Credentials Committee will review the situation and attempt to resolve the problem.
  - 3.5.1 If the Chair is unable to resolve the problem, the Chair will consult with the ABC President, legal counsel, and Ethics Committee, if appropriate.
- 4. Upon completion of the Credentials Committee investigation, the Chair of the Credentials Committee:
  - 4.2 Notifies the Registrar of approvals by mailing the completed Report of Approved Applicants (ABC 202).
  - 4.3 Notifies the Registrar of non-approvals by mailing the completed Report of Non-Approved Applicants (ABC 203).



I. OFFERING AN EXAMINATION

1. Examination construction

- 1.1 The question topic contents of the General Knowledge Examination (GKE) and Specialty Examinations will be constructed by the Examination Committee around the dictates of the Knowledge, Skills and Abilities (KSA's) assembled and approved by the ABC Board of Directors.
- 1.2 All GKE examinations will contain approximately 200 questions and candidates will be allowed three hours to complete the exam. The number of questions in Specialty Examinations may vary.
  - 1.2.1 If the length of the exam or the time allotted to complete it is changed, the length of both factors should remain such that there are approximately 60-70 questions per hour.
  - 1.2.2 All questions will be multiple choice.
- 1.3 Prior to each offering of an examination, a copy of each version of the exam to be used will be reviewed for mistakes and content by AT LEAST TWO members of the Examinations Committee.
  - 1.3.1 If the particular version(s) of the exam(s) being used has(have) been used successfully before, this review is not required.
  - 1.3.2 Preferably, at least two versions of the examination will be used at each offering.
- 1.4 Any question modifications or additions between offerings of an examination will be reviewed by AT LEAST TWO members of the Examinations Committee prior to their use in the exam.
- 1.5 The examination booklets will be individually sealed and numbered prior to being released for use.
- 1.6 The front cover of the examination test booklets will include:
  - 1.6.1 The title and date of the examination
  - 1.6.2 The topics of the questions included
  - 1.6.3 Time allotment
  - 1.6.4 Instructions which indicate "DO NOT OPEN UNTIL

I. OFFERING AN EXAMINATION, cont.

INSTRUCTED TO DO SO."

2. Prior to the actual offering of an examination a number of arrangements and issues must be dealt with by the Test Site Manager and a local designate/host. Those issues are listed below.

- 2.1 When candidates are notified that they meet the requirements to take an examination, they should also be informed of some of the procedures they will face when they present themselves for the examination. This information should include:

- 2.1.1 Calculators, books, notes, etc. will not be allowed during the exam.

- 2.1.2 The examination session will take 3 hours plus time for instructions; the Forensic Biology examination will take up to 4 hours plus time for instructions.

- 2.1.3 Everything necessary to take the examination will be provided.

- 2.1.4 Smoking will not be allowed in the exam area.

- 2.1.5 Candidates will be allowed to leave the room only to use the restroom; anyone visiting the restroom will be escorted by a proctor.

- 2.1.6 Candidates will be required to bring their approval documents (ABC 155) for identification when they check in.

3. Room arrangement

- 3.1 The room should be large enough to accommodate the anticipated candidates in classroom style seating with at least two feet between chairs.

- 3.2 It must be assured that the room is not next to, or in the vicinity of, another meeting or function which might create disruptive noise.

- 3.3 The facility staff should be informed that quiet will be required for the testing period.

- 3.4 The lighting and room temperature should be checked for comfort and the procedures for adjusting them should be identified.

I. OFFERING AN EXAMINATION, cont.

- 3.5 Covering for the table tops should be arranged so that they do not interfere with marking the answer sheet. (It may be necessary to ask the facility to not put tablecloths on the tables.)
- 4. The following materials should be available on every table before an examination begins:
  - 4.1 Pencils and scratch paper.
  - 4.2 Drinking water.
  - 4.3 Tissues.
  - 4.4 Numbered placards and sealed exam booklets. If necessary, knives to cut the seals should also be provided.
- 5. A mechanism for timekeeping must be provided.
  - 5.1 Preferably, a clock or countdown timer should be visible from any seat in the room.
  - 5.2 If this is not possible, an allowable substitute is a board or easel (visible from any seat in the room) on which time remaining is posted on a regular basis.
    - 5.2.1 If a board or easel is used, it should be accompanied by verbal announcements.
  - 5.3 Even if a clock is used, verbal reminders should be made at 30 minutes and 10 minutes remaining.
- 6. In addition to the Test Site Manager, proctors are necessary for the administration of an examination; the Test Site Manager may also serve as a proctor.
  - 6.1 Arrangements for proctors should be made ahead of time.
  - 6.2 Proctors should be limited to individuals who have successfully completed the examination being offered, or who are not qualified for that examination in the case of Specialty Examinations.
  - 6.3 A minimum of two proctors is required, preferably at least one male and one female.
  - 6.5 The total ratio of proctors to candidates should be at least 1:20.

I. OFFERING AN EXAMINATION, cont.

7. Candidates must check-in prior to the administration of an examination.

7.1 Tables will be set up outside the entrance to the examination room.

7.2 A master list of approved applicants, provided by the Registrar, will be available.

7.3 The table should have a sign which indicates that it is for examination check in.

7.4 The photographs necessary for verifying the identity of each individual admitted to the examination will be present at this location; this information is supplied by the Registrar.

8. Signs should be prepared and posted outside the examination room indicating "Quiet please! Exam in progress."

9. Once it is time to actually give the examination, the following procedures should be followed:

9.1 Each individual taking the examination will be asked to check in at the table outside the examination room.

9.2 Upon showing proper identification and approval to take the exam:

9.2.1 Each person will be issued a numbered answer sheet

9.2.2 This number will be entered on the master list of applicants next to the candidate's name

9.2.3 The number will correspond to the numbered placards and sealed examination booklet(s) at each seat.

9.3 Each candidate will then be guided to the appropriate seat by a proctor. On being seated each candidate will be instructed to sign the front cover of the examination booklet and await further instructions.

10. Once all of the awaiting candidates have been seated, and the instructions for the exam have been started, the door will be closed and no additional candidates will be seated.

11. The current instructions for the examination (ABC 402) should then be read aloud by one of the proctors and the indicated

I. OFFERING AN EXAMINATION, cont.

procedures followed.

- 11.1 Clock or time remaining arrangements should be explained.
- 11.2 Once the instructions have been completed and questions answered, the examination can commence.
- 12. During the administration of the examination the proctors remain in the room and:
  - 12.1 If necessary, time remaining should be posted approximately every 30 minutes and at 10 minutes remaining.
  - 12.2 Other than this procedure, proctors should be instructed to keep noise and movement to a minimum.
  - 12.3 A proctor should be present outside the examination room to insure that other disturbances are kept away from the location.
  - 12.4 Extra proctors and candidates who have completed the exam should maintain the quiet outside the room or be moved to a different location.
  - 12.5 If a candidate must use the rest room during the examination, he/she will be escorted to the facility by a proctor. It is not necessary to accompany the candidate into the facility but it is good practice to inspect each facility after the examination has started and prior to anyone using it.
  - 12.6 No questions regarding question content will be answered during the examination.
    - 12.6.1 Typographical or other textual errors will be addressed if appropriate.
- 13. As candidates complete the examination
  - 13.1 Individuals who finish the examination prior to three hours and wish to be dismissed will raise their hand.
  - 13.2 A single proctor will go to the candidate and:
    - 13.2.1 Verify that the exam number and answer sheet number correspond.
    - 13.2.2 Collect these items and all the scratch paper.

I. OFFERING AN EXAMINATION, cont.

13.2.3 Dismiss the candidate.

13.3 The proctor will bring the materials to the front table and:

13.3.1 The time will be noted on the front of the examination booklet

13.3.2 The time will be noted on the master list of applicants

13.3.3 The candidate's name is checked off the master list of applicants

14. When time has expired:

14.1 The appropriate announcement will be read (ABC 402).

14.1.1 Candidates will be told to put down their pencils.

14.1.2 Candidates will be told to remain in their seats until dismissed.

14.2 All of the examinations, answer sheets and scratch paper will be collected by proctors.

14.2.1 Examinations and answer sheets will be placed in numerical order and counted to verify they have all been returned.

14.2.2 All scratch paper will be gathered by a single proctor and destroyed.

15. The Test Site Manager will be responsible for the following post-examination duties.

15.1 Photocopy all answer sheets.

15.2 The answer sheets will be placed in a preaddressed envelope along with answer keys for each version of the exam and any necessary documentation or explanation required by the testing service. This envelope will be sealed (witnessed by at least one other person).

15.3 Collect all of the used and unused examination booklets for later destruction.

15.4 Prepare a report on examination administration (ABC XXX).

I. OFFERING AN EXAMINATION, cont.

- 15.5 Send the original answer sheets, examination booklets, examination critique sheets (ABC XXX), and examination administration report (ABC XXX) to the Examination Committee Vice-Chair with proof of mailing.

J. EXAMINATION SCORING, REVIEW, AND NOTIFICATION

1. It is the goal of the ABC to provide timely and accurate scoring, review, and notification of examination results.
2. Scoring the examination
  - 2.1 The completed answer sheets, appropriate keys and other required documentation should be sent to the testing service for correction and evaluation within 5 business days of the examination date.
  - 2.2 It should be requested that the testing agency provide a single list of:
    - 2.2.1 Candidates and their scores. For examinations with modules, the scores for each module must be kept separate.
    - 2.2.2 Individual performance sheets showing the questions each candidate missed.
    - 2.2.3 Category summaries.
    - 2.2.4 A statistical evaluation of the performance of each question including performance of the top, middle and bottom thirds of overall scorers.
  - 2.3 All of the above information should be provided to AT LEAST THREE members of the Examination Committee for evaluation who will:
    - 2.3.1 Evaluate the statistical data for poorly performing questions.
    - 2.3.2 Check for indications of possible "miskeys".
  - 2.4 In person or by phone, these members will discuss their evaluations and arrive at a consensus regarding question validity.
  - 2.5 After questions are evaluated and, if necessary, eliminated, scores will be adjusted.
    - 2.5.1 After scores are adjusted, the results will be evaluated.
    - 2.5.2 Using a target passing score of 80% correct, and evaluating any clear trend in the scores around that point, AT LEAST THREE members of the Examination Committee will arrive at a consensus of a passing score.



J. EXAMINATION SCORING, REVIEW, AND NOTIFICATION, cont.

- 2.5.3 This score will be used to assign a pass or fail status to each candidate.

3. Duties of the Examination Committee

- 3.1 Provide to the Registrar lists of successful and unsuccessful candidates.

- 3.1.1 For those who passed the GKE, written notification (ABC ???) shall be sent.

- 3.1.2 There are two categories of persons who passed a Specialty Exam:

- 3.1.2.1 If the person was already a Diplomate, written notification (ABC ???) shall be sent via return-receipt registered mail.

- 3.1.2.2 If the person took the GKE at the same time as the Specialty Exam, they must pass the GKE as well as the Specialty Exam to obtain Fellow status. If they passed the GKE, written notification (ABC ???) shall be sent.

- 3.1.2.3 If they failed the GKE, but passed a Specialty Exam, they do not get a pass letter for the Specialty Exam.

- 3.1.3 For those who failed the GKE, written notification of failure (ABC 401) shall be sent via return-receipt registered mail.

- 3.1.3.1 A breakdown of incorrect answers in specific areas (ABC 409) will be also be sent, either with ABC 401 or at a later date.

- 3.1.4 For those who failed a Specialty Exam, written notification of failure (ABC 410) shall be sent via return-receipt registered mail.

- 3.1.4.1 A breakdown of incorrect answers in specific area (ABC 411) will also be sent, either with ABC 410 or at a later date.

- 3.2 The Examination Committee will retain the exam booklets, answer sheets and list of incorrect answers for a period of sixty days from the date of the notification of

J. EXAMINATION SCORING, REVIEW, AND NOTIFICATION, cont.

failure.

4. Issuing of certificates

4.1 Certificates are issued each January and July, covering all Diplomates/Fellows since the last issue.

4.2 The Registrar compiles a list of Diplomates/Fellows since the last issue.

4.2.1 The names are checked for spelling against the original application.

4.2.2 The final list and certificates are supplied to the person doing the lettering. When that person is done, the certificates are mailed to the ABC President for signing.

4.3 The Registrar mails the final list and one set of the paperwork to be mailed with the certificates to the ABC Secretary.

4.3.1 The paperwork includes ABC 600, 601, 602, 603, 608, 701, 702, 70?PT memo, and section L of the manual.

4.4 The ABC President signs the certificates and ABC ???. When finished, the certificates and ABC ??? are mailed to the ABC Secretary for signing.

4.5 The ABC Secretary signs the certificates and prepares them for mailing.

4.5.1 The certificates are mailed with the President's letter (ABC ???), recertification information (ABC 600, 601, 602, 603, 608), proficiency testing information (section L from the manual, ABC 701, 702, 70?PT memo).

4.5.2 The Secretary should ensure that the most recent versions of all ABC information is included; the Registrar

5. The review of any appeals made within 45 days of notification as to errors of fact will be the responsibility of the Board of Directors.

K. RECERTIFICATION COMMITTEE

1. The purpose of the Recertification Committee is to ascertain the applicant's qualifications to be recertified as a Diplomate and/or Fellow.
2. ABC Certificates expire 5 years from the issue date of the Diplomate Certificate. To be recertified, a Diplomate or Fellow may do one of the following (see forms ABC 600-602 for detailed requirements):
  - 2.1 Re-apply to take the General Knowledge Exam and/or appropriate Specialty Exams; current qualifications and testing requirements, including application and sitting fees, will apply.
  - 2.2 Send the ABC documentation showing that at least 50 Continuing Education/Professional Development points have been earned since the last recertification; Fellows must have a minimum of 15 points in Specialty Area Activities for each Specialty Area in which he/she is certified.
    - 2.2.1 The Recertification Professional Development and Proficiency Reporting Form (ABC 603) is used to document the professional activities of the Diplomate/Fellow during the calendar year.
    - 2.2.2 Annually (November) ABC 600, 601, 602, and 603 are mailed by the Registrar to each Diplomate/Fellow. They are to be returned to ABC no later than June 1 of the following year, accompanied by the maintenance fee.
      - 2.2.2.1 If postmarked by March 1, the standard maintenance fee is required.
      - 2.2.2.2 If postmarked between March 1 and June 1, it is late and a higher maintenance fee is required.
      - 2.2.2.3 If it is postmarked later than June 1, it will not be processed and the points acquired will not be counted towards those necessary for recertification.
    - 2.2.3 If the Reporting Form was returned prior to June 1
      - 2.2.3.1 The Registrar mails two copies to the Chair of the Recertification Committee and files the original.

K. RECERTIFICATION COMMITTEE, cont.

- 2.2.3.2 Photocopy the maintenance fee checks and mail to the Treasurer with proof of mailing.
  - 2.2.4 If the Reporting Form was postmarked later than June 1, the Registrar returns the form and maintenance fee, along with a past-deadline letter (ABC 607) to the Diplomate/Fellow.
- 3. The Chair of the Recertification Committee receives two copies of the Recertification Professional Development and Proficiency Form from the Registrar and:
  - 3.1 Reviews the recertification packet for completeness
    - 3.1.1 If the recertification packet is not complete, contact the Registrar or the applicant to obtain missing items.
  - 3.2 Assigns a member of the Recertification Committee to act as the investigator.
  - 3.3 Files one copy of the recertification packet and mails the other to the assigned investigator.
- 4. Upon receipt of the recertification packet, the assigned investigator:
  - 4.1 Reviews packet for completeness.
    - 4.1.1 If the recertification packet is not complete, contact the Registrar, Chair of the Recertification Committee, or the applicant to obtain missing items.
  - 4.2 Investigates the applicant.
    - 4.2.1 Confirm a minimum of approximately 20% of the information provided in the recertification packet through discussion with supervisor or co-workers, representatives of professional organizations, or by review of other documentation.
  - 4.3 If the applicants recertification activities are approved, notify the Chair of the Recertification Committee by returning:
    - 4.3.1 the original completed Recertification Committee Checklist (ABC 604).

K. RECERTIFICATION COMMITTEE, cont.

- 4.3.2 the original completed Recertification Update letter (ABC 605).
- 4.4 If there is a problem with an applicants recertification activities, the investigator will discuss with the Chair of the Recertification Committee or applicant as appropriate, to investigate thoroughly and resolve the problems if possible.
  - 4.4.1 If the problems are resolved, notify the Chair of the Recertification Committee by returning:
    - 4.4.1.1 the completed Recertification Committee Checklist (ABC 604).
    - 4.4.1.2 the completed Recertification Update letter (ABC 605).
  - 4.4.2 If the problem is not resolved, notify the Chair of the Recertification Committee by returning the completed Recertification Committee Checklist (ABC 604), with a description of the problem.
- 4.5 Upon receipt of notification of an application problem which the investigator is unable to resolve, the Chair of the Recertification Committee will review the situation and attempt to resolve the problem.
  - 4.5.1 If the Chair is unable to resolve the problem, the Chair will consult with the ABC President, legal counsel, and Ethics Committee if appropriate.
- 5. Upon completion of the Recertification Committee investigation, the Chair of the Recertification Committee returns to the Registrar:
  - 5.1 the Recertification Committee Checklist (ABC 604).
  - 5.2 the Recertification Update (ABC 605).
- 6. The Registrar files the Recertification Committee Checklist (ABC 604) and a copy of Recertification Update (ABC 605) and mails the original Recertification Update to the Diplomate/Fellow.
- 7. Each January and July, the files are reviewed by the Registrar for certificate expiration date, recertification points, and proficiency test status.

K. RECERTIFICATION COMMITTEE, cont.

- 7.1 If the expiration date of the certificate has been reached and all recertification requirements have been met, a new certificate is issued.
- 7.2 If the expiration date of the certificate has been reached and the recertification requirements have NOT been met, a letter (ABC ???) is mailed to the former Diplomat/Fellow inviting re-testing.

## **L. PROFICIENCY TESTING PROGRAM**

- 1 Proficiency testing is an essential component of the ABC Certification Program by which an individual is recognized as having obtained the professional qualifications necessary to practice in one or more particular disciplines of criminalistics. This section outlines the American Board of Criminalistics' operating procedures with respect to proficiency testing.

- 1.1 **Responsibilities of the Proficiency Administration Committee.** It shall be the responsibility of the Proficiency Administration Committee (PAC) to oversee the operation of ABC's Proficiency Testing Program, and to coordinate the activities of the various specialty Proficiency Review Committees. Specific duties of the Proficiency Administrative Committee include:

- 1.1.1 Insuring that records of participation in proficiency testing by Fellows of the ABC are properly maintained.

- 1.1.2 Communicating with Diplomates and Fellows of the ABC regarding requirements for participation in proficiency testing.

- 1.1.2.1 Communications will flow from the participant through the Registrar to the PAC.

- 1.1.2.2 The Registrar will annually provide the participant with the forms necessary to document the participant's performance of proficiency testing.

- 1.1.3 Recommending to the Board of Directors of the ABC sanctions on Fellows who fail to successfully participate in proficiency testing as required.

- 1.2 **Specialty Proficiency Review Committees.** For each specialty in which a Fellow Certificate is offered, there will be established a Proficiency Review Committee (PRC), with the Chair appointed by the President of the ABC, and at least two additional members who are Fellows or prospective Fellows in that particular discipline. The duties of the individual Proficiency Review Committees are as follows:

- 1.2.1 Develop and update criteria for the design of proficiency testing programs within that discipline.

- 1.2.2 Determine criteria for successful participation in proficiency testing.

1.2.3 Conduct reviews of a minimum of 20 per cent of participants' proficiency testing performances.

1.2.3.1 When questions arise concerning a participant's successful completion of a proficiency test, the PRC may conduct whatever investigation it deems appropriate.

1.2.4 Identify appropriate sanctions for other than successful participation in proficiency testing.

1.2.5 When requested, conduct reviews to determine whether a Fellow's participation in proficiency testing has in fact been successful.

1.2.6 The Chair of the specialty Proficiency Review Committee will serve on the PAC, and facilitate communication between the two bodies.

1.3 Proficiency Testing Coordinator. Laboratories participating in proficiency testing are encouraged to appoint a Proficiency Testing Coordinator (this may be the laboratory's QA officer, the ABC diplomate's supervisor, or any other individual designated), whose responsibility shall be to oversee the administration of the proficiency testing within the laboratory, according to the requirements set forth by the ABC.

1.3.1 In laboratories without a Proficiency Test Coordinator, the participant may perform the duties of the coordinator.

## 2 General Requirements for Proficiency Testing Programs.

2.1 External preparation. Proficiency tests utilized shall be prepared external to the particular laboratory in which the participant works. "External to" means a laboratory, or group of laboratories, or regional association, or professional testing agency other than the participant's own laboratory. In a laboratory system that includes more than one lab, tests prepared at one of the other laboratories would be acceptable for this standard.

2.2 Frequency. The proficiency testing program shall provide for annual testing in each specialty area.

2.2.1 Applicants for Fellow status must certify that they have successfully completed a proficiency test in the year prior to the applicant's sitting for a specialty examination.

2.2.1.1 In the event that logistical problems



make compliance with this requirement impossible, documentation of successful participation may be submitted within one year of the applicant's sitting for the specialty examination.

2.2.1.2 In any event, at least five proficiency tests must be documented between the issuance of a Fellow certificate and approval of recertification.

2.2.2 No Fellow certificate will be issued, and Fellow status will not be attained, until the applicant submits documentation of successful completion of a proficiency test.

2.3 Notification. The Proficiency Testing Coordinator shall notify the participant in writing of the results (successful or unsuccessful).

2.3.1 The participant will notify the Proficiency Administration Committee of his/her results through the Registrar using Form 701.

2.3.2 At any time, a participant may resign his or her Fellow status by writing to the Proficiency Administration Committee.

2.4 Corrective Actions.

2.4.1 An unsuccessful performance on a proficiency test will result in a requirement that the Fellow successfully complete another external proficiency test within six months. Additionally, the participant will notify the PAC of the reason for the unsuccessful performance, and the steps which will be taken to insure that future performance is successful.

2.4.1.1 Upon notification or determination of a Fellow's unsuccessful performance or failure to complete a required proficiency test, the PAC will communicate with the Fellow, and advise the Fellow of his/her status, and what steps must be taken to cure the situation. The PAC will use form 704 for this purpose.

2.4.2 Suspension. If the second test is unsuccessful, or if the Fellow fails to take an additional test within the specified time period, the Fellow status shall be "suspended" for one year. The PAC will advise the Fellow of his/her suspension

using Form 705.

2.4.2.1 Suspension will also occur automatically if a Fellow accumulates less than a total of a 75% success rate on any four consecutive tests. In the case of automatic suspension, the PAC will advise the Fellow of his/her suspension using Form 705A.

2.4.2.2 Suspension may be lifted upon successful completion of a proficiency test and submission of the required documentation.

2.4.3 **Revocation.** If a Fellow is in a "suspended status," and does not take adequate steps to cure the deficiencies which caused the suspension within one year, the Fellow status will be "revoked." The PAC will advise the Fellow of the revocation of Fellow status using Form 706.

2.4.3.1 Revocation may only be lifted upon reapplication to the ABC for Fellow status, successful completion of the specialty exam, fulfillment of the requirements for the proficiency testing, and payment of concomitant costs.

all

2.5 **Record Maintenance.** The Test Manufacturer shall maintain a list of participants who have completed proficiency tests along with their date of testing, the specialty area(s) tested, and the answers submitted. The participant shall maintain all notes, worksheets and other documentation utilized to develop conclusions. These records, along with analytical data, must be available for ABC review, for a period of five years after a given test.

2.5.1 The PAC and the Registrar will each maintain sufficient records to document the participant's performance.

2.5.2 The PAC will maintain a summary record (Form 703) of a Fellow's performance on proficiency tests for the five year period between certification and recertification.

2.5.3 Records of statements of deficiencies (Form 704) will be kept until the Fellow has completed three successful proficiency tests.

2.5.4 Records of suspension or revocation (Form 705,

705A, and 706) will become a permanent part of the Fellow's file.

2.6 **Proficiency Test Types.** The ABC will accept proficiency (open or blind) test program results as long as they conform to the standards outlined in this document.

2.7 **Documentation of Participation.**

2.7.1 Upon successful completion of a proficiency test, the Fellow will submit to the Proficiency Administration Committee a certification of participation in proficiency testing (ABC 701), which has been signed and dated by the participant and by the participant's lab director.

2.7.1.1 This certification shall include a release giving the ABC permission to view the results of the proficiency test.

2.7.1.2 Additionally, the participant will provide the Proficiency Administration Committee with a copy of the summary of results or answer sheet submitted to the proficiency test provider.

2.7.2 For each proficiency test, the participant shall transmit to the test provider a release letter (ABC 702) requesting that the test provider comply with any request from the ABC to view any of the documents associated with the participant's test.

2.7.2.1 This release shall be transmitted to the test provider prior to the beginning of any analysis of samples for a given proficiency test.

2.7.2.2 Once samples have been received from a proficiency test provider, the participant must complete the proficiency test. If no results are submitted to the manufacturer, the participant will be perceived as having failed the proficiency test.

2.7.3 Once an individual has achieved Fellow status, all participation in external proficiency testing, whether successful or unsuccessful, must be reported to the ABC.

2.7.3.1 It is not the intention of the ABC to

## L. PROFICIENCY TESTING PROGRAM, cont.

discourage additional proficiency testing, which may be characterized as "round robin" testing. It is understood that a Fellow may perform additional tests, which are identical in every respect to the external tests used for Fellow certification. The distinction between a "round robin" test and an external proficiency test is that prior to beginning the analysis of an external proficiency test, the Fellow must provide the manufacturer with a release (Form 702), in effect, declaring his/her intention to use the test for certification purposes. If no release is sent prior to the beginning of an analysis, the test may not be considered for certification purposes. If a release is sent, the test results must be reported to the ABC.

### 2.8 Reviews.

- 2.8.1 In the event that a participant believes that he or she has been judged unsuccessful in error, either by the test provider or by the Proficiency Testing Coordinator, a request for review may be made to the Specialty Proficiency Review Committee.
- 2.8.2 Requests for a review of the results shall be made in writing, and such review will take place by the members of the Proficiency Review Committee through correspondence and/or teleconference, if necessary.
- 2.8.3 It will be the responsibility of the specialty Proficiency Review Committee to determine whether the Fellow's participation was successful, unsuccessful, or judged as non-participation.
  - 2.8.3.1 The Proficiency Review Committee's review of performance may include a review of documentation, and/or a re-

L. PROFICIENCY TESTING PROGRAM, cont.

analysis of the sample, whichever is appropriate in the judgment of the Committee. The Committee will not delegate a review of documentation, but may delegate a re-analysis to a disinterested, qualified individual or group.

2.8.4 The specialty Proficiency Review Committee will respond to a request for review within sixty days of receipt.

2.8.5 The specialty Proficiency Review Committee will report the results of its review to the Proficiency Administration Committee, which must either approve or disapprove the results of the review.

2.8.5.1 The decision of the Proficiency Administration Committee may be appealed to the ABC Appeals Committee.

3 Specific Requirements for Drug Identification.

3.1 Test Design.

3.1.1 Drug proficiency samples should measure sample preparation/extraction skills, technical analytical skills, interpretive skills, sample handling skills, and documentation skills. Consequently, proficiency tests which consist only of hard copy data to interpret are not acceptable.

3.1.2 Proficiency samples shall consist of chemical substances of the composition and purity the individual is likely to encounter in case work. It is appropriate for samples to be prepared in mixtures with cutting agents or other controlled substances. The quantity of sample should be adequate for qualitative and quantitative analysis, and to allow reasonable duplication of test results. The Proficiency Testing Coordinator will document which controlled

L. PROFICIENCY TESTING PROGRAM, cont.

substances are commonly encountered by a laboratory to assist in determining the appropriate composition of proficiency test samples.

- 3.1.3 In laboratories which routinely provide quantitative results for a given drug, the individual must also quantitate that drug when encountered in proficiency tests. The Proficiency Testing Coordinator must certify whether the individual laboratory routinely quantitates the drug.
- 3.1.4 Sample preparation and analysis should be performed by the participant to the extent possible. To the degree that certain routine, repetitive procedures are usually performed by another laboratory analyst or technician, persons other than the participant may assist with the proficiency test. The Proficiency Testing Coordinator must certify that the assistance of persons other than the participant are part of the laboratory's normal procedure. Interpretation of test results must be performed entirely by the individual participant.
- 3.1.5 Documentation provided to the program coordinator must include notes regarding sample handling, extraction and preparation, instrument charts, graphs and other data, detailed description of non-instrumental test results, calculations for quantitative results, and standard and control sample results.
- 3.1.6 Acceptable ranges for quantitative results may be established by the program provider, but must be verified by cumulative results and/or analysis by at least two qualified referee laboratories.
- 3.1.7 Individuals within a single laboratory may receive identical samples, as long as results are achieved independently by the individual participants.

I. PROFICIENCY TESTING PROGRAM, cont.

3.1.8 It is desirable for the Proficiency Testing Coordinator to be certified in the area of proficiency testing in order to improve the ability of the coordinator to understand proficiency test results.

3.2 Criteria for Successful Participation.

3.2.1 The Proficiency Testing Coordinator shall categorize results as follows:

3.2.1.1 Correct - All tests performed, including quantitative, fell within the target values.

3.2.1.2 Inconclusive - Analysis was performed but no conclusion was reached due to a lack of a reference standard; or equivocal test results; or no identification was made because the individual's laboratory lacks the methodology or technology to identify an infrequently encountered drug; or work performed was correct, but analysis was not completed.

3.2.1.3 Incorrect - The individual incorrectly identified the sample or stated that no controlled substance was present when he/she would reasonably be expected to identify the drug.

3.2.2 Correct results demonstrate satisfactory completion of the proficiency test.

3.2.3 Incorrect results demonstrate failure to pass the proficiency test.

3.2.4 Inconclusive results may be judged as satisfactory if the participant reaches the correct presumptive finding but fails to make a positive identification due to a lack of adequate standards for comparison.

## L. PROFICIENCY TESTING PROGRAM, cont.

3.2.5 ~~Un~~inconclusive results may be judged as a failure depending on the nature and severity of the reasons for failing to reach a correct result. In general, inconclusive results that are due to the inability to identify commonly encountered drugs, or equivocal results due to the participant's inability to perform analytical tests will be judged as failures.

3.2.6 Inconclusive results, such as those which are due to partial analyses or lack of methodology or technology for uncommon drugs, may be judged as non-participation.

### 4 Specific Requirements for Fire Debris Analysis.

#### 4.1 Test design.

4.1.1 Fire debris proficiency samples should test a participant's ability to recover ignitable liquid residues from fire debris, interpret chromatographic patterns, and document analytical procedures.

4.1.1.1 Participants should be able to demonstrate the ability to recover and identify flammable/combustible liquid residues using the methods routinely employed in the laboratory, from the entire range of sample types routinely encountered (liquid samples, empty containers, concentrated samples, very dilute samples, negative samples).

4.1.1.2 Chromatographic interpretation skills should include the ability to distinguish pyrolysis patterns from petroleum product patterns, and the ability to classify petroleum products



L. PROFICIENCY TESTING PROGRAM, cont.

according to the classification scheme of ASTM E 1387.

- 4.1.1.3 Samples shall consist of substances of the composition and purity the individual is likely to encounter in casework. Tests shall not include obscure, not readily available, or specialty products.
  - 4.1.1.4 The test should be designed so that the participant's ability to recognize products in various stages of evaporation is tested.
  - 4.1.1.5 Documentation must include notes regarding sample handling, extraction and preparation, instrument charts, graphs and other data, a detailed description of non-instrumental test results, calculations for quantitative results, and standard and control sample results.
- 4.1.2 The following types of proficiency tests are suitable:
- 4.1.2.1 Blind testing.
  - 4.1.2.2 Re-examinations (For example, running extracts from a previously analyzed case).
  - 4.1.2.3 Commercially available manufactured tests.
  - 4.1.2.4 Samples prepared by someone outside the participant's laboratory (For example, a regional association or another laboratory).
- 4.1.3 The participant should not run the same type of proficiency test each year. During the five year period, tests should show proficiency in

## L. PROFICIENCY TESTING PROGRAM, cont.

chromatogram interpretation and sample preparation techniques.

4.1.3.1 For example, one test may be designed to demonstrate proficiency in sample preparation, but sample preparation is not a skill which must necessarily be tested every year.

4.1.4 Simulated debris samples should include matrices commonly encountered in fire debris analysis, such as wood, carpet, tile, cloth, shoes, and plastics.

4.1.5 Debris samples manufactured should include samples to which no petroleum products have been added. A representative sample should be tested by a referee laboratory prior to distribution to determine that samples give a detectable pyrolysis pattern.

4.1.6 It is desirable for Test Providers to have several samples in a proficiency test. For example, three to five samples, some containing petroleum products, and some that do not, should provide the analyst with a scenario similar to actual case work.

4.1.7 A reasonable percentage of all manufactured samples should be tested by a referee laboratory prior to distribution to determine that the samples are correctly prepared.

### 4.2 Criteria for Successful Completion

4.2.1 Successful completion is defined as an analysis which meets the Test Provider's specifications with no false inclusions or exclusions.

4.2.2 Levels of discrepancy will be classified as follows.

4.2.2.1 Class I. The nature and cause of the discrepancy raises immediate concern

L. PROFICIENCY TESTING PROGRAM, cont.

regarding the quality of the laboratory work product. For example, false inclusion or exclusion.

Example 1: Identification when no petroleum product was present (incorrect interpretation of pyrolysis products, or contamination in the laboratory).

Example 2: Incorrect classification of a product (for example, calling a highly evaporated gasoline an MPD).

4.2.2.2 Class II. This discrepancy is due to a problem which may affect the quality of the work, but is not persistent or serious enough to cause immediate concern for the overall quality of the participant's work product.

Example 1: Inconclusive results, from a sample for which a majority of participants reported a correct positive result.

4.2.2.2.1 Class II discrepancies may be judged as failures, depending on the nature and severity of the reasons for failing to reach a correct result. In general, Class II discrepancies that are due to the inability to identify commonly encountered petroleum products, or equivocal results due to the inability to properly perform analytical tests will be judged as failures.

4.2.2.2.2 Class II discrepancies such as those which are due to partial analyses or lack of methodology or technology for

## L. PROFICIENCY TESTING PROGRAM, cont.

low levels or single component flammables may be judged as non-participation.

- 4.2.2.3 Class III. The discrepancy is determined to have minimal effect or significance, be unlikely to recur, not systematic, and does not significantly affect the fundamental reliability of the individual's work.

Example 1. Report wording unclear and/or not conforming to acceptable industry practice.

Example 2. Clerical errors.

## 5 Specific Requirements for Forensic Biology

### 5.1 General Requirements

- 5.1.1 The Forensic Biochemistry specialty requires the successful completion of a proficiency set demonstrating the ability to correctly identify the body fluid type, the species origin and the ABO group. If the individual's laboratory has the ability to perform enzyme/serum protein analysis, then results using PGM and at least one other commonly used enzyme/serum protein marker are also required.
- 5.1.2 The Forensic DNA specialty requires the completion of a proficiency set demonstrating the ability to correctly type DNA samples.

### 5.2 Test Design

- 5.2.1 Guidelines for Acceptable Proficiency Sample Providers
- 5.2.1.1 The laboratory or organization producing the proficiency test must produce samples comparable to those encountered in routine casework performed by

L. PROFICIENCY TESTING PROGRAM, cont.

forensic laboratories. Each sample must be sufficient for duplicate analysis.

5.2.1.2 The laboratory or organization producing the proficiency test must produce samples which any competent laboratory can successfully complete.

5.2.1.3 The laboratory or organization producing the proficiency test must certify the known results of samples by:

5.2.1.3.1 Internal testing of samples

5.2.1.3.2 Verification of internal test results by an independent reference lab

5.2.1.3.3 Retention of at least two duplicate sets of each proficiency test for a period not less than one year.

5.2.1.4 The laboratory or organization producing the proficiency test must provide the correct results for each sample included in the proficiency set to each participating laboratory within a reasonable time period.

5.2.1.5 The laboratory or organization producing the proficiency test should prepare and distribute to participating laboratories a statistical analysis and comparison of the results obtained from all laboratories.

5.2.2 Prior to shipment of samples from the proficiency test provider, the provider must certify in the package containing the sample that unambiguous and definitive answers for each of the following systems were obtained by both the test provider and the reference laboratory selected by the test provider. If definitive

L. PROFICIENCY TESTING PROGRAM, cont.

answers (in agreement) are not obtained by both the test provider and the reference laboratory, the provider can

5.2.2.1 Prepare a new set of samples.

5.2.2.2 Eliminate that system from the test parameters.

5.2.3 Forensic Serology.

should be  
common animal  
antisera are readily  
available.

5.2.3.1 Species determination. This limited to human and species for which commercially

5.2.3.2 Body fluid determination. This will involve the identification of the body fluids used to prepare the stains. The stains may be prepared with semen, blood, saliva, urine or other commonly encountered body fluids. The determination of body fluid type will be made using screening tests and confirmatory tests if they are available and appropriate.

5.2.4 Biochemical Analysis.

5.2.4.1 ABO grouping.

5.2.4.2 All enzymes commonly tested in a forensic setting. This includes but is not limited to: PGM, EAP, AK, ADA, EsD

5.2.4.3 Serum proteins. This includes but is not limited to: Hp, transferrin, GC.

5.2.5 DNA/RFLP (at least one of the following systems must be used).

5.2.5.1 HaeIII system with standard panel of

L. PROFICIENCY TESTING PROGRAM, cont.

loci.

panel of 5.2.5.2 HinfI system with standard loci.

5.2.5.3 PstI system with standard panel of loci.

5.2.6 DNA/PCR.

5.2.6.1 DQ alpha.

5.2.6.2 Others as appropriate.

5.3 Criteria for Successful Completion.

5.3.1 Successful performance:

5.3.1.1 Forensic Biochemistry: The correct body fluid, species origin and ABO type, if applicable, must be determined. All enzymes/proteins routinely tested within the laboratory in which the individual works must be correctly classified. This includes subtyping on enzymes(e.g. PGM) if that procedure is available within the laboratory.

5.3.1.2 Forensic DNA: Match/non-match between samples submitted must be correctly determined. For RFLP analysis estimation of allele size must be within  $\pm 3.5\%$  of expected target values or the mean of values submitted by participants. For PCR based methods the correct allele assignments for each sample must be made.

5.3.2 Unsuccessful performance:

5.3.2.1 Forensic Biochemistry: Incorrect classification of enzyme/protein types or subtypes, body fluid types, species origin or ABO type.

L. PROFICIENCY TESTING PROGRAM, cont.

5.3.2.2 Forensic DNA: There are two levels of unsuccessful performance on DNA proficiency testing.

5.3.2.2.1 Class I: Incorrect match/non-match or allele assignments.

5.3.2.2.2 Class II: RFLP fragment sizes outside the  $\pm 3.5\%$  window around the expected target values or the mean of submitted values. Class II discrepancies would not affect the conclusion regarding the donor of a particular DNA sample in most situations.

5.3.4 Inconclusive performance:

5.3.4.1 The failure to obtain a result for a sample from which  $\geq 70\%$  of the individuals submitting results obtained the correct result. Such performance would require the completion of another proficiency set with acceptable performance levels at the earliest possible opportunity.

6 Specific Requirements for Paints/Polymers. (Under Development)

7 Specific Requirements for Hairs and Fibers. (Under Development)

8 Specific Requirements for Soil Analysis. (Under Development)

9 Specific Requirements for Glass Analysis. (Under Development)

10 Specific Requirements for Blood Alcohol Determination.



L. PROFICIENCY TESTING PROGRAM, cont.

(Under Development)

## M. APPEALS PROCEDURES

1. It is the goal of the ABC to have all appeals of a technical or administrative nature resolved in a timely manner. The Appeals Committee shall recommend a course of action to the Board of Directors, who will make the final determination.
2. Appeals Committee (standing)
  - 2.1 This committee shall be comprised of three diplomates of the ABC to be appointed by the President.
  - 2.2 The Appeals Committee shall be responsible for the following:
    - 2.2.1 Reviewing all appeals from candidates who have been denied application.
    - 2.2.2 Reviewing all appeals from candidates and Diplomates who have failed an examination.
    - 2.2.3 Reviewing all appeals from Diplomates and Fellows who have failed a proficiency test.
    - 2.2.4 Reviewing all appeals from Diplomates and Fellows who have failed to qualify for recertification.
    - 2.2.6 Upon review of such appeals, the Appeals Committee shall be responsible for recommending a course of action to the Board of Directors. The final decision on all committee recommendations shall rest with the Board of Directors.
3. Appeals procedure:
  - 3.1 All appeals must be submitted in writing to the ABC within 45 days of the postmark date on the envelope bearing the information or decision which is being appealed.
  - 3.2 The Registrar acknowledges the receipt of the appeal by Registered Mail to the appellant (that person appealing the decision of the ABC) within five business days (ABC 501).
  - 3.3 Within five business days, the Registrar mails copies of the appeal, registered mail receipt, and a copy of the appellant's file to the Secretary and the Appeals Committee Chair.
  - 3.4 Using the Appeal Evaluation Form (ABC 502), the Appeals Committee Chair then evaluates the appeal as to:

M. APPEALS PROCEDURES, cont.

- 3.4.1 Appeal received within 45 days from date of notification of deficiency by the ABC.
- 3.4.2 The type of appeal (denial of application, examination failure, proficiency test failure, or failure to qualify for recertification).
- 3.4.3 Whether the appeal is based on a question of fact or a character/ethics issue.
- 3.4.4 Need for clarification of the appeal or for additional information:
  - 3.4.4.1 If clarification or additional information is needed from the appellant, the Appeals Committee Chair mails a copy of the Request For Additional Information letter (ABC 503) by Registered Mail to the appellant.
  - 3.4.4.2 If additional information is needed from the Credentials Committee, Examination Committee, Proficiency Administration Committee, or Recertification Committee, the Appeals Committee Chair is to request this information from the appropriate chair, specifying that any written information is to be mailed within five business days.
- 3.5 The Appeals Committee Chair mails copies of the Appeal Evaluation Form, the written appeal, and the appellant's file to his/her committee members within five business days of receipt of all necessary information. From this point, it is the responsibility of the Appeals Committee Chair to keep the appeals process on schedule.
- 3.6 If the issue for appeal is based on a question of fact:
  - 3.6.1 The Appeals Committee members evaluate the appeal and make a recommendation to the Appeals Committee Chair within thirty days.
  - 3.6.2 The Appeals Committee Chair then makes a recommendation on behalf of the Appeals Committee to the Board of Directors.
- 3.7 If the issue for appeal is based on a character/ethics issue, the Appeals Committee refers the matter to the Ethics Committee.

M. APPEALS PROCEDURES, cont.

4. Board of Directors action

4.1 The Board of Directors will decide by simple majority vote what action should be taken with appeals. The action of the Board of Directors can be one of the following:

4.1.1 The appeal should be dismissed. No further action is to be taken.

4.1.2 The appeal should be upheld, but no further action is required due to the complaint having been dealt with in a constructive manner

4.1.3 The appeal should be upheld and action is required by the Board of Directors.

4.2 The appellant and/or his representative has the right to be present at and to address the meeting of the Board of Directors prior to their decision, however, no new evidence may be presented.

4.3 There is no appeal to the decision of the Board of Directors.

4.4 The Appeals Committee Chair notifies the complainant by Registered Mail of the decision of the Board within five business days of the Board's decision (ABC 504).

4.4.1 A copy of ABC 504 and the registered mail receipt are mailed to the Registrar for addition to the file.

N. ETHICS PROCEDURES

1. It is the American Board of Criminalistics goal to have all appeals of an ethical or character nature resolved in a timely manner. The Ethics Committee shall recommend a course of action to the Board of Directors, who will make the final determination.
2. Ethics Committee
  - 2.1 This committee shall be comprised of three Diplomates of the ABC, to be appointed by the President.
    - 2.1.1 The members of this committee can be, but are not limited to, Board of Directors and Examination Committee members.
    - 2.1.2 The term of office for committee members shall be three years with the exception of the initial terms of office which shall be determined to stagger the terms of the committee members.
    - 2.1.3 There shall be no limit upon the number of terms, consecutive or otherwise, which a committee member may serve.
    - 2.1.4 The most senior member of the committee shall act as Ethics Committee Chair for the year prior to vacating his/her position on the committee.
  - 2.2 The Ethics Committee shall be responsible for the following:
    - 2.2.1 Reviewing, recommending changes to, and preparing statements on the "Rules of Professional Conduct of the American Board of Criminalistics" and the enforcement regulations of the rules.
    - 2.2.2 Reviewing all complaints received which specify a violation of the "Rules of Professional Conduct of the American Board of Criminalistics".
    - 2.2.3 Upon review of such complaints, the committee shall be responsible for recommending a course of action to the Board of Directors. The final decision on all committee recommendations shall rest with the Board of Directors.
3. Investigative Committee (special)
  - 3.1 This committee shall be comprised of three Diplomates of the ABC to be appointed by the President.

N. ETHICS PROCEDURES, cont.

- 3.1.1 The President shall appoint one of the committee members to act as Investigative Committee Chair.
- 3.1.2 The Investigative Committee, once appointed, shall remain in that position until the complaint for which the committee was formed has been heard and a report submitted to the Board of Directors.
- 3.1.3 A member serving on the Ethics Committee (with the exception of the President who is ex-officio) shall not be a member of the Investigative Committee.
- 3.2 The Investigative Committee shall be responsible for reviewing all complaints that were determined to be founded by the Ethics Committee.
  - 3.2.1 Upon review of such complaints, the Investigative Committee shall be responsible for recommending a course of action to the Board of Directors.
  - 3.2.2 The final decision on all Investigative Committee recommendations shall rest with the Board of Directors.

4. Enforcement procedures

- 4.1 All complaints regarding a Diplomate or Fellow of the ABC must be submitted in writing to the ABC.
- 4.2 The Registrar acknowledges the receipt of the letter of complaint by Registered Mail to the complainant (that individual or organization by whom a complaint has been made concerning professional conduct) within five business days (ABC 505).
- 4.3 Within five business days, the Registrar mails copies of the letter of complaint, registered mail receipt, and a copy of the respondent's (a Diplomate or Fellow of the ABC against whom a complaint has been made) file to the Secretary and Ethics Committee Chair.
- 4.4 The Ethics Committee Chair evaluates the complaint as to:
  - 4.4.1 A need for clarification of the complaint or for additional information.
    - 4.4.1.1 If clarification or additional information is needed from the

N. ETHICS PROCEDURES, cont.

complainant, the Chair mails a copy of the Request for Additional Information letter (ABC 503) by Registered Mail to the complainant.

- 4.4.1.2 If additional information is need from the Credentials Committee, Examination Committee, Proficiency Test Committee, or Recertification Committee, the Ethics Committee Chair is to request this information from the appropriate Chair, specifying that any written information is to be mailed within five business days.

- 4.5 Once the Ethics Committee Chair is satisfied that there is sufficient written information to proceed, he/she notifies the complainant by Registered Mail using the Letter of Intent to Proceed (ABC 506) and completes the appropriate information on the Report of Professional Misconduct Form (ABC 507).
- 4.6 The Ethics Committee Chair mails copies of the letter of complaint, the respondent's file, the Report of Professional Misconduct Form, and any other relevant information to his/her committee members. From this pint, it is the responsibility of the Ethics Committee Chair to keep the process on schedule.
- 5. The Ethics Committee members then evaluate the complaint to determine:
  - 5.1 If the Ethics Committee has jurisdiction
    - 5.1.1 If the Ethics and Appeals Review Committee determines that they do not have jurisdiction, the complainant is notified by the Ethics Committee Chair by Registered Mail within thirty days from the date of the Letter of Intent to Proceed that the ABC has no jurisdiction (ABC 508). The respondent in question is not advised of the complaint.
      - 5.1.1.1 A copy of ABC 508 and the registered mail receipt are mailed to the Registrar for addition to the file.
      - 5.1.1.2 The Ethics Committee Chair will make a report to the Board of Directors at the next scheduled meeting.

N. ETHICS PROCEDURES, cont.

5.2 If the complaint is unfounded

5.2.1 If the Ethics Committee determines that the complaint is unfounded due to its frivolous or malicious nature:

5.2.1.1 The complainant is notified by the Ethics Committee Chair by Registered Mail within thirty days from the date of the Letter of Intent to Proceed that the complaint is unfounded (ABC 509).

5.2.1.2 The respondent shall be advised by the Ethics Committee Chair by Registered Mail of the complaint and of its disposition (ABC 510).

5.2.1.3 A copy of ABC 510 and the registered mail receipt are mailed to the Registrar for addition to the file.

5.3 If the complaint is founded:

5.3.1 If the Ethics Committee determines the complaint to be founded, the Ethics Committee Chair will select a date and time at which the complaint will be considered.

6. Considering the complaint

6.1 The complainant, respondent, and the President of the ABC will be notified by Registered Mail about the nature and particulars of the complaint, about the rights of the parties involved to submit written statements for consideration at this meeting, and about the date and time set for the Ethics Committee meeting (ABC 511 and ABC 512).

6.2 This notification by the Ethics Committee Chair is to be at least 30 days prior to the meeting at which the complaint is to be discussed

6.3 All written submissions from the complainant and the respondent (or their representatives) must be received by the Ethics Committee Chair at least seven days prior to the meeting at which the complaint is to be discussed.

6.4 The Ethics Committee Chair shall provide a written report on the outcome of the meeting to the President



N. ETHICS PROCEDURES, cont.

within 90 days from the date of the Ethics Committee meeting at which the complaint was discussed.

- 6.5 The report is to be nonjudgemental and is to present a concise summary of the facts for both parties.
- 6.6 The report and its contents shall be treated as confidential and not publicized.
- 6.7 This process may be suspended at any time at the discretion of the Ethics Committee Chair if it becomes known that the circumstances surrounding the complaint are being dealt with by a court or any other competent body, pending its resolution. The complainant, the respondent (or their representatives), and the President of the ABC are to be notified of such action by Registered Mail (ABC 513).
- 6.8 If the respondent relinquishes his/her certification upon notification of the complaint by the Ethics Committee Chair, the Ethics Committee will still meet and issue a written report to the Board of Directors. If the respondent reapplies for certification at some time in the future, then the respondent will be renotified of the complaint by the Ethics Committee Chair, and the process will resume at that point.

7. Investigation and hearings

- 7.1 Upon receipt of the report from the Ethics Committee, the President of the ABC will appoint an Investigative Committee (ensuring that there are no employer/employee conflicts between parties and the committee members) within 30 days.
- 7.2 The Investigative Committee will hold a hearing on a complaint near the date of a semi-annual ABC Board of Directors meeting. This hearing will be prior to the Board of Directors meeting when possible.
  - 7.2.1 The complainant, the respondent (or their representatives), the Ethics and Appeals Review Committee, and the President of the ABC will be notified by Registered Mail by the Investigative Committee Chair about the date, time, and place of the hearing; about their right to be present at the hearing; about their right to call witnesses on their behalf; about the grounds of the complaint; and they will receive copies of the Ethics Committee report and the Procedure for

N. ETHICS PROCEDURES, cont.

Enforcement Regulations For a Violation of the Rules of Professional Conduct of the ABC.

7.2.2 This notification by the Investigative Committee Chair is to be at least 60 days prior to the hearing (ABC 514). The respondent, the complainant (or their representatives), and any witnesses they wish to call, must give written notice by Registered Mail to the Investigative Committee Chair at least 15 days prior to the hearing regarding whether they intend to appear in person before the Investigative Committee; whether they intend to be represented and if so, the name of any persons who will be representing them; whether any witnesses are to be called and if so, their names; and a copy of each and all of the documents on which a respondent, a complainant, their representatives, or any witnesses propose to rely.

7.2.2.1 Any notification or documentation received less than 15 days prior to the hearing date will not be heard by the Investigative Committee.

7.2.3 The Investigative Committee Chair will preside over the hearing and shall give rulings on the admission of evidence and on any question of procedure or points that may arise.

7.2.3.1 The Investigative Committee Chair is to appoint a clerk to keep confidential minutes of the hearing. The Ethics and Appeals Review Committee Chair, the complainant, the respondent (or their representatives), and the witnesses will be called upon to make summary statements. Any member of the Investigative Committee may ask questions of any individual giving evidence at the hearing. The Investigative Committee Chair may suspend the proceedings at any time.

7.2.4 At the conclusion of the hearing, the Investigative Committee is to deliberate in private until it has reached a decision on a recommendation to the Board of Directors. The decision will be by simple majority, with the

## N. ETHICS PROCEDURES, cont.

Investigative Committee Chair voting only in the event of a tie.

- 7.3 The Investigative Committee Chair will provide a written report of their recommendation to the complainant, the respondent, the Ethics and Appeals Review Committee, and the Secretary of the ABC. The Secretary will be responsible for distributing the report to the Board of Directors (ABC 515).

- 7.3.1 The recommendation of the Investigative Committee can be one of the following:

7.3.1.1 The complaint should be dismissed. No further action is to be taken. There is no appeal.

7.3.1.2 The complaint should be upheld but no action by the Board of Directors is required. The complaint has been dealt with in a constructive manner. There is no appeal.

7.3.1.3 The complaint should be upheld and action is required by the Board of Directors.

## 8. Board of Directors action

- 8.1 The Secretary of the ABC will notify the complainant, the respondent, the Ethics Committee, the Investigative Committee, and the Board of Directors as to the date and time when the Board of Directors will meet to act on the complaint, at least thirty (30) days prior to the meeting (ABC 516). This Board of Directors meeting is to be held as soon as possible after receipt of the report of the Investigative Committee or at the next semi-annual meeting of the Board of Directors.

If the respondent (or his/her representative) wishes to attend this meeting, he/she must notify the Secretary by registered mail at least fifteen (15) days prior to the meeting. These individuals will be responsible for any expenses incurred by them to attend the meeting.

- 8.2 The Board of Directors will decide by simple majority vote what action should be taken with complaints. The action of the Board of Directors can be one of the following:

N. ETHICS PROCEDURES, cont.

- 8.2.1 Dismiss the complaint, with no further action being taken.
- 8.2.2 Uphold the complaint, but no further action is required due to the complaint having been dealt with in a constructive manner
- 8.2.3 Issue a letter of reprimand.
- 8.2.4 Temporarily suspend certification for a specified time period.
- 8.2.5 Revoke certification and bar from reapplying for a specified time period.
- 8.2.6 Revoke certification and bar from reapplying.
- 8.3 The respondent and/or his/her representative has the right to be present at and to address the meeting of the Board of Directors prior to their decision, however, no new evidence may be presented. A member of the Investigative Committee may also be present. There is no appeal to the decision of the Board of Directors.
- 8.4 The Secretary of the ABC will notify the respondent, the complainant (or their representatives), the Ethics and Appeals Review Committee, the Investigative Committee, and the Board of Directors by Registered Mail of the action taken by the Board of Directors regarding the complaint within five (5) business days of their decision (ABC 517).
  - 8.4.1 A copy of ABC 517 and the registered mail receipt are mailed to the Registrar for addition to the file.

**APPENDIX A**

**AMERICAN BOARD of CRIMINALISTICS FORMS**

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AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

Dear Applicant:

Thank you for your interest in the American Board of Criminalistics (ABC) Certificate of Professional Competency in Criminalistics. Enclosed are the application forms, instructions, and general information. Supplemental information will be supplied to you after your application has been accepted by the ABC Credentials Committee.

This program has been developed through the efforts of many people from across North America. Its success is measured solely by the participation of people within the forensic science community. ABC thanks you for your interest and looks forward to your participation in this program.

If you have questions or comments regarding the ABC Certification process or this application packet, please contact your regional forensic association representative to the ABC Board of Directors.



# American Board of Criminalistics, Inc.

## CERTIFICATION PROCESS

### DEFINITION

Certification is a voluntary process of peer review by which a practitioner is recognized for attaining the professional qualifications necessary to practice in one or more disciplines of criminalistics.

### 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 ABC Board is comprised of representatives from of these forensic associations. Your regional representative can answer any questions which you may have regarding the certification process.

### OBJECTIVES

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

### PROGRAM

Following acceptance of a completed application, the candidate must pass the General Knowledge Examination which tests subject areas of criminalistics, including:

1. The philosophical, conceptual, and scientific basis of criminalistics.
2. Basic technical subjects of criminalistics, including:
  - drug identification
  - crime scene reconstruction
  - firearms & toolmarks
  - forensic biology and DNA
  - fire debris & explosives
  - photography
  - trace evidence
  - safety
3. Ethics.
4. Appropriate areas of civil and criminal law.

A Diplomate's Certificate of Professional Competency in Criminalistics will be awarded to those who successfully complete the General Knowledge Examination.

A Fellow's Certificate of Professional Competency in Criminalistics is available to those candidates who are employed in a professional capacity primarily engaged in the examination of physical evidence, interpretation of data, and/or technical consultation for litigation purposes. In addition to completion of the requirements for a Diplomate Certificate, the candidate must also pass additional specialty examinations testing specific knowledge of the designated specialties and successfully participate in an approved proficiency testing program in the relevant disciplines.

The certification is valid for five years. All certificates will expire on the fifth anniversary date of the Diplomate Certificate. Recertification can be accomplished by continued participation in the field of Forensic Sciences, through training, casework, publishing, etc. or by retesting.

American Board of Criminalistics, Inc

FLWSHEET FOR ABC CERTIFICATION

1. Submit a completed application
  - a. Received by ABC a minimum of 60 days prior to date of examination for which a candidate wishes to sit.
  - b. Application for Diplomate - meet general requirements for certification.
  - c. Application for Fellow - meet requirements in a designated specialty areas.
  - d. Study guides for general examination are provided with the application packet.
2. Applicant notified within 30 days of application
  - a. Of application status.
  - b. Of testing dates and locations for the exams offered during the next year.
  - c. Should the applicant not meet the qualifications to sit for the General Competency Exam, they may reapply at any time. A new \$30.00 application fee is required.
3. Applicant reserves a seat for examination
  - a. General examination.
  - b. Specialty examination.
  - c. Reservations required 15 days prior to date of examination.
  - d. Sitting fees are required at the time reservations are made.
4. Fee Schedule
  - a. All fees are in U.S. dollars.  
Make checks or money orders payable to: American Board of Criminalistics, Inc.
  - b. \$30 non-refundable application/processing fee, due with application.  
(The application will not be processed without this payment.)
  - c. General examination fee is \$120.00, due at time seat is reserved for general examination.
  - d. Specialty exam fee is \$50.00, due at time seat is reserved for specialty examination.
  - e. All fees are non-refundable.

NOTE: All applicants who successfully complete the ABC General Competency Examination prior to the San Antonio AAFS Meeting (February 1994), will have the sitting fees for one offering of specialty exams waived. (More than one specialty exam may be taken at this sitting.) This offer is valid until the Diplomate Certificate expires.

5. Certificates
  - a. Certificates are issued in January and July of each year.
  - b. Applicants who do not successfully complete the General Competency Exam will be automatically notified of those topic areas in which they need to study and of the review/appeal process. These applicants may retake this exam whenever it is next offered. A new sitting fee is required.
  - c. Successful completion of all the requirements for a Diplomate Certificate are required before Fellow (Specialty) Certificates will be issued.
6. Fellow (Specialty) certificates are valid for five years from date of issue of Diplomate Certificate.

American Board of Criminalistics, Inc.

ELIGIBILITY REQUIREMENTS FOR CERTIFICATION

1. DIPLOMATE

a. Education

Applicant must possess a minimum of an earned baccalaureate degree, or equivalent, in a natural science or an appropriately related field from an accredited institution. Accredited institutions are those approved by regional accrediting commissions recognized by the U.S. Office of Education or foreign equivalent, and other institutions approved by the American Board of Criminalistics Board of Directors.

b. Professional Experience and Training

Applicant must possess a minimum of two years full-time experience (including on-the-job training) actively working in criminalistics. Qualifying activities may include casework, teaching, research, supervision, and management.

2. FELLOW

a. Fulfill all requirements for Diplomate status.

b. Have two years experience (including training) in a designated specialty area of criminalistics and be currently working in that specialty area.

c. Be able to document current successful participation in an approved proficiency testing program in the designated specialty areas.

American Board of Criminalistics, Inc.

APPLICATION INSTRUCTIONS

1. Review the Certification Examination Eligibility Requirements prior to completing and submitting the application to confirm that you fulfill the requirements as stated.
2. Type or print all information requested on the application form. Each item in the application must bear an entry; if "none" is applicable then so state. Use extra sheets for additional data or information; identify the material being furnished and include your name and address on each sheet.
3. Include a copy of your diploma with stated major in a natural science. If your diploma does not state your major, then provide other validating proof of major (such as transcripts).
4. Give an applicant reference guide to the two people you select as references. (References must be involved in the field of criminalistics.) Return these with your completed application.
5. Read and acknowledge that you understand and agree to abide by the ABC Rules of Professional Conduct.
6. Send two autographed photographs (no less than 2" x 2") of yourself with the application. Attach one of these in the space provided (photographs will be used for positive identification at test site.)
7. Have your immediate supervisor or laboratory director verify and sign for all information provided on your application.
8. Refer to the fee schedule for payment information. There is a \$30 (U.S. funds) non refundable application fee. Make checks payable to the American Board of Criminalistics, Inc.
9. Mail the original and two copies of the completed application and enclosures, and \$30.00 application fee to:

American Board of Criminalistics, Inc.  
P. O. Box 209  
Greenlawn, New York 11740

# AMERICAN BOARD OF CRIMINALISTICS, INC.

## Application For: CERTIFICATE OF PROFESSIONAL COMPETENCY IN CRIMINALISTICS

FOR ABC USE ONLY

Please read carefully the instructions and information page and all references before completing the application form.

1. Full Name \_\_\_\_\_  
Last First Middle
2. Social Security Number \_\_\_\_\_
3. Print your name exactly as you wish it to appear on the certificate (exclude degrees).  
\_\_\_\_\_
- 4A. Present Employer \_\_\_\_\_
- 4B. Date Employed \_\_\_\_\_
- 4C. Employer Address \_\_\_\_\_  
Street  
\_\_\_\_\_  
( )  
City, State/Province, Country, and Zip Code/Postal Code Telephone Number
5. Current job title \_\_\_\_\_ Date Started \_\_\_\_\_
6. Briefly describe your duties: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. List the forensic organizations to which you belong (regional, national, and international):  
\_\_\_\_\_  
\_\_\_\_\_

8. Specialty areas in which you have at least two years experience and are currently active.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Forensic Biology          | <input type="checkbox"/> Biochemistry Module            | <input type="checkbox"/> Molecular Biology Module   |
| <input type="checkbox"/> Drug Identification       |   |   |
| <input type="checkbox"/> Fire Debris Analysis      |   |   |
| <input type="checkbox"/> Trace Evidence            | <input type="checkbox"/> Hairs Module                   | <input type="checkbox"/> Fibers Module              |
|  | <input type="checkbox"/> Soils <sup>(1)</sup> Module    | <input type="checkbox"/> Paints and Polymers Module |
|  | <input type="checkbox"/> Glass <sup>(1)</sup> Module    |   |
| <input type="checkbox"/> Firearms <sup>(1)</sup>   | <input type="checkbox"/> Gunshot residue <sup>(1)</sup> |   |
| <input type="checkbox"/> Explosives <sup>(1)</sup> |   |   |
| <input type="checkbox"/> Toxicology <sup>(1)</sup> | <input type="checkbox"/> Blood Alcohol <sup>(1)</sup>   |   |
| <input type="checkbox"/> Other (specify)           |   |   |

<sup>(1)</sup>Examination not yet developed

9. Are you currently certified by any other forensic organization? If yes, include a copy of that certificate. YES \_\_\_\_\_ NO \_\_\_\_\_

10. Previous employment (include only positions in field of forensic science)

<u>Employed by</u>	<u>Title</u>	<u>Dates employed</u>
_____	_____	_____
_____	_____	_____

11. Education (Provide a copy of your diploma or other information verifying your major.)

<u>Institution</u>	<u>Dates Attended</u>	<u>Degree &amp; Major Earned</u>
_____	_____	_____
_____	_____	_____

12. References (List the name and address of two professional references practicing in the field of forensic science.)

<u>Name/Mailing Address/Phone Number</u>	<u>Name/Mailing Address/Phone Number</u>
_____	_____
_____	_____
_____	_____

## DECLARATION

"I, as applicant to the American Board of Criminalistics (ABC) for a "Certificate of Professional Competency in Criminalistics," acknowledge that I have read and understand the ABC "Certification Application Information and Instructions" and, have read, understand, and agree to abide by the ABC Rules of Professional Conduct.

I further agree to the following conditions:

To not discuss the contents of the Certification Examination with anyone except the American Board of Criminalistics Board of Directors or its representative;

To provide the American Board of Criminalistics Board of Directors additional information pertinent to the proper processing of this application;

To waive any right to confidentiality of the information supplied on this application and any additional information requested by the American Board of Criminalistics Board of Directors relating to the processing of the application;

To disqualify me from receiving a Certificate; to suspend such a Certificate; to revoke such a Certificate; or to surrender such a Certificate to the American Board of Criminalistics, in the event of any misstatement or misrepresentation of a material fact in the application or the Application Attachment, or in the event that any of the aforementioned conditions applicable to such a certificate are violated by me;

To hold the American Board of Criminalistics, its officers, examiners, and agents free from any claim, damage, or liability by reason of action, they or any of them may take in respect to this application, including but not limited to, the failure of the American Board of Criminalistics to issue to me such Certificate, or the suspension, revocation, or making of any demand for the surrender of an issued Certificate, or the removal of my name from the list of persons certified.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date

Statement of Application Confirmation

(if unable to obtain, attach Application Insert-Request for Application Confirmation Waiver)

I, as the laboratory director or immediate supervisor of the person named on this application for a Certificate of Professional Competency in Criminalistics, have reviewed this application and determined the information to be complete and accurate.

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

\_\_\_\_\_  
Phone

ATTACH  
AUTOGRAPHED  
2" x 2"  
PHOTOGRAPH  
HERE

APPLICATION INSERT

Request for Application Confirmation Waiver

I am unable to have this application reviewed and confirmed by the laboratory director or my immediate supervisor due to the following reasons:

---

---

---

---

---

---

---

Signed \_\_\_\_\_

Date \_\_\_\_\_

NOTE: If the applicant is unable to have their immediate supervisor or laboratory manager sign the application a witness with similar knowledge of the applicant may be substituted.



American Board of Criminalistics, Inc.

APPLICANT REFERENCE GUIDE

You have been given as a reference by the person listed below, who has applied for Certification in Criminalistics. Your cooperation in completing this form is sincerely appreciated. The information that you furnish will be held in the strictest confidence and will only be used to complete the evaluation of this applicant.

\_\_\_\_\_  
Applicant's Name

1. Length of time you have known applicant in years? \_\_\_\_\_
2. Relationship to applicant? \_\_\_\_\_
3. Has this applicant ever been censured for unethical conduct or procedure? \_\_\_\_\_  
(If yes, please explain)
4. Would you recommend this applicant for a position of trust and confidence? \_\_\_\_\_
5. Please describe your knowledge of the applicant to include: the type of forensic work applicant performs; percentage of time devoted to forensic work; training in forensic science; and special qualifications of the applicant.
6. Do you feel this applicant possesses the skills and qualifications needed to be certified in criminalistics?

Please feel free to provide additional comments on the back of this form or on another sheet of paper. The applicant is required to return this reference with their application. Thank you for your cooperation in this request.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Title/Position

\_\_\_\_\_  
Business Address

## ABC APPLICANT CHECKLIST

### 1. Applicant Information:

Name:  
Work Address:  
Work Phone:  
Home Address:  
Home Phone:

DATE

### 2. Application Received:

- a. Application complete      Yes \_\_\_\_\_ No \_\_\_\_\_  
b. Application fee mailed to ABC Treasurer (copy in file) \_\_\_\_\_  
c. Form ABC151 mailed (copy in file) \_\_\_\_\_  
Documentation of secondary attempts to contact applicant: \_\_\_\_\_

d. Applicant database initiated \_\_\_\_\_

### 3. Complete application copies forwarded to Credentials Committee (original in file) \_\_\_\_\_

### 4. Application status received from Credentials Committee (form ABCXXX) (original in file) \_\_\_\_\_

- a. Form ABC 152 mailed to applicant (copy in file) \_\_\_\_\_  
b. Form ABC 153 mailed to applicant (copy in file) \_\_\_\_\_  
c. Form ABC 154 mailed to applicant (copy in file) \_\_\_\_\_

### 5. Sitting fee received from applicant:

- a. Assign certificate number \_\_\_\_\_  
b. Form ABC 155 to applicant \_\_\_\_\_  
c. Sitting fee mailed to ABC Treasurer (copy in file) \_\_\_\_\_

### 6. Testing results received from Examination Committee (form ABCXXX) (copy in file) \_\_\_\_\_

- a. Form ABC 156 to applicant (copy in file) \_\_\_\_\_  
b. Form ABC 401 to applicant (copy in file) \_\_\_\_\_  
c. Form ABC 402 and ABC 403 to applicant (copy in file) \_\_\_\_\_

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN NY 11740-0209

Date

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

Thank you for applying for American Board of Criminalistics certification. The CAC and American Board of Criminalistics have developed a reciprocal agreement. The CAC Certification of Professional Competency will fulfill the American Board of Criminalistics General Knowledge Examination requirements (American Board of Criminalistics Diplomat).

All CAC Certificate holders will soon be invited to complete an American Board of Criminalistics application. Once the completed application and \$30.00 processing fee are received, an American Board of Criminalistics Diplomat Certificate will be issued.

You have met both requirements and a certificate will be issued after all the CAC applications are processed (July, 1993).

Congratulations and, again, thank you for your support of a national certification program.

Sincerely,

Registrar, American Board of Criminalistics

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

Date

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

Your application for the Certificate of Professional Competency in Criminalistics has been received. However, in reviewing your application, it was noted that one or more of the following items have not been received:

\_\_\_\_\_Two photographs, with signature  
\_\_\_\_\_Declaration  
\_\_\_\_\_Applicant references  
\_\_\_\_\_Transcript, with major indicated  
\_\_\_\_\_Copy of diploma, with major indicated  
\_\_\_\_\_Check for application fee of \$30.00  
\_\_\_\_\_Other:

Please submit the items to the above address as soon as possible so that we may begin to process your application.

Thank you in advance for your assistance.

Registrar, American Board of Criminalistics

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN NY 11740-0209

Date

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

CONGRATULATIONS! Your application for Certification of Professional Competency in Criminalistics has been reviewed and approved. You are eligible to sit for the General Knowledge Examination and for the following specialty examinations.

\_\_\_\_\_ Drug Identification  
\_\_\_\_\_ Fire Debris Analysis  
\_\_\_\_\_ Blood Alcohol

Forensic Biology:  
\_\_\_\_\_ Biochemistry Module  
\_\_\_\_\_ Molecular Biology Module

Trace Evidence Modules:

\_\_\_\_\_ Fibers  
\_\_\_\_\_ Glass  
\_\_\_\_\_ Gunshot Residue  
\_\_\_\_\_ Hairs  
\_\_\_\_\_ Paints and Polymers  
\_\_\_\_\_ Soils

The General Knowledge Examination will be offered at the following locations:

<Organization>    <Location>    <Date>    <Time>

Reservations for a seat at one of these examinations must be made 30 days prior to the date of that examination. You will receive a receipt which will serve as your admission ticket to the examination.

Circle the examination for which you are making a reservation and return this form accompanied by your check for \$120.00 (U.S. Currency) made payable to American Board of Criminalistics.

If you are physically challenged, note below your special requirements.

Sincerely,

Registrar, American Board of Criminalistics

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN NY 11740-0209

Date

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

Your application for Certification of Professional Competency in Criminalistics has been reviewed by the American Board of Criminalistics Credentials Committee and denied. You do not meet the criteria as of yet. The Credentials Committee cannot waive the two-year rule, which is listed as a "must", under the "Eligibility Requirements for Certification" section of the application.

You will be eligible to take the exam after . Your fees have been paid and will be good for an examination sitting up to . Please contact this office for a list of available sittings and to reserve a seat for a date when you have met the two-year rule.

Sincerely,

Registrar, American Board of Criminalistics

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN NY 11740-0209

Date

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

Your application for Certification of Professional Competency in Criminalistics has been reviewed by the American Board of Criminalistics Credentials Committee and denied. During the review of your application and our investigation, it was determined that you do not meet our minimum requirements for Certification of Professional Competency in Criminalistics. The following deficiencies were found to exist:

- 1.
- 2.
- 3.

If you feel that the deficiencies listed are in error, you may appeal this decision by providing the American Board of Criminalistics Board of Directors with your documentation and/or explanation within 60 days of the postmark date on the envelope bearing this letter. Any appeal must be addressed to:

ATTN: SECRETARY  
AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN NY 11740-0209

Appeals are reviewed by the American Board of Criminalistics Board of Directors during regularly scheduled meetings.

Sincerely,

Registrar, American Board of Criminalistics

Dear Applicant,

ABC has received your \$30 registration fee and \$120 sitting fee. A seat will reserved for you at the next exam. Your certificate number is \_\_\_\_\_. —

The next General Knowledge Exam will be at the <association> meeting in <location, date, time>.

Please bring this card with you when you take the exam.

This card serves as your receipt for the above payments.

Sincerely,

Registrar

ABC 155, 8/93



Dear Applicant:

Since you were unable to attend the General Knowledge Examination on <date>, we are including a list of confirmed locations, dates, and times for upcoming examinations:

<association> - <location, date, time>  
<association> - <location, date, time>  
<association> - <location, date, time>

Please circle the desired examination and return this card at least 30 days prior to the examination for which you wish to reserve a seat.

Your sitting fee has been processed; no additional fees will be required for the upcoming exams.

Sincerely,

Registrar, American Board of Criminalistics

(Postcard Format)

ABC 156, 8/93

CREDENTIALS COMMITTEE CHECKLIST

APPLICANT \_\_\_\_\_

Applicant's education meets standards: yes \_\_\_\_\_ no \_\_\_\_\_

If no, please explain (use continuation sheets if necessary):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Applicant's employment meets standards: yes \_\_\_\_\_ no \_\_\_\_\_

If no, please explain (use continuation sheets if necessary):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reference confirms credentials and character: yes \_\_\_\_\_ no \_\_\_\_\_

Spoke with \_\_\_\_\_ on \_\_\_\_\_

Spoke with \_\_\_\_\_ on \_\_\_\_\_

If no, please explain (use continuation sheets if necessary):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

My investigation reveals this applicant may be admitted to the General Knowledge Examination: yes \_\_\_\_\_ no \_\_\_\_\_

If no, please explain (use continuation sheets if necessary):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This applicant is qualified to sit for the following specialty examinations:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
SIGNATURE OF INVESTIGATOR

\_\_\_\_\_  
DATE

REPORT OF APPROVED APPLICANTS

DATE:

TO: ABC STAFF

FROM: CREDENTIALS CHAIR

\_\_\_\_\_  
SIGNATURE

The following applicants have been approved by the ABC Credentials Committee to sit for the General Knowledge Examination and the listed Specialty Examinations.

NAME

SPECIALTY EXAM[S]

REPORT OF NON-APPROVED APPLICANTS

DATE:

TO: ABC STAFF

FROM: CREDENTIALS CHAIR

\_\_\_\_\_  
Signature

The following applicants failed to meet American Board of Criminalistics standards to sit for the General Knowledge Examination. The deficiencies are as explained.

NAME

DEFICIENCY

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

It is with regret that I must inform you that you did not successfully complete the examination requirement for the American Board of Criminalistics Diplomate Certificate.

We will provide you information on areas needing improvement soon. The information will help you prepare to re-take the examination.

The Examination Committee will destroy all exam booklets and answer sheets sixty days from the date of this notification. You may request a review of the examination grading if you believe an error may have occurred. The request for regrading the examination must be made in writing and received via Certified Mail within 45 days of receipt of this notice. It should be addressed to:

ABC Board of Directors  
P.O. Box 209, Greenlawn, NY 11740-0209.

If no administrative error is found, any cost for regrading the examination is the responsibility of the candidate.

Your application is valid for two years from the date of its acceptance. I encourage you to focus on the areas needing improvement that we will identify. The references in the Study Guide contain all the information you need to successfully complete the examination. I invite you to re-take the examination, and look forward to celebrating your accomplishment when you pass the exam.

You may take the examination for a total of three attempts. The normal sitting fee at the time you re-take the examination will apply. You may obtain a list of future test dates and sites through the ABC Registrar at the address above.

Thank you for your interest in the ABC program.

Sincerely,

<name>  
Chair, Examinations Committee

## GENERAL KNOWLEDGE, SKILLS AND ABILITIES

The regional peer groups and the ABC Exam Committee have formulated a list of general knowledge, skills and abilities which they thought were necessary for a typical forensic scientist to effectively do casework. Applicants for certification should use this list to help determine their strengths and weaknesses prior to taking the general exam.

The successful applicant should have the knowledge of, or skills and abilities to:

### I. Evidence Collection and Preservation

- A. Select and use appropriate tools for recording and recovering evidence without loss, contamination, or changes that would result in the loss of information.
- B. Recognize the evidence potential of various items and safeguard that potential by proper sampling and collection of controls.
- C. Properly mark, package, and store evidence.
- D. Preserve evidence using appropriate prior legal decisions.
- E. Apply the means to retard or prevent changes to evidence caused by time, temperature, or biological agents.

### II. Evidence Examination and Data Interpretation

- A. Measurements, procedures, and tests commonly used in the examination of physical evidence and the nature and significance of the information derived from these.
- B. Think logically and design testing protocols that will provide the most useful information while avoiding procedures that are redundant, unnecessarily consumptive, or will interfere with subsequent tests.
- C. Properties of commonly encountered evidence materials that allow their characterization.
- D. Limitations in personal skills and laboratory resources and the potential contributions of other expertise.
- E. Scientific method and general foundational basis for examinations, evaluation, and interpretations.
- F. Understand and interpret technical data including any conditions or circumstances that could effect the conclusions.
- G. Think logically.
- H. Recognize discrepancies or inconsistencies in analytical findings and determine their cause and significance.

### III. Laboratory Safety

- A. Dangers associated with firearms, explosives, biological materials, and chemical substances and the proper methods for safe handling of all evidence types.

### IV. Instrumental/Equipment usage

- A. Instruments and equipment used at crime scenes and in the laboratory including their application and principles of operation.
- B. Instrument use based on the size and condition of the sample to be examined.
- C. Various isolation and separation techniques as required for sample preparation.

V. Communication - Report Writing

- A. Write clear, grammatically correct, and concise reports on analyses, results and conclusions.
- B. Properly maintain and record examination information.

VI. Communication - Legal Aspects and Court Testimony

- A. Court decisions, procedures and associated legal terms applying to expert witnesses.
- B. Understand and respond appropriately to questions from counsel and/or the court.

VII. Rules of Professional Conduct and Code of Ethics

- A. The Rules of Ethics as drafted by the American Board of Criminalistics.

VIII. Forensic Science and Other Applicable Literature

- A. Current criminalistic information (journals, books, newsletters).
- B. Critically evaluate written and oral information.
- C. Foundational basis of criminalistics.

## GENERAL KNOWLEDGE EXAMINATION STUDY GUIDE

The following recommendations are made for those who wish to prepare to take the examination for a Certificate of Professional Competency in Criminalistics.

For a good general review begin by reading:

"The Rules of Professional Conduct" supplied by the American Board of Criminalists.

"Forensic Science, An Introduction to Criminalistics" by DeForest, Gaensslen, and Lee

(Note: This book is, in its entirety, a good general text which has a particularly good appendix on the subject of photography.)

For more in depth treatment of various subject areas, supplement the above reading with the list of selections below. Give particular attention to those areas in which you may not have specific experience.

"Techniques of Crime Scene Investigation" Fourth Edition by Fisher, Svensson, and Wendel

- Chapter 2: The First Officer at the Crime Scene"
- Chapter 6: "Establishing Identity  
(Note: This is a particularly good treatment of fingerprints.)
- Chapter 7: "Trace Evidence and Miscellaneous Material"
- Chapter 9: "Impression Evidence"
- Chapter 15: "Motor Vehicle Investigation"

"Criminalistics, An Introduction to Forensic Science" Third Edition by Saferstein

- Chapter 12: "Forensic Serology"
- Chapter 14: "Firearms, Toolmarks, and Other Impressions"  
Note: There is no one book which has an adequate basic treatment of the subject of firearms. This may be helpful but consultation of other texts may be necessary. You should have a basic knowledge of caliber, class and individual characteristics, types of firearms, commonly encountered types of ammunition and their component parts, gunshot residue and the significance of all of the foregoing. The approach to firearms examinations such as article by Davis in "Firearms Training Notes" (AFTE Vol. 9, No. 2 - July 1977, pages 76-107) is suggested.



"Forensic Science Handbook, Volume 1" edited by Saferstein

- Chapter 1: "Legal Aspects of Forensic Science" (pages 2-27)  
(Note: This is a good discussion of this topic.)
- Chapter 4: "Forensic Glass Comparison" (pages 140-180)  
(Note: if only supplemental, read pages 153-159 and 165-168.)
- Chapter 5: "Forensic Identification and Association of Human Hair" (pages 199-212)
- Chapter 6: "Arson and Explosive Investigation" (pages 225-237)
- Chapter 9: "Foundations of Forensic Microscopy" (pages 417-490).  
(Note: This reference is listed for convenience; however, any good general treatment of microscopy will suffice. What is selected should include parts of the microscope and their function, types of illumination, polarized light microscopy and commonly encountered terms relating to this subject. For example, another good text is "Polarized Light Microscopy" by McCrone, McCrone, and Delly.)
- Chapter 11: "Detection of Gunshot Residue: Present Status" (pages 573-589).
- Chapter 12: "The Determination of Alcohol in Blood and Breath" (pages 594-608).

"Forensic Science Handbook, Volume II" edited by Saferstein

- Chapter 2: "Forensic Capillary Gas Chromatography" (pages 54-65)
- Chapter 3: "Forensic Identification of Controlled Substances" (pages 69-121)  
(Note: This is a good discussion of this subject but, if supplemental, read pages 80-87.)
- Chapter 5: "Forensic Aspects of Textile Fiber Examination" (pages 214-259)
- Chapter 7: "The Identification and Individualization of Semen Stains" (pages 369-374)
- Chapter 8: "Firearms Identification" (pages 394-450).

"Practical Instrumental Analysis" by Krugers and Keulemans

(Note: Again, this book is listed for your convenience. Any book which gives a general overview of instruments commonly encountered in forensic laboratories will suffice. What is chosen should give you a basic understanding of laboratory instruments and typical applications thereof.)

#### GENERAL KNOWLEDGE EXAMINATIONS REFERENCES

Code of Professional Conduct (included in study guide packet).

Davis, J. E., "Firearms Training Notes," AFTE, Vol. 9, No. 2, July 1977

DeForest, P. R.; Gaensslen, R. E.; and Lee, H. C. "Forensic Science: An Introduction to Criminalistics," New York: McGraw-Hill (1983)

Fisher, B. A. J.; Svensson, A.; and Wendel, O.; "Techniques of Crime Scene Investigation," 4th Edition, New York: Elsevier (1987).

Kruger, J. and Keulemans, A. I. M. (Editors), "Practical Instrumental Analysis," New York: Elsevier (1965)

McCrone, W. C.; McCrone, L. B.; and Delly, J. G.; "Polarized Light Microscopy," Michigan: Ann Arbor Science (1978)

Saferstein, R. "Criminalistics - An Introduction to Forensic Science," Third Edition, New Jersey: Prentice Hall (1987)

Saferstein, R., Editor "Forensic Science Handbook," Volume I, New Jersey: Prentice-Hall (1982)

Saferstein, R., Editor "Forensic Science Handbook," Volume II, New Jersey: Prentice-Hall (1988)

No citations have been offered on safety. It is therefore suggested that you review your own laboratory's safety policies and general clandestine laboratory safety issues.

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

I have received your letter appealing the decision of the American Board of Criminalistics to (issue). Upon receipt of your file from the Registrar, your letter will be forwarded with that information to the Chairperson of the Appeals Committee.

Your situation will be reviewed by the Appeals Committee, who will make a recommendation for disposition to the Board of Directors of the ABC at the Board's next semi-annual meeting. You will be notified within five business days of the decision of the Board of Directors by the Appeals Committee Chair.

If any additional information is required, you will be contacted by the Chair of the Appeals Committee.

Please contact me if you require any clarification of this process.

Sincerely,

Secretary  
American Board of Criminalistics

# APPEAL EVALUATION FORM

NAME OF APPELLANT: \_\_\_\_\_

FILE NUMBER: \_\_\_\_\_

Appeal received by Registrar on: \_\_\_\_\_  
 Received from Registrar on: \_\_\_\_\_  
 Letter of Acknowledgement mailed on: \_\_\_\_\_  
 Registered Mail receipt number: \_\_\_\_\_

TYPE OF APPEAL:  
 application \_\_\_\_\_  
 examination \_\_\_\_\_  
 proficiency \_\_\_\_\_  
 recertification \_\_\_\_\_

ADDITIONAL INFORMATION REQUESTED:  
 From Complainant: no yes  
     if yes, date request mailed: \_\_\_\_\_  
 Registered Mail receipt number: \_\_\_\_\_  
 Date information received: \_\_\_\_\_  
  
 From Committee Chair: no yes  
     if yes, date requested: \_\_\_\_\_  
 Date information received: \_\_\_\_\_  
 Verbal report attached: no yes

NOTIFIED OF DEFICIENCY ON:  
 Appealed within specified time period: no yes

ISSUE:  
 question of fact \_\_\_\_\_  
 character/ethics issue \_\_\_\_\_

MAILED TO COMMITTEE MEMBERS:  
 Committee member name: \_\_\_\_\_  
 Packet received from Chair on: \_\_\_\_\_

RECOMMENDATION FOR DISPOSITION:  
 uphold decision of Board \_\_\_\_\_  
 reverse decision of Board \_\_\_\_\_

Comments:

Recommendation provided to Chair on: \_\_\_\_\_

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name):

The American Board of Criminalistics has initiated a review of your (appeal/complaint). In order to complete our investigation, we need the following additional information:

Please forward this information at your earliest possible convenience to:

(name)  
(title)  
(Address)  
(Address)  
(Address)

Your case will be on hold pending receipt of this information.

Sincerely,

Chair  
(committee)

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(Address)

Dear (Name)

Your appeal regarding (issue) was reviewed by the Appeals Review Committee of the American Board of Criminalistics. Based upon our recommendation, the Board of Directors voted at their meeting on (date) to (action).

Please contact me at the following address if you require any additional information:

(Name)  
Chair, Appeals Committee  
(Address)  
(Address)  
(Address)

Sincerely,

Chair  
Appeals Committee

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(address)  
(address)

Dear (Name):

I have received your letter of complaint regarding (respondent's name, certificate #). Upon receipt of (respondent's name) file from the Registrar, your letter will be forwarded with that information to the Chair of the Ethics Committee.

The Chair of the Ethics Committee will notify you if any additional information or clarification is necessary for the Committee to proceed. Once the Chair deems that there is sufficient written information, you will receive a letter of Intent To Proceed with the investigation of your complaint.

The Ethics Committee will then evaluate your complaint to determine if they have jurisdiction; if the complaint is unfounded; or if the complaint is founded. You will be notified within 30 days by the Chair if the committee determines that they do not have jurisdiction or if the complaint is determined to be unfounded. If the Committee determines that they do not have jurisdiction, the respondent (i.e. Name) will not be informed by the ABC of your complaint. If, however, the Committee determines that the complaint is unfounded, the respondent will be notified by the Chair of your complaint and of its disposition.

If the Ethics Committee determines the complaint to be founded, you, (respondent's name), and the President of the ABC will be notified as to the date and time of a meeting at which the Committee will consider your complaint. You will be instructed at that time regarding your right to submit a written statement for consideration at the meeting. Only members of the Ethics Committee will be in attendance at the meeting. A confidential report will be provided to the President of the ABC within 90 days of the Committee meeting. Upon receipt of this report, the President will appoint a three member Investigative Committee, who will hold a hearing on the complaint against (respondent's name).

The Chair of the Investigative Committee will notify all parties as to their rights and the date and time of the hearing. You, (respondent's name), your representatives, and any witnesses you may wish to call may give evidence in the form of a summary statement in person at that hearing. You and/or your representative and witness(es) will be responsible for any expenses incurred while appearing.

The Investigative Committee, after considering all evidence will make a recommendation of one of the following to the Board of Directors:

1. The complaint should be dismissed. No further action is to be taken.
2. The complaint should be upheld but no action is required. The complaint has been dealt with in a constructive manner.
3. The complaint should be upheld and action is required by the Board of Directors.

At the next Board of Directors meeting, one of the following dispositions of the complaint will be mandated by the Board of Directors:

1. The complaint will be dismissed with no further action taken.
2. The complaint will be upheld with no further action taken.
3. A letter of reprimand will be issued.
4. Certification will be temporarily suspended for a specified period of time.
5. Certification will be revoked and the respondent will be barred from reapplying for a specified time period.
6. Certification will be revoked and the respondent will be barred from reapplying permanently.

You will be advised of the action taken by the Board of Directors regarding your complaint within five business days of their decision. Please note that there is no appeal to the decision of the Board of Directors.

Please contact me if you require any additional information at this time.

Sincerely,

Secretary, ABC



AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Complainant's name)  
(address)  
(address)  
(address)

Dear (Complainant's name):

All information needed to proceed with our investigation into your complaint of professional misconduct of (Respondent's name) has been received. This document is to notify you of the intent of the Ethics Committee to proceed with an investigation into this matter.

Sincerely,

Chair  
Ethics Committee

REPORT OF PROFESSIONAL MISCONDUCT FORM

NAME OF RESPONDENT: \_\_\_\_\_

CERT NUMBER: \_\_\_\_\_

File received by Registrar on: \_\_\_\_\_  
Complaint filed by: \_\_\_\_\_  
Complaint received by Secretary on: \_\_\_\_\_  
Letter of acknowledgement mailed on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_

ADDITIONAL INFORMATION REQUESTED:

From Complainant: \_\_\_\_\_ no    yes  
if yes, date request mailed: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_  
Date information received: \_\_\_\_\_

INTENT TO PROCEED:

Letter mailed on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_  
Mailed to Committee members on: \_\_\_\_\_

LETTER OF RECOMMENDATION:

Mailed to Chair on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_  
Mailed to Secretary on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_  
Mailed to Respondent on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_  
Mailed to Complainant on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_

COMMITTEE MEMBER: \_\_\_\_\_

no jurisdiction \_\_\_\_\_  
unfounded \_\_\_\_\_  
founded \_\_\_\_\_

NOTICE OF MEETING TO CONSIDER FOUNDED COMPLAINT:

Mailed to President on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_  
Mailed to Respondent on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_  
Mailed to Complainant on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_

WRITTEN STATEMENTS:

Received from Complainant on: \_\_\_\_\_  
Received from Respondent on: \_\_\_\_\_

REPORT ON MEETING TO CONSIDER FOUNDED COMPLAINT:

Mailed to President on: \_\_\_\_\_  
Registered Mail receipt number: \_\_\_\_\_

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(address)

Dear (Complainant's Name):

Your complaint regarding (respondent's name) was reviewed by the Ethics Review Committee of the American Board of Criminalistics. Based upon our review, we are recommending to the Board of Directors that the complaint be dismissed due to a lack of jurisdiction on the part of the American Board of Criminalistics.

The Board of Directors will be considering our recommendation at their next semi-annual meeting. You will be notified by the Secretary of the ABC of the action taken by the Board of Directors regarding your complaint within five business days of their decision.

Sincerely,

Chair  
Ethics Committee

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(Address)

Dear (Complainant's Name):

Your complaint regarding (respondent's name) was reviewed by the Ethics Committee of the American Board of Criminalistics. Based upon our review, we are recommending to the Board of Directors that, because we believe the complaint is unfounded, the complaint be dismissed.

The Board of Directors will be considering our recommendation at their next semi-annual meeting. You will be notified by the Secretary of the ABC of the action taken by the Board regarding your complaint within five business days of their decision.

(Respondent's name) has been apprised of your complaint and of this committee's recommendation.

Sincerely,

Chair  
Ethics Committee

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(Address)

Dear (Respondent's Name):

On (date) the American Board of Criminalistics received a complaint from (complainant's name) concerning (specify reported violation of the Rules of Professional Conduct). This complaint has been reviewed by the Ethics Committee of the ABC.

This Committee is recommending to the Board of Directors that, because we believe the complaint was unfounded, the complaint be dismissed.

The Board of Directors will be considering our recommendation at their next semi-annual meeting. You will be notified by the Secretary of the ABC of the action taken by the Board of Directors regarding the complaint against you within five business days of their decision.

Please contact me if you require any additional information.

Sincerely,

Chair  
Ethics Committee

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Complainant's Name)  
(Address)  
(Address)  
(Address)

Dear (Complainant's Name):

A preliminary review by the Ethics Committee has determined that your complaint of professional misconduct regarding (respondent's name) is founded. A meeting of the Ethics Committee will be held on (date) at (time) to prepare a report on this matter for the President of the American Board of Criminalistics.

If you choose, you may submit a written statement for consideration at this meeting. You may also submit the Rules of Professional Conduct of the ABC and/or the Enforcement Regulations for the Rules as supporting documents at the same time. Any document that you wish to submit must be received by me, as the Chair of the Ethics Committee, by Registered Mail at least seven days prior to the aforementioned meeting date. Any materials received after that time will not be considered by the Ethics Committee in their deliberations.

Only members of the Ethics and Appeals Review Committee will be in attendance at this meeting. Accordingly, neither you, (respondent's name), nor your representatives are entitled to appear before the Committee at this time.

Please contact me if you require clarification of this process.

Sincerely,

Chair  
Ethics Committee

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Respondent's name)  
(Address)  
(Address)  
(Address)

Dear (Respondent's name):

On (date) the American Board of Criminalistics received a complaint from (complainant's name) concerning (specify reported violation of the Rules of Professional Conduct). This complaint has been reviewed by the Ethics Committee of the ABC and has been determined to be founded. Accordingly, the Ethics Committee will be meeting on (date) at (time) to prepare a report for the President of the ABC relative to this matter. A copy of the Enforcement Regulations for the Rules of Professional Conduct of the ABC is enclosed for your review.

If you choose, you may submit a written statement for consideration at this meeting. You may also submit the Rules of Professional Conduct of the ABC and/or the Enforcement Regulations for the Rules as supporting documents at the same time. Any document that you wish to submit must be received by me, as the Chair of the Ethics Committee, by Registered Mail at least seven days prior to the aforementioned meeting date. Any materials received after that time will not be considered by the Ethics Committee in their deliberations.

Only members of the Ethics Committee will be in attendance at this meeting. Accordingly, neither you, (complainant's name), nor your representatives are entitled to appear before the Committee at this time.

Please contact me if you require clarification of this process.

Sincerely,

Chair  
Ethics Committee

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

(Date)

(Name)  
(Address)  
(Address)  
(Address)

Dear (Respondent's/Complainant's Name):

The investigation of the Ethics Committee into the complaint against (Respondent's name) for a reported violation of the Rules of Professional Conduct of the American Board of Criminalistics by (Complainant's name) has been suspended pending the outcome of the current court proceedings relative to this issue. The Ethics Committee will resume its investigation following resolution of this matter in the courts.

Please contact me if you require any additional information regarding this notification.

Sincerely,

Chair  
Ethics Committee



(DATE)

NOTICE OF INVESTIGATIVE COMMITTEE HEARING

A hearing of the Investigative Committee of the American Board of Criminalistics regarding the complaint against (respondent's name) by (Complainant's name) of professional misconduct (specify particulars) will be held on (date) at (time) in (location).

All parties (Respondent, Complainant, their representatives, the Ethics Committee members, and the President of the ABC) have the right to attend this hearing. The respondent and the complainant also have the right to call witnesses on their behalf to testify in front of the Investigative Committee.

All verbal testimony will be in the form of summary statements. Any persons wishing to attend the hearing must give written notice via Registered Mail to the Secretary of the ABC (Address) no less than fifteen (15) days prior to the aforementioned hearing date. This notification by the Respondent and the Complainant is to include whether they intend to appear in person before the Investigative Committee; whether they intend to be represented and if so, the name of any persons who will be representing them; whether any witnesses are to be called and if so, their names; and a copy of each and all documents on which the respondent, the complainant, their representatives, or any of their witnesses propose to rely.

Any notification or document received less than fifteen (15) days prior to the aforementioned meeting date or those not received by Registered Mail by the Secretary of the ABC will not be heard by the Investigative Committee and, accordingly, will not be considered in their deliberations.

Those attending the hearing will be responsible for any expenses that they may incur.

Sincerely,

Chair  
Investigative Committee

enclosures: Ethics Committee Report  
Enforcement Regulations for the Rules of  
Professional Conduct of the ABC

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

DATE:

TO: Board of Directors

FROM: Investigative Committee

REPORT OF THE INVESTIGATIVE COMMITTEE'S RECOMMENDATION

The review of the Investigative Committee regarding the matter of the complaint against (Respondent's name) relative to the reported violation of the Rules of Professional Conduct of the American Board of Criminalistics resulted in the following recommendation:

- \_\_\_\_\_ The complaint should be dismissed. No further action is necessary.
- \_\_\_\_\_ The complaint should be upheld but no action by the Board of Directors is required since the complaint has been dealt with in a constructive manner.
- \_\_\_\_\_ The complaint should be upheld and action is required by the Board of Directors.

In accordance with the enforcement regulations of the Rules of Professional Conduct of the American Board of Criminalistics, a copy of this report is being provided to the complainant, the respondent, the members of the Ethics Committee, and the Secretary.

Respectfully submitted,

Chair  
Investigative Committee

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

DATE:

TO: (Complainant, Respondent, Ethics Committee members,  
Investigative Committee members, Board members)

FROM: Secretary, ABC

Notice of the ABC Board of Directors meeting to act on a complaint  
of a violation of the Rules of Professional Conduct

The Board of Directors of the American Board of Criminalistics will meet on (date) and (time) in (location) to review and act upon the report of the Investigative Committee relative to the complaint issued against (respondent's name) by (complainant's name) regarding a reported violation of the Rules of Professional Conduct of the American Board of Criminalistics.

The respondent (name), and/or (his/her) representative has the right to be present at and to address the meeting of the Board of Directors prior to their action being taken. No new evidence may be presented at this meeting. A member of the Investigative Committee may also be present at the meeting. The complainant does not have the right to attend.

If the respondent and/or (his/her) representative wishes to attend the meeting of the Board of Directors, (he/she) must contact the Secretary at least fifteen (15) days prior to the meeting by Registered Mail.

All parties will be notified by the Secretary of the action taken by the Board of Directors within five (5) business days of their decision. There is no appeal to the decision of the Board of Directors.

AMERICAN BOARD OF CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740-0209

DATE:

TO: (Respondent, Complainant, Ethics Committee members,  
Investigative Committee members, Board members)

FROM: Secretary, ABC

Action taken by the Board of Directors of the ABC

On (Date), in response to a written complaint received by (Complainant's name), an investigation into a possible violation of the Rules of Professional Conduct of the American Board of Criminalistics by (Respondent's name, certificate number) was initiated by the Ethics Committee.

Based upon recommendations of the Ethics Committee and/or the Investigative Committee, the following action was taken by the Board of Directors of the ABC (in compliance with Article IV. section 5.4 of the By-laws):

\_\_\_\_\_ The complaint was dismissed. The Ethics Committee determined that (the ABC does not have jurisdiction/the complaint was unfounded).

\_\_\_\_\_ The complaint was upheld but no further action will be taken due to the complaint having been dealt with in a constructive manner through use of this process.

\_\_\_\_\_ A letter of reprimand has been issued to (Respondent's name) by the President of the ABC in accordance with the wishes of the Board of Directors.

\_\_\_\_\_ (Respondent's name)'s Certificate of Professional Competency in Criminalistics has been temporarily suspended for (amount of time).

\_\_\_\_\_ (Respondent's name)'s Certificate of Professional Competency in Criminalistics has been revoked. (Respondent's name) is barred from reapplying for a Certificate in Professional Competency in Criminalistics for (amount of time).

\_\_\_\_\_ (Respondent's name) Certificate of Professional Competency in Criminalistics has been permanently revoked and (he/she) is barred from reapplying for certification by the ABC.

American Board of Criminalistics  
-Recertification Policy and Procedures-

Continuing Education/Professional Development Requirements for Diplomates and Fellows

Diplomates and Fellows must send the ABC documentation showing that at least 50 Continuing Education/Professional Development points have been earned since the last recertification. Diplomates and Fellows must accumulate a minimum of 10 points in II. Professional Involvement. Fellows must accumulate a minimum of 15 points in IV. Specialty Area Activities every 5 years for each Specialty Area in which he/she is certified.

Documentation must be submitted to ABC annually on the *Recertification Professional Development Reporting Form (ABC603, 8/93)*, with the final information submitted at least 90 days prior to certification expiration. Any diplomate who does not meet these requirements must re-apply for certification, and meet current qualification and testing requirements.

1. Diplomates seeking recertification must be working in forensic science. Fellows seeking recertification must be working in their specialty area. Work is defined as performing and reporting examinations, directly supervising others (in a specialty area, if Fellow) doing research/methods development, or training others (in a specialty area, if Fellow).
2. Fellows must document participation in a proficiency test in each specialty area. Proficiency must have been tested at least every 12 months.
3. Each Diplomate and Fellow must be recertified every 5 years. The recertification period begins with the issue date of the Diplomate Certificate. Diplomates considering applying for Fellow status should begin accumulating and documenting specialty area activities. The required Continuing Education/Professional Development points, as outlined in *Recertification Point Structure (ABC601, 8/93)*, must be accumulated within 5 years.
4.
  - a. Diplomates must demonstrate that they are remaining current in forensic science. A minimum of 50 Continuing Education/Professional Development points must be accumulated during the five year period prior to certification expiration in development categories I through III identified in *Recertification Point Structure (ABC601, 8/93)*.
  - b. Fellows must demonstrate that they are remaining current in their specialty area. A minimum of 50 Continuing Education/Professional Development points, 15 of which must be accumulated in each certified specialty area (i.e. Persons recertifying in 2 specialty areas will need to accumulate 65 total points. Fifteen points for each specialty area must be accumulated in IV. Specialty Area Activities.) during the five year period prior to certification expiration.
5. The point structure is designed to encourage specialty area development, non-specialty skill development and participation in forensic organizations. Accumulated Specialty Area Technical Training or Development (IV. A-C) points exceeding the maximum cannot be applied to Non-Specialty Technical Training or Development (III. A-C).
6. Accumulated points over 50 do not carryover into the next 5-year recertification period.

7. The point system used to demonstrate Continuing Education/Professional Development is given in *Recertification Point Structure (ABC601, 8/93)*. Examples illustrating how 50 points might be accumulated by one individual recertifying in 2 Specialty Areas - Forensic Biology-Biochemistry and Drug Analysis - are given in *Recertification Examples (ABC602, 8/93)*.
8. Fellows and Diplomates must submit an annual report on their continuing education activities to ABC along with an annual maintenance fee. Documentation must be submitted on the *Recertification Professional Development and Proficiency Reporting Form (ABC603, 8/93)*. A *Recertification Professional Development and Proficiency Reporting Form* is shown in the Appendix.
9. Completed forms must be postmarked NLT March 1 with data from the preceding calendar year and the annual maintenance fee (currently \$20 (1993)) to ABC, P.O. Box 209, Greenlawn, NY 11740-0209. A 50% processing surcharge will be assessed on forms postmarked between March 1 and June 1. (Using current fees the 50% surcharge equals \$30). Forms postmarked after June 1 will not be processed and Diplomates/Fellows may be subject to reapplication/retesting.
10. Diplomates and Fellows are responsible for ensuring adequate points are accumulated during the 5-year certification/recertification period. Diplomates/Fellows are encouraged to track their training and professional activities closely. The ABC is not responsible for ensuring you have sufficient Continuing Education/Professional Development points.

## Recertification Point Structure

- |      |  |   |
|------|--|---|
| I.   | Full-time Forensic Casework - > 50% of work devoted to Examinations in Forensic Science (all Specialty Areas) including QA | 2 pts/year  |
|      | Note: Points claimed here can be applied to points needed for recertification in every specialty area                      |   |
| II.  | Professional Involvement   | Minimum 10 pts                                    |
|      | A. Meetings  |   |
|      | 1. Registered Forensic Meeting Attendance (e.g. IAFS, CSFS, AAFS, Regional Association, CLIC, etc.)                        | 2 pts per day; 25 pt maximum                      |
|      | 2. Registered Other Professional Association Meeting Attendance (e.g. ACS)   | 1 pt/day; 20 pt maximum                           |
|      | B. Leadership  |   |
|      | 1. Elected Officer/Committee Chair in Forensic Organization  | 2 pts/year served per organization; 10 pt maximum |
|      | 2. Committee Member  | 1 pt/yr per organization; 10 pt maximum           |
|      | C. Organizational Participation  |   |
|      | 1. Forensic Organization Membership  | 1 pt/yr per organization<br>10 pt maximum         |
|      | Note: Points in II. can be applied toward recertification in more than 1 Specialty Area                                    |   |
| III. | Other Forensic Skill Building Activities (Non-Specialty)   |   |
|      | A. Training Received   |   |
|      | 1. In-Service Training in non-specialty skills (e.g. statistics, computers, expert testimony)                              | 2 pts/day; 15 pt maximum                          |
|      | 2. Successful Completion of Relevant College Course  | 5 pts/credit hour; 15 pt maximum/course           |

## B. Technical Development

- |    |   |                                       |
|----|---|---------------------------------------|
| 1. | Panel Discussion/Plenary Discussion                         | 5 pts/discussion; 10 pt maximum       |
| 2. | Technical Paper/Poster Presentation at a Scientific Meeting | 10 pts/different paper; 20 pt maximum |

Note: Points cannot be claimed under this item if they are claimed under III. B. 3. Technical Paper Publication

- |    |  |                        |
|----|--|------------------------|
| 3. | Technical Paper Publication                                  |                        |
|    | a. Peer Reviewed   | 15 pts/different paper |
|    | b. Editorial Review  | 10 pts/different paper |
|    | c. Newsletter (no technical review - e.g. <i>Microgram</i> ) | 5 pts/different paper  |

Note: Points cannot be claimed under this item if they are claimed under III. B. 2. Technical Paper Presentation

- |    |                         |                                |
|----|-------------------------|--------------------------------|
| 4. | Book Chapter Authorship | 20 pts/chapter; 40 pts maximum |
| 5. | Book Authorship/Editing | 40 pts/book                    |

## C. Training Given

- |    |   |   |
|----|---|---|
| 1. | Conducting Workshop/Seminar in Other Forensic Skill Area (e.g. expert testimony, computers) | 5 pts for each full day presentation; 15 pt maximum |
|----|---|---|

## IV. Specialty Area Activities (Fellows Only)

Minimum 15 points required for each certified specialty area under IV.

### A. Training Received Area

- |    |   |  |
|----|---|--|
| 1. | In-Service Training (e.g. FBI Academy, Regional Association Workshop, | 2 pts/day; 15 pt maximum/training activity |
|----|---|--|



- |    |  |  |
|----|--|--|
|    | documented in-house training, continuing education)                    | 5 pts/semester credit hour; 15 pt maximum/course |
| 2. | Successful Completion of Relevant College Course in forensic specialty |  |

#### B. Technical Development

- |    |   |                                       |
|----|---|---------------------------------------|
| 1. | Panel Discussion/Plenary Discussion                         | 5 pts/discussion; 10 pt maximum       |
| 2. | Technical Paper/Poster Presentation at a Scientific Meeting | 10 pts/different paper; 20 pt maximum |

Note: Points cannot be claimed under this item if they are claimed under IV. B. 3. Technical Paper Publication

- |    |   |                        |
|----|---|------------------------|
| 3. | Technical Paper Publication                               | 15 pts/different paper |
| a. | Peer Reviewed (e.g. <i>Journal of Forensic Sciences</i> ) | 10 pts/different paper |
|    |   | 5 pts/different        |
| b. | Editorial Review (e.g. <i>Microscope</i> )                |                        |
| c. | Newsletter (no technical review - e.g. Microgram)         |                        |

Note: Points cannot be claimed under this item if they are claimed under IV. B. 2. Technical Paper Presentation

- |    |  |                               |
|----|--|-------------------------------|
|    |  | 20 pts/chapter; 40 pt maximum |
|    |  | 40 pts/book                   |
| 4. | Book Chapter Authorship                                  | 5 pt/review; 15 pt maximum    |
| 5. | Book Authorship/Editing                                  |                               |
| 6. | Technical Paper Review (published or at Journal Request) |                               |

#### C. Forensic Training Given

- |    |   |   |
|----|---|---|
| 1. | Conducting Workshop/Seminar in Specialty Area | 5 pts for each full day presentation; 15 pt maximum |
|----|---|---|

2. Training of Examiner in Specialty Area

5 pts for each year  
training provided; 15 pt  
maximum

- D. Professional Support (to a Specialty Area) -  
> 50% of your time is devoted to maintaining  
reference/exemplar collections, methods  
development (non-published)

2 pts/year

V. Unlisted Professional Activities

Other activities or circumstances a diplomate feels should be considered under recertification  
should be submitted to the ABC Board at least 6 months prior to scheduled recertification.  
The activities and circumstances will be considered on an individual basis.

Examples illustrating how 50 points might be accumulated by one individual recertifying in 2 Specialty Areas  
- Forensic Biology-Biochemistry and Drug Analysis - are shown in *Recertification Examples (ABC602, 8/93)*.

## Recertification Examples

Examples illustrating how 50 points might be accumulated by one individual recertifying in 2 Specialty Areas  
- Forensic Biology-Biochemistry and Drug Analysis -.

### Example 1 [Forensic Biology - Biochemistry]

#### I. Full-time Forensic Casework

5 years working in both Forensic Biology and Drugs ..... 10 pts

Sub-Total ..... 10 pts  
(Same points applied to both Forensic Biology and Drug Recertification)

#### II. Professional Involvement (10 pt minimum)

3 day ACS meeting ..... 3 pts

4 day NEAFS meeting ..... 8 pts

NEAFS membership - 5 years ..... 5 pts

Committee Member, NEAFS Training for 2 years ..... 2 pts

Sub-Total ..... 18 pts  
(Minimum of 10 pts is met - additional 8 pts applied toward 50 pt total)

#### III. Other Forensic Skill Building

Panel Discussion - Certification ..... 5 pts

Sub-Total ..... 5 pts

#### IV. Specialty Area (15 pt minimum)

3 Semester Hour Statistics Course (used in III. on Drug Recertification) ..... 15 pts

4 day in-house DNA DQ $\alpha$  Training ..... 8 pts

Sub-Total ..... 23 pts

TOTAL ..... 56 pts  
(6 points in excess of 50 do not carry over to the next certification period)

## Example 2 [Drug Analysis]

### I. Full-time Forensic Casework

5 years working in both Forensic Biology and Drugs . . . . . 10 pts  
Sub-Total . . . . . 10 pts  
(Same points applied to both Forensic Biology and Drug Recertification)

### II. Professional Involvement (10 pt minimum)

3 day ACS meeting . . . . . 3 pts  
4 day NEAFS meeting . . . . . 8 pts  
NEAFS membership - 5 years . . . . . 5 pts  
Committee Member, NEAFS Training for 2 years . . . . . 2 pts  
Sub-Total . . . . . 18 pts  
(Minimum of 10 pts is met - additional 8 pts applied toward 50 pt total)

### III. Other Forensic Skill Building

3 Semester Hour Statistics Course (used in IV. on Forensic Biology Recertification) . . . . . 15 pts  
Sub-Total . . . . . 15 pts

### IV. Specialty Area (15 pt minimum)

Conducted NMR Workshop (1 day) . . . . . 5 pts  
Paper Presentation - Drug Analysis/HPLC . . . . . 10 pts  
Sub-Total . . . . . 15 pts

TOTAL . . . . . 58 pts  
(8 points in excess of 50 do not carry over to the next certification period)

#### Comment

Cost to the Diplomate/Fellow can be kept to a minimum. During a 5 year period you are likely to be involved with methods development (HPLC Presentation) and attend at least 1 regional association meeting. Paper presentation (Specialty Area) and panel discussion (Skill Building) could be accomplished at one forensic meeting. Memberships and professional involvement are likely to be costs you are already incurring.

## Recertification Professional Development and Proficiency Reporting Form

### Instructions:

- ▷ Complete the form below by filling in information about your professional activities and the number of points accumulated for each activity during the calendar year. **Incomplete forms will be returned.**
- ▷ Fill in the sub-total for each category.
- ▷ Total the sub-totals at the end of the form.
- ▷ On the last page of the form fill in your name and Diplomate Certificate Number, and sign and date the form.
- ▷ Attach additional pages, if more space is needed.
- ▷ Have a person who is familiar with your professional development activities witness your signature.
- ▷ Sign the Proficiency Testing Participation Certification (if Fellow) and attach a copy of your final results. Please have the Proficiency Test Coordinator or Laboratory Director concur and approve ABC access to proficiency test supporting data, if needed.
- ▷ Return completed form postmarked NLT March 1 with data for preceding calendar year and \$20 maintenance fee to ABC, P.O. Box 209, Greenlawn, NY 11740-0209. Thirty dollars (\$30) must accompany forms postmarked between March 1 and June 1. Forms postmarked after June 1 will not be processed.

The ABC will track your recertification information and provide you an annual update (with the next year's Reporting Form) on additional professional activity needed to complete your recertification continuing education requirement.

### Points Acquired

I. Full-time Forensic Casework - >50% of work devoted to Examinations in Forensic Science (all Specialty Areas) including QA [Points claimed here can be applied to points needed for recertification in every specialty area]

2 pts/year ..... \_\_\_\_\_

Supervisor/Co-worker: \_\_\_\_\_ Telephone Number: ( ) \_\_\_\_\_

Sub-Total ..... \_\_\_\_\_

### II. Professional Involvement [Minimum of 10 pts Required Every 5 Years]

(Points in III. can be applied toward recertification in more than 1 Specialty Area)

#### A. Meetings

1. Registered Forensic Meeting Attendance (e.g. AAFS, Regional Association, CLIC, etc.)

2 pts per day; 25 pt maximum ..... \_\_\_\_\_

Meeting/Location/Date: \_\_\_\_\_

Registrar/Org. Secy.: \_\_\_\_\_ Telephone Number: (    ) \_\_\_\_\_

2. Registered Other Professional Association Meeting Attendance (e.g. ACS) .  
1 pt/day; 20 pt maximum .....

Meeting/Location/Date: \_\_\_\_\_  
\_\_\_\_\_

Registrar/Org. Secy.: \_\_\_\_\_ Telephone Number: (    ) \_\_\_\_\_

**B. Leadership**

1. Elected Officer/Committee Chair in Forensic Organization  
2 pts/year served per organization; 10 pt maximum .....

Organization: \_\_\_\_\_

Position/Committee: \_\_\_\_\_

2. Committee Member  
1 pt/yr per organization; 10 pt maximum .....

Organization: \_\_\_\_\_

Position/Committee: \_\_\_\_\_

**C. Organizational Participation**

1. Forensic Organization Membership  
1 pt/yr per organization 10 pt maximum .....

a. Organization: \_\_\_\_\_

Registrar/Org. Secy.: \_\_\_\_\_ Telephone Number: (    ) \_\_\_\_\_

b. Organization: \_\_\_\_\_

Registrar/Org. Secy.: \_\_\_\_\_ Telephone Number: (    ) \_\_\_\_\_

Sub-Total .....

## III. Other Forensic Skill Building Activities (Non-Specialty Related)

## A. Training Received

1. In-Service Training in non-specialty skills (e.g. statistics, computers, expert testimony)

2 pts/day; 15 pt maximum .....

Course/Training Title: .....

Instructor/Professor Name: .....

Telephone Number: ( ) ..... Course Date: .....

2. Successful Completion of Relevant College Course

5 pts/credit hour; 15 pt maximum/course .....

Course/Training Title: .....

Instructor/Professor Name: .....

Telephone Number: ( ) ..... Course Date: .....

## B. Technical Development

1. Panel Discussion/Plenary Discussion

5 pts/discussion; 10 pt maximum .....

Topic/Title: .....

Location/Forum: ..... Course Date: .....

Session Coordinator: ..... Telephone Number: ( ) .....

2. Technical Paper/Poster Presentation at a Scientific Meeting

[Points cannot be claimed under this item if they are claimed under IV. B. 3. Technical Paper Publication]

10 pts/different paper; 20 pt maximum .....

Publication Title: .....

Complete Reference: .....

## 3. Technical Paper Publication

[Points cannot be claimed under this item if they are claimed under IV. B. 2. Technical Paper Presentation]

## a. Peer Reviewed

15 pts/different paper .....

Publication Title: \_\_\_\_\_

Complete Reference: \_\_\_\_\_

b. Editorial Review (e.g. *Microscope*)

10 pts/different paper .....

Publication Title: \_\_\_\_\_

Complete Reference: \_\_\_\_\_

c. Newsletter (no technical review - e.g. *Microgram*)

5 pts/different .....

Publication Title: \_\_\_\_\_

Complete Reference: \_\_\_\_\_

## 4. Book Chapter Authorship

20 pts/chapter; 40 pt maximum .....

Publication Title: \_\_\_\_\_

Complete Reference: \_\_\_\_\_

## 5. Book Authorship/Editing

40 pts/book .....

Publication Title: \_\_\_\_\_

Complete Reference: \_\_\_\_\_

## 6. Technical Paper Review (published or at Journal Request)

5 pt/review; 15 pt maximum .....

Publication Title: \_\_\_\_\_

Complete Reference: \_\_\_\_\_

Sub-Total .....



C. Training Given

1. Conducting Workshop/Seminar in a Forensic Skill Area (e.g. expert testimony, computers)

5 pts for each full day presentation; 15 pt maximum .....

Topic/Title: .....

Location/Forum: ..... Course Date: .....

Session Coordinator: ..... Telephone Number: ( ) .....

Sub-Total .....

IV. Specialty Area Activities

Minimum 15 points required for each certified specialty area every 5 years.

A. Training Received Area

1. In-Service Training (e.g. FBI Academy, documented in-house training)

2 pts/day; 15 pt maximum/training activity .....

Course/Training Title: .....

Instructor/Professor Name: .....

Telephone Number: ( ) ..... Course Date: .....

2. Successful Completion of Relevant College Course in forensic specialty

5 pts/semester credit hour; 15 pt maximum/course .....

Course/Training Title: .....

Instructor/Professor Name: .....

Telephone Number: ( ) ..... Course Date: .....

Sub-Total .....

## B. Technical Development

## 1. Panel Discussion/Plenary Discussion

5 pts/discussion; 10 pt maximum .....

Topic/Title: .....

Location/Forum: ..... Course Date: .....

Session Coordinator: ..... Telephone Number: ( ) .....

## 2. Technical Paper/Poster Presentation at a Scientific Meeting

[Points cannot be claimed under this item if they are claimed under I. B. 3. Technical Paper Publication]

10 pts/different paper; 20 pt maximum .....

Publication Title: .....

Complete Reference: .....

## 3. Technical Paper Publication

[Points cannot be claimed under this item if they are claimed under I. B. 2. Technical Paper Presentation]

a. Peer Reviewed (e.g. *Journal of Forensic Sciences*)

15 pts/different paper .....

Publication Title: .....

Complete Reference: .....

b. Editorial Review (e.g. *Microscope*)

10 pts/different paper .....

Publication Title: .....

Complete Reference: .....

c. Newsletter (no technical review - e.g. *Microgram*)

5 pts/different .....

Publication Title: .....

Complete Reference: .....

## 4. Book Chapter Authorship

20 pts/chapter; 40 pt maximum .....

Publication Title: .....

Complete Reference: .....

## 5. Book Authorship/Editing

40 pts/book .....

Publication Title: .....

Complete Reference: .....

## 6. Technical Paper Review (at Journal Request)

5 pt/review; 15 pt maximum .....

Publication Title: .....

Complete Reference: .....

Sub-Total .....

## C. Forensic Training Given

## 1. Conducting Workshop/Seminar in Specialty Area

5 pts for each full day presentation; 15 pt maximum .....

## 2. Training of Examiner in Specialty Area

5 pts for each year training provided; 15 pt maximum .....

Topic: ..... Trainee: .....

Supervisor/Co-worker: ..... Telephone Number: ( ) .....

Sub-Total .....

Points Acquired

D. Professional Support (to a Specialty Area) - >50% of your time is devoted to maintaining reference/exemplar collections, methods development (non-published)

2 pts/year .....

Collection/Method/Application: .....

Supervisor/Co-worker: ..... Telephone Number: ( ) .....

Sub-Total .....

V. Unlisted Professional Activities

Other activities or circumstances a Diplomate or Fellow feels should be considered under recertification should be submitted to the ABC Board at least 6 months prior to scheduled recertification. The activities and circumstances will be considered on an individual basis.

TOTAL POINTS ACQUIRED THIS CALENDAR YEAR .....

The information list on this Recertification Professional Development Reporting Form is a accurate and reflects the professional development activities in which I have participated. I understand that the ABC, or its representative, will verify some or all of the information contained on this Form. I agree to authorize the release of this information for re-certification purposes.

---

Diplomate/Fellow Name (Please Print or Type)

---

Certificate Number

---

Signature

Date

---

Witness with Knowledge of Professional Activities Listed  
(e.g. Supervisor/Co-worker)

---

Witness Signature

Date

Telephone Number: ( ) \_\_\_\_\_

- Proficiency Testing Certification Form

I hereby certify that I have successfully participated in Proficiency Testing during the period \_\_\_\_\_ to \_\_\_\_\_ as follows:

Type of Test (Discipline): \_\_\_\_\_

Test Provider: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone: (    ) \_\_\_\_\_

Test Identifier (if applicable): \_\_\_\_\_

Date Results Submitted: \_\_\_\_\_

Participant Identification (if applicable): \_\_\_\_\_

The analyses performed in the above proficiency test sample were carried out in the same manner as the analyses of everyday case samples. A copy of my final results is attached. I will maintain all supporting data in my files for five years.

I have submitted to the provider of the above Proficiency Test a *Release Letter (ABC702, 8/93)* allowing them to disclose the results of my Proficiency Test to the ABC Proficiency Review Committee.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Typed or Printed): \_\_\_\_\_

**Proficiency Testing Coordinator (or Laboratory Director) Concurrence**

As Proficiency Testing Coordinator or Laboratory Director for the above named individual, I hereby certify that the information provided above is true and correct to the best of my knowledge.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Position (Typed or Printed): \_\_\_\_\_

**Release to View Results**

The American Board of Criminalistics Proficiency Review Committee has my permission to view the results of the above described Proficiency Test, if needed.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Position (Typed or Printed): \_\_\_\_\_

Sample Proficiency Results Release Letter

To: Proficiency Test Provider

From: Proficiency Test Participant

I hereby certify that (Proficiency Test Provider) has my permission to release any information regarding my use or results of the Proficiency Test(s) provided by you to the American Board of Criminalistics.

Please comply with any requests from the American Board of Criminalistics Proficiency Review Committee regarding the Proficiency Test described below.

Date of Test Request: \_\_\_\_\_

Type of Test (Discipline): \_\_\_\_\_

Test Identifier (if applicable): \_\_\_\_\_

Participant Identifier if applicable: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Typed or Printed): \_\_\_\_\_



# RECERTIFICATION COMMITTEE CHECKLIST

APPLICANT \_\_\_\_\_

ALNDAR YEAR \_\_\_\_\_

Full time forensic casework verified

yes \_\_\_\_\_

Spoke with \_\_\_\_\_

on \_\_\_\_\_

Professional involvement verified

yes \_\_\_\_\_

Spoke with \_\_\_\_\_

on \_\_\_\_\_

Organization \_\_\_\_\_

Spoke with \_\_\_\_\_

on \_\_\_\_\_

Organization \_\_\_\_\_

Other skill building activities verified

yes \_\_\_\_\_

Spoke with \_\_\_\_\_

on \_\_\_\_\_

Organization \_\_\_\_\_

Spoke with \_\_\_\_\_

on \_\_\_\_\_

Organization \_\_\_\_\_

Other documentation \_\_\_\_\_

Specialty area activities verified

yes \_\_\_\_\_ n/a \_\_\_\_\_

Spoke with \_\_\_\_\_

on \_\_\_\_\_

Organization \_\_\_\_\_

Spoke with \_\_\_\_\_

on \_\_\_\_\_

Organization \_\_\_\_\_

Other documentation \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE OF INVESTIGATOR

\_\_\_\_\_  
DATE

AMERICAN BOARD of CRIMINALISTICS  
PO BOX 209  
GREENLAWN, NY 11740

Dear Diplomate/Fellow:

Your annual Professional Development and Proficiency Reporting Form for the calendar year \_\_\_\_\_ was reviewed by the Recertification Committee. According to our records, you have accumulated the following continuing education points since your certification:

- I. Full-time Forensic Casework ..... \_\_\_\_\_
- II. Professional Involvement ..... \_\_\_\_\_
- III. Other Forensic Skill Building Activities ..... \_\_\_\_\_
- IV. Specialty Area Activities
  - Drug Analysis ..... \_\_\_\_\_
  - Fire Debris ..... \_\_\_\_\_
  - Forensic Biology ..... \_\_\_\_\_
  - Trace Analysis ..... \_\_\_\_\_
- V. Unlisted Professional Activities ..... \_\_\_\_\_

A total of 50 points is required to be recertified as a Diplomate; Fellows must also have a total of 15 points for each Specialty Area in which they are certified. Therefore, you still need the following professional activity to complete your recertification continuing education requirements:

- II. Professional Involvement points needed ..... \_\_\_\_\_
- IV. Specialty Area Activities points needed
  - Drug Analysis ..... \_\_\_\_\_
  - Fire Debris ..... \_\_\_\_\_
  - Forensic Biology ..... \_\_\_\_\_
  - Trace Analysis ..... \_\_\_\_\_
  - Other points needed (any category) ..... \_\_\_\_\_
- TOTAL POINTS NEEDED PRIOR TO RECERTIFICATION ..... \_\_\_\_\_

If you have any questions, please contact the Recertification Committee Chair.

Sincerely,

## Proficiency Testing Certification Form

I hereby certify that I have successfully participated in Proficiency Testing during the period \_\_\_\_\_ to \_\_\_\_\_ as follows:

Type of Test (Discipline): \_\_\_\_\_

Test Provider: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: (     ) \_\_\_\_\_

Test Identifier (if applicable): \_\_\_\_\_

Date Results Submitted: \_\_\_\_\_

Participant Identification (if applicable): \_\_\_\_\_

The analyses performed in the above proficiency test sample were carried out in the same manner as the analyses of everyday case samples. A copy of my final results is attached. I will maintain all supporting data in my files for five years.

I have submitted to the provider of the above Proficiency Test a *Release Letter (ABC702, 8/93)* allowing them to disclose the results of my Proficiency Test to the ABC Proficiency Review Committee.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Typed or Printed): \_\_\_\_\_

### Proficiency Testing Coordinator (or Laboratory Director) Concurrence

As Proficiency Testing Coordinator or Laboratory Director for the above named individual, I hereby certify that the information provided above is true and correct to the best of my knowledge.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Position (Typed or Printed): \_\_\_\_\_

### Release to View Results

The American Board of Criminalistics Proficiency Review Committee has my permission to view the results of the above described Proficiency Test, if needed.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Position (Typed or Printed): \_\_\_\_\_

## Sample Proficiency Results Release Letter

To: Proficiency Test Provider

From: Proficiency Test Participant

I hereby certify that (Proficiency Test Provider) has my permission to release any information regarding my use or results of the Proficiency Test(s) provided by you to the American Board of Criminalistics.

Please comply with any requests from the American Board of Criminalistics Proficiency Review Committee regarding the Proficiency Test described below.

Date of Test Request: \_\_\_\_\_

Type of Test (Discipline): \_\_\_\_\_

Test Identifier (if applicable): \_\_\_\_\_

Participant Identifier if applicable: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Typed or Printed): \_\_\_\_\_

**APPENDIX B**  
**ABC/CAC AGREEMENT**

**APPENDIX C**  
**KNOWLEDGE, SKILLS, AND ABILITIES**  
**BIBLIOGRAPHIES**

## GENERAL KNOWLEDGE EXAMINATION STUDY GUIDE

The following recommendations are made for those who wish to prepare to take the examination for a Certificate of Professional Competency in Criminalistics.

For a good general review begin by reading:

"The Rules of Professional Conduct" supplied by the American Board of Criminalists.

"Forensic Science, An Introduction to Criminalistics" by DeForest, Gaensslen, and Lee

(Note: This book is, in its entirety, a good general text which has a particularly good appendix on the subject of photography.)

For more in depth treatment of various subject areas, supplement the above reading with the list of selections below. Give particular attention to those areas in which you may not have specific experience.

"Techniques of Crime Scene Investigation" Fourth Edition by Fisher, Svensson, and Wendel

Chapter 2: "The First Officer at the Crime Scene"

Chapter 6: "Establishing Identity

(Note: This is a particularly good treatment of fingerprints.)

Chapter 7: "Trace Evidence and Miscellaneous Material"

Chapter 9: "Impression Evidence"

Chapter 15: "Motor Vehicle Investigation"

"Criminalistics, An Introduction to Forensic Science" Third Edition by Saferstein

Chapter 12: "Forensic Serology"

Chapter 14: "Firearms, Toolmarks, and Other Impressions"

Note: There is no one book which has an adequate basic treatment of the subject of firearms. This may be helpful but consultation of other texts may be necessary. You should have a basic knowledge of caliber, class and individual characteristics, types of firearms, commonly encountered types of ammunition and their component parts, gunshot residue and the significance of all of the foregoing. The approach to firearms examinations such as article by Davis in "Firearms Training Notes" (AFTE Vol. 9, No. 2 - July 1977, pages 76-107) is suggested.

"Forensic Science Handbook, Volume 1" edited by Saferstein

- Chapter 1: "Legal Aspects of Forensic Science" (pages 2-27)  
(Note: This is a good discussion of this topic.)
- Chapter 4: "Forensic Glass Comparison" (pages 140-180)  
(Note: if only supplemental, read pages 153-159 and 165-168.)
- Chapter 5: "Forensic Identification and Association of Human Hair" (pages 199-212)
- Chapter 6: "Arson and Explosive Investigation" (pages 225-237)
- Chapter 9: "Foundations of Forensic Microscopy" (pages 417-490).  
(Note: This reference is listed for convenience; however, any good general treatment of microscopy will suffice. What is selected should include parts of the microscope and their function, types of illumination, polarized light microscopy and commonly encountered terms relating to this subject. For example, another good text is "Polarized Light Microscopy" by McCrone, McCrone, and Delly.)
- Chapter 11: "Detection of Gunshot Residue: Present Status" (pages 573-589).
- Chapter 12: "The Determination of Alcohol in Blood and Breath" (pages 594-608).

"Forensic Science Handbook, Volume II" edited by Saferstein

- Chapter 2: "Forensic Capillary Gas Chromatography" (pages 54-65)
- Chapter 3: "Forensic Identification of Controlled Substances" (pages 69-121)  
(Note: This is a good discussion of this subject but, if supplemental, read pages 80-87.)
- Chapter 5: "Forensic Aspects of Textile Fiber Examination" (pages 214-259)
- Chapter 7: "The Identification and Individualization of Semen Stains" (pages 369-374)
- Chapter 8: "Firearms Identification" (pages 394-450).

"Practical Instrumental Analysis" by Krugers and Keulemans

(Note: Again, this book is listed for your convenience. Any book which gives a general overview of instruments commonly encountered in forensic laboratories will suffice. What is chosen should give you a basic understanding of laboratory instruments and typical applications thereof.)



## GENERAL KNOWLEDGE, SKILLS AND ABILITIES

The regional peer groups and the ABC Exam Committee have formulated a list of general knowledge, skills and abilities which they thought were necessary for a typical forensic scientist to effectively do casework. Applicants for certification should use this list to help determine their strengths and weaknesses prior to taking the general exam.

The successful applicant should have the knowledge of, or skills and abilities to:

### I. Evidence Collection and Preservation

- A. Select and use appropriate tools for recording and recovering evidence without loss, contamination, or changes that would result in the loss of information.
- B. Recognize the evidence potential of various items and safeguard that potential by proper sampling and collection of controls.
- C. Properly mark, package, and store evidence.
- D. Preserve evidence using appropriate prior legal decisions.
- E. Apply the means to retard or prevent changes to evidence caused by time, temperature, or biological agents.

### II. Evidence Examination and Data Interpretation

- A. Measurements, procedures, and tests commonly used in the examination of physical evidence and the nature and significance of the information derived from these.
- B. Think logically and design testing protocols that will provide the most useful information while avoiding procedures that are redundant, unnecessarily consumptive, or will interfere with subsequent tests.
- C. Properties of commonly encountered evidence materials that allow their characterization.
- D. Limitations in personal skills and laboratory resources and the potential contributions of other expertise.
- E. Scientific method and general foundational basis for examinations, evaluation, and interpretations.
- F. Understand and interpret technical data including any conditions or circumstances that could effect the conclusions.
- G. Think logically.
- H. Recognize discrepancies or inconsistencies in analytical findings and determine their cause and significance.

### III. Laboratory Safety

- A. Dangers associated with firearms, explosives, biological materials, and chemical substances and the proper methods for safe handling of all evidence types.

### IV. Instrumental/Equipment usage

- A. Instruments and equipment used at crime scenes and in the laboratory including their application and principles of operation.
- B. Instrument use based on the size and condition of the sample to be examined.
- C. Various isolation and separation techniques as required for sample preparation.

V. Communication - Report Writing

- A. Write clear, grammatically correct, and concise reports on analyses, results and conclusions.
- B. Properly maintain and record examination information.

VI. Communication - Legal Aspects and Court Testimony

- A. Court decisions, procedures and associated legal terms applying to expert witnesses.
- B. Understand and respond appropriately to questions from counsel and/or the court.

VII. Rules of Professional Conduct and Code of Ethics

- A. The Rules of Ethics as drafted by the American Board of Criminalistics.

VIII. Forensic Science and Other Applicable Literature

- A. Current criminalistic information (journals, books, newsletters).
- B. Critically evaluate written and oral information.
- C. Foundational basis of criminalistics.

#### GENERAL KNOWLEDGE EXAMINATIONS REFERENCES

Code of Professional Conduct (included in study guide packet).

Davis, J. E., "Firearms Training Notes," AFTE, Vol. 9, No. 2, July 1977

DeForest, P. R.; Gaensslen, R. E.; and Lee, H. C. "Forensic Science: An Introduction to Criminalistics," New York: McGraw-Hill (1983)

Fisher, B. A. J.; Svensson, A.; and Wendel, O.; "Techniques of Crime Scene Investigation," 4th Edition, New York" Elsevier (1987).

Kregers, J. and Keulemans, A. I. M. (Editors), "Practical Instrumental Analysis," New York: Elsevier (1965)

McCrone, W. C.; McCrone, L. B.; and Delly, J. G.; "Polarized Light Microscopy," Michigan: Ann Arbor Science (1978)

Saferstein, R. "Criminalistics - An Introduction to Forensic Science," Third Edition, New Jersey: Prentice Hall (1987)

Saferstein, R., Editor "Forensic Science Handbook," Volume I, New Jersey: Prentice-Hall (1982)

Saferstein, R., Editor "Forensic Science Handbook," Volume II, New Jersey: Prentice-Hall (1988)

No citations have been offered on safety. It is therefore suggested that you review your own laboratory's safety policies and general clandestine laboratory safety issues.

**STUDY GUIDE**  
**for**  
**ABC CERTIFICATION EXAMINATION**  
**DRUG ANALYSIS SPECIALTY**

The study guides for all ABC Specialty Examinations consist of the KSA listing for the particular specialty, plus a limited number of reference works. The KSA listing acts as a "Table of Contents" for the exam, specifying the topics to be covered. Candidates for Specialty Certification (Fellow status) should first refer to the KSA list, then consult the appropriate sections of the listed references to study those KSA topics with which he/she is not thoroughly familiar.

The study guide is not intended to provide the answers to every question on a particular exam, but rather to provide a resource which a qualified, experienced specialist can use for further study of familiar topics, and for familiarization with unfamiliar topics. Judicious use of the study guide will provide a qualified, experienced Forensic Science Specialist with a reasonable expectation of a passing grade on the Specialty Exam, provided sufficient time and effort is devoted to preparation for the exam.

Listed below are the references from which a large number ("Major Works") or a smaller but significant number ("Minor Works") of examination questions are drawn for the Drug Analysis Specialty. It is not all-inclusive, but covers the vast majority of examination content. Small numbers of exam questions may have been drawn from a variety of other sources. Candidates for Specialty Certification (Fellow status) should use their own judgement in studying these and other supplemental texts, depending on their degree of familiarity with the various KSA items.

Major Works for the Drug Analysis Specialty:

*Clarke's Isolation and Identification of Drugs*, 2nd edition. The Pharmaceutical Press, London, 1986.

Saferstein. *Forensic Science Handbook*, Volumes I & II. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1982 (Vol. 1) and 1988 (Vol. 2).

Minor Works:

*Clarke's Isolation and Identification of Drugs*, 1st edition. The Pharmaceutical Press, London, 1969 (Vol. 1) and 1972 (Vol. 2).

Drug Enforcement Administration. *Basic Training Program for Drug Chemists*. DEA Office of Science and Technology, U.S. Dept. of Justice.

DeForest, Gaensslen, & Lee. *Forensic Science: An Introduction to Criminalistics*. McGraw-Hill, Inc., New York, 1983.

Mills & Roberson. *Instrumental Data for Drug Analysis*, 2nd Ed. CRC Press, Boca Raton, Florida, 1993

Saferstein. *Criminalistics: An Introduction to Forensic Science*. Prentice Hall, Englewood Cliffs, N.J. 1990 (4th and previous editions are all applicable).

Knowledge, Skills and Abilities of the  
Drug Analysis Specialty

Revised:  
December 1991

- I. Basic terminology of analytical chemistry - to include, but not limited to, the following concepts:

Solubility, adsorption, volatility, resolution, emulsion, extraction, amphoteric pH, weight, molecular mass, chromatography, isomers, stereoisomers (enantiomers and diastereomers), structural isomers, polarized light, optical activity, racemic mixture, derivative, polarity

II. Separation Techniques

- A. Preparation of samples from common dosage forms
- B. Theory and practice - basic separation techniques
  - 1. Simple dry extraction
  - 2. Immiscible solvent extraction (liquid/liquid)
    - a. acid/base
    - b. ion pair
  - 3. Preparative TLC
  - 4. Effects of pH and solvent polarity
  - 5. Common diluents/adulterants and how to remove them

III. Non-instrumental methods - specificity/limitations

- A. Microcrystalline reagents and tests
- B. Color (spot) tests
  - 1. Marquis
  - 2. Mecke
  - 3. Cobalt thiocyanate
  - 4. Dille Kopannyi
  - 5. p-DAB (Ehrlichs)
- C. Thin-layer chromatography

- IV. Instrumental methods - to include: theory and basic design of instrument; physical phenomenon being measured; sensitivity, specificity and limitations; care and maintenance; calibration

## Drug Analysis Specialty KSA's

- A. Ultraviolet-visible spectrophotometry
  - B. Dispersive infrared spectrophotometry
  - C. FT-IR spectrophotometry
  - D. Gas chromatography
  - E. Gas chromatography/mass spectrometry
  - F. High-pressure liquid chromatography
  - G. Use of standard libraries and computer data systems in conjunction with instrumental methods
  - H. Electromagnetic spectrum and basic spectroscopy principles (absorbance vs. concentration, scanning, etc.)
- V. Knowledge of major drug classes subject to abuse
- A. Basic structure, chemistry and relationship to method of analysis
  - B. Physical properties which facilitate separation from commonly combined drugs and excipients
  - C. Theory of optical, positional and geometric isomers
  - D. Separation procedures to isolate the classes
  - E. Application of screening tests
  - F. Application of confirmatory tests
- VI. Identification of Cannabis
- A. Macroscopic and microscopic morphology
  - B. Duquenois-Levine test
  - C. Botanical characteristics of Cannabis (annual plant, two sexes, existence of several agronomic varieties of monospecific genera, etc.)
  - D. Hashish and hash oil
  - E. Major cannabinoid chemical components of the plant (two types of THC, other psychoactive and non-psychoactive components)

## Drug Analysis Specialty KSA's

F. TLC of cannabinoids

### VII. General Qualitative analysis skills

- A. Selection of appropriate method relative to drug type
- B. Selection, procurement, preparation, storage and use of reagents and standards
- C. Interpretation of analytical data
- D. Means of tentative identification of commercially prepared pharmaceuticals from physical appearance and markings
- E. Distinguishing between closely related compounds (e.g. psilocin/psilocybin, methamphetamine/phentermine, LSD/LAMPA, etc.)

### VIII. Quantitative analysis

- A. Spectrophotometric - UV (including calibration, theory and use of molar absorptivities)
- B. Chromatographic (including calibration)
  - 1. GC
  - 2. HPLC
- C. Normalization, internal and external standard methods
- D. Selection and preparation of standards; methods of sampling

### IX. Clandestine laboratories

- A. Basic knowledge of precursors, intermediates, byproducts and reagents in manufacture of common clandestine drugs
- B. Commonly used synthetic routes for clandestine manufacture
- C. Dangers inherent in investigation of clandestine labs, and the limitations of forensic lab personnel not specifically trained in clandestine lab seizure procedures
- D. Identification of precursors, intermediates, reagents, reaction mixtures and products



## Drug Analysis Specialty KSA's

### X. Legal aspects

- A. Requirements of conduct of a drug chemist
- B. Requirements for legally sufficient analysis, to include interpretation and drawing of conclusions based upon the analysis
- C. Basis for various drug control schedules
- D. Basic understanding of what is and is not controlled/restricted, to include the significance of various isomers, salts and other forms

### XI. Miscellaneous

- A. Use of appropriate reference materials and literature
- B. Use of calibrated glassware
- C. Theory and practice of serial dilutions
- D. Use and calibration of balances
- E. Knowledge of the metric system
- F. Use and documentation of quality assurance procedures
- G. Generic, trade and brand names of commonly encountered controlled and related substances, as identified in the Controlled Substance Act, manufacturer's literature, and standard references (e.g. Merck Index)
- H. Selection and verification of primary and secondary standards
- I. Statistically valid ("representative") sampling

**FIRE DEBRIS SPECIALTY EXAM STUDY GUIDE**  
**American Board of Criminalistics, Inc.**

The following recommendations are made for those who wish to prepare to take the Fire Debris Specialty examination.

For a good general review begin by reading:

*The Rules of Professional Conduct* supplied by the American Board of Criminalistics.

Forensic Science Handbook, Richard Saferstein, Ed.

- Chapter 1, "Legal Aspects of Forensic Science"
- Chapter 2, "Forensic Applications of High Performance Liquid Chromatography"
- Chapter 3, "Forensic Applications of Mass Spectrometry"
- Chapter 6, "Arson and Explosive Investigation"

Kirk's Fire Investigation, John D. DeHaan, Third Edition

- Chapter 1, "Introduction"
- Chapter 2, "The Elementary Chemistry of Combustion"
- Chapter 3, "The Nature and Behavior of Fire"
- Chapter 4, "Combustion Properties of Liquid and Gaseous Fuels"
- Chapter 5, "Combustion Properties of Solid Fuels"
- Chapter 6, "Sources of Ignition"
- Chapter 7, "Structure Fires and Their Investigation"
- Chapter 12, "Explosions and Explosive Combustion"
- Chapter 13, "Chemical Fires and Hazardous Materials"
- Chapter 14, "Laboratory Services"

The texts below are offered for your convenience. Other texts covering organic chemistry of compounds found in petroleum products, petroleum refining, gas chromatography, and instrumental analysis including infrared spectrometry, high performance liquid chromatography, and mass spectrometry can be used. (See suggested reading list below).

Basic Gas Chromatography, H. M. McNair and E. J. Bonelli

Organic Chemistry, R. T. Morrison and R. N. Boyd, Second Edition

- Chapter 2, "Methane"
- Chapter 4, "Alkanes"
- Chapter 12, "Arenes"

Modern Methods of Chemical Analysis, R. L. Pescok and L. D. Shields, John Wiley & Sons, Inc., Second edition, 1976.

Chapter 3, "Extraction"

Chapter 4, "Chromatography"

Chapter 5, "Liquid Chromatography"

Chapter 7, "Gas Chromatography"

ASTM E-1413-91, Standard Practice for separation and concentration of flammable or combustible liquid residues from fire debris samples by dynamic headspace concentration.

ASTM E-1412-91, Standard Practice for separation and concentration of flammable or combustible liquid residues from fire debris samples by passive headspace concentration.

ASTM E-1385-90, Standard Practice for separation and concentration of flammable or combustible liquid residues from fire debris samples by steam distillation.

ASTM E-1386-90, Standard Practice for separation and concentration of flammable or combustible liquid residues from fire debris samples by solvent extraction.

ASTM E-1387-90, Standard Test Method for Flammable or Combustible Liquid Residues In Extracts From Samples Of Fire Debris By Gas Chromatography.

ASTM E-1388-90, Standard Practice for sampling of headspace vapors from fire debris samples.

ASTM E-1389-90, Standard Practice for cleanup of fire debris sample extracts by acid stripping.

ASTM E752, Practice for safety and health requirements related to occupational exposure to carbon disulfide.

ASTM E 1459 Standard Practice for Receiving, Documenting, Storing and Retrieving Evidence in a Forensic Science Laboratory.

For more in depth treatment, supplement the above reading with the selections below. Give particular attention to those areas in which you may not have specific experience.

Aldridge, T. A., & Oates, M., (1984) Fractionation of accelerants and arson residues by solid phase extraction. Journal of Forensic Sciences 31 (2) 666-686.

DeHaan, J. D. & Bonarius, K., (1988) Pyrolysis products of structure fires. Journal of the Forensic Science Society 28 (5/6) 299-309.

Ettling, B. V., (1963) Determination of hydrocarbons in fire remains. Journal of Forensic Sciences 8 261-267.

Fire Protection Handbook, National Fire Protection Association, Fifteenth Edition, Section 17, Chapter 6, "Water Spray Protection".

Lentini, J. J., Tontarski, R. E., DeHaan, J. D., O'Donnell, J. F., & Rogers, B. J., (1989) Glossary of terms related to chemical and instrumental analysis of fire debris. Fire and Arson Investigator 40 (2) 25-34.

Keto, R. O., & Wineman, P. L., (1991) Detection of petroleum-based accelerants in fire debris by target compound gas chromatography/mass spectrometry. Analytical Chemistry 63 1964-1971.

Kinard, W. D. and Midkiff, C. M., (1991) Arson evidence container evaluation : II. "New generation" KAPAK bags. Journal of Forensic Science 36 (6) 1714-1721.

Kirkbride, K.P. and Kobus, H. J. (1991) The explosive reaction between swimming pool chlorine and brake fluid. Journal of the Forensic Science 36 (3) 902-907.

Kubler, D. G., Greene, D., Stackhouse, C. and Stodmeyer, T., (1981) The isolation of accelerants by headspace sampling and by steam distillation Arson Analysis Newsletter 5 (5) 64-79.

Mach, M. H., (1977) Gas chromatography-mass spectrometry of simulated arson residue using gasoline as an accelerant. Journal of Forensic Sciences 22 (2) 348-357.

Mann, D. C., (1987) Comparison of automotive gasolines using capillary gas chromatography I: comparison methodology. Journal of Forensic Sciences 32 (3) 606-615.

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- Mann, D. C., & Gresham, W. R., (1990) Microbial degradation of gasoline in soil. Journal of Forensic Science 35 (4) 913-923.
- Midkiff, C. R., (1975) Brand identification and comparison of petroleum products - a complex problem. Fire and Arson Investigator 26 (2) 18-21.
- Midkiff, C. R., (1986) Is it a petroleum product? How do you know? Journal of Forensic Science 31 (1) 231-234.
- NFPA (National Fire Protection Association) 921 - Guide for Fire and Explosion Investigation, 1992.
- Nowicki, J. F. (1990) An accelerant classification scheme based on analysis by gas chromatography/mass spectrometry (GC-MS). Journal of Forensic Sciences 35 (5) 1064-1086.
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- Sanders, W. N. & Maynard, J. B. (1968) Capillary gas chromatographic method for determining the C<sub>3</sub> - C<sub>12</sub> hydrocarbon in full range motor gasolines. Analytical Chemistry 40 (3) 527-535.
- Sanderson, J.L., Balliet, C. A., and Balliet, M. A., (1990) Sampling techniques for accelerant residue analysis. Fire and Arson Investigator 40 (3) 35-40.
- Smith, R. M., (1987) Arson analysis by mass chromatography. in Forensic Mass Spectroscopy, Jehuda Yinon (ed.), Boca Rotan, FL: CRC Press, Inc., 131-159.
- Smith, R. M., (1983) Mass chromatographic analysis of arson accelerants. Journal of Forensic Sciences 28 (2) 318-329.
- Stone, I. C., Lomonte, J. N., Fletcher, L. A., Lowry, W. T. (1978) Accelerant Detection in Fire Residues. Journal of Forensic Sciences 23 (1) 78-83.
- Thornton, J. I. & Fukayama, B., (1979) The Implications of refining operations to the characterization and analysis of arson accelerants. Part I. Physical Separation. Arson Analysis Newsletter May 1-16 Part II. Chemical conversions, Treating Processes, and Subsidiary Processes. August 1-16.
- Tontarski, R. E., (1983) Evaluation of polyethylene containers used to collect evidence for accelerant detection. Journal of Forensic Sciences 28 (2) 440-445.

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Waters, L. V. and Lee, A. P., (1993) Multiple Analysis of Fire Debris Samples Using Passive Headspace Concentration. Journal of Forensic Sciences 38(1) 165-183.

Youngless, T. L., Swansiger, J. T., Danner, D. A., and Greco, M. (1985) Mass spectral characterization of petroleum dyes, tracers, and additives. Analytical Chemistry 57 (9) 1894-1902.

The following sources are suggested readings for those who would like to broaden their knowledge in the area of fire debris analysis. They are NOT required reading for the examination.

#### **Instrumental analysis including gas chromatography:**

Modern Practice of Gas Chromatography, Robert L. Grob, Ed., 1977, John Wiley & Sons.

Basic Relationships of Gas Chromatography. Leslie S. Ettre and John V. Hinshaw, 1993, ADVANSTAR Communications.

High Resolution Gas Chromatography, K. J. Hyver Ed., and P. Sandra, Guest Author, 3rd ed., 1989, Hewlett-Packard.

Principles of Instrumental Analysis, Douglas A. Skoog, 1985, CBS College Publishing.

Chapter 18, Mass Spectrometry

Chapter 25, Introduction to Chromatographic Separations

Chapter 26, Gas Chromatography

Chapter 27, High-Performance Liquid Chromatography

#### **Fire debris analysis:**

Forensic Science: An Introduction to Criminalistics. Peter R. De Forest, R. E. Gaensslen, Henry C. Lee, Chapter 4 "Arson accelerants and explosives" McGraw-Hill Book, 1983.

Gas Chromatography in Forensic Science, Ian Tebbett, Ed., Chapter 5, "Gas Chromatography in Arson and Explosives Analysis", (Published by Ellis Horwood), 1992.

"Sample preparation for the chemical analysis of debris in suspect arson cases", W. Bertsch and Q. Zhang, Analytica Chimica Acta, 236 (1990) 183-195.

"Methods of fire debris preparation for detection of accelerants", B. Caddy, F. P. Smith, and J. Macy, Forensic Science Review, 3 (1), June 1991, 58-69.

#### **Petroleum refining:**

"Petroleum: Its composition, analysis and processing" by Richard W. King, in Occupational Medicine: State of the Art Reviews, Vol, 3 No. 3, July-September 1988. 409-430.

Petroleum (Refinery Process, Survey) (1982) Kirk/Othmer Encyclopedia of Chemical Technology 17 Third Edition, John Wiley & sons, Inc.

Ettling, B. V., (1974) Analysis of paraffin wax in fire remains. Journal of Forensic Sciences 20 (3) 476-483.

#### **Chemistry and Physics of Fire:**

Fire Protection Handbook, National Fire Protection Association, Fifteenth Edition, Section 3, Characteristics and Behavior of Fire, Section 4, Fire Hazards of Materials.

Knowledge, Skills and Abilities of the  
Fire Debris Specialty

Revised:  
February 28, 1992

I. Fire investigation techniques

- A. Fire scene terminology (flammable, combustible, flashpoint, ignition temperature, flashover, flameover, explosive limits, etc.)
- B. Chemistry and physics of fire including:
  - 1. Fire triangle and its role in fire progression
  - 2. Burn pattern
  - 3. Origin determination
  - 4. Trailers, spill patterns, spalling, etc
- C. Incendiary compounds and common initiation devices (e.g. flares, Molotov cocktails)

II. Recognition, collection and preservation of items of possible evidentiary value

- A. Crime scene evaluation
- B. Evidence handling techniques
- C. Proper labeling
- D. Proper storage
- E. Chain of custody
- F. Types of samples and areas where samples should be taken.
- G. Coordination of the examination of samples containing other types of evidence examined by different disciplines to obtain the maximum value from each item.

III. Theoretical understanding of the petroleum industry

- A. Terminology
- B. Manufacturing processes (i.e. fractional distillation)
- C. Sources of petroleum products (i.e. conversion of crude oil)
- D. Industry's analysis of its products to meet performance



## Fire Debris Specialty KSA's

standard (e.g. flash point, octane rating, vapor pressure, distillation curves)

- E. Use of additives and dyes in petroleum based products
- F. Transportation and distribution of petroleum products

### IV. Sample recovery and purification techniques

- A. Working with small samples
- B. Knowledge of the following techniques including the advantages and disadvantages:
  - 1. Head space sampling
  - 2. Solvent extraction
  - 3. Vacuum distillation
  - 4. Steam distillation
  - 5. Adsorption/elution
- C. Pre-analysis sample cleanup techniques (e.g. acid stripping, solid phase extraction)
- D. Recognition and use of recovery and testing methods that will provide the most useful information while avoiding procedures that are redundant, unnecessarily consumptive of sample, or that will interfere with subsequent tests
- E. Critical evaluation of new and existing techniques
- F. Elimination of cross contamination

### V. Analytical methods and data handling

- A. Theory and practice of the following analytical methods:
  - 1. Gas chromatography
  - 2. Gas chromatography/mass spectrometry
  - 3. Infrared spectroscopy
  - 4. Analytical microscopy
  - 5. Other chromatographic methods (i.e. high performance liquid chromatography, thin layer chromatography, column chromatography, etc.)
- B. Optimization of instrumental condition to maximize the value of data
- C. Instrument maintenance

## Fire Debris Specialty KSA's

- D. Assessment of instrument performance
- E. Assessment of the quality of analytical results
- F. Critical evaluation of new and existing methods

### VI. Quality Assurance Procedures

### VII. Reference standards

- A. Maintenance of a reference collection of standard chromatogram from reference materials including: petroleum based liquids, common commercial products, single component products and specialty mixtures.
- B. Knowledge of patterns associated with petroleum based liquids, common commercial products, single component products and specialty products through various evaporation stages.
- C. Examination of the same product (e.g. gasoline) from many sources to determine variability of the product.
- D. Maintenance of a reference collection of pyrolysis product chromatogram of common fire debris substrates.

### VIII. Patterns of components detected during analyses

- A. Differentiation between a class and an individual identification
- B. Identification of petroleum products present
- C. Interpretation and comparison of patterns generated during analysis with known samples and/or identify components detected
- D. Distillation curve of gasoline, fuel oil and other volatile hydrocarbons
- E. Determination of the patterns of components resulting from contaminants or the pyrolysis of a wide variety of materials
- F. The criteria for classification of different accelerant categories and examples of each class (ASTM E-1387 clarification system)
- G. Chemistry of flammable and combustible substances

## Fire Debris Specialty KSA's

### IX. Reports of analysis and interpretation

- A. Properly document exhibits, examinations and analytical results
- B. Logically review the analysis results and form an opinion drawn from and thoroughly supported by those results
- C. Reduce scientific findings to clear, concise written reports, easily understood by the submitter and the court system
- D. Report without bias

### X. Expert testimony

- A. Judicial system and legal definitions
- B. Rules of evidence
- C. Testify properly (e.g. court procedures, terminology, dress demeanor)
- D. Good verbal communication for effective communication of analytical procedures and results
- E. Explain scientific terminology in layman's terms

### XI. Scientific literature

- A. Historical as well as current literature in the field of fore debris analysis
- B. Practical understanding of all disciplines normally found in a forensic laboratory with emphasis on the field of trace evidence

### XII. Health and safety hazards

- A. Instruments and equipment
- B. Chemicals and solvents
- C. Techniques employed in the field of fire debris analysis

### XIII. Maintains high ethical standards.

# Knowledge, Skills, and Abilities of Forensic Biology

Revised  
March 13, 1993

## I. Handling of Forensic Biology Evidence

- A. Evaluate a stain and choose the best method for removal of the stain
- B. Evaluate the size and volume of the stain and make reasonable decisions as to the type and amount of testing to be performed that will maximize the information obtained from each stain while minimizing consumption.

## II. Instrumentation

- A. The full range of analytical instrumentation available within the forensic serological community and their utilities
- B. Use of appropriate specialized equipment

## III. General knowledge

### A. Genetics

#### 1. Basic Mendelian Genetics

- a. Mendel's Laws
- b. Classical modes of inheritance

#### 2. Population Genetics

- a. Product rule, allele frequencies, Hardy-Weinberg and their underlying assumptions
- b. Calculation of genetic marker frequencies in populations
- c. Statistical tests for goodness of fit

### B. Chemistry/Biochemistry

- 1. Amino acids, proteins, nucleic acids and carbohydrates and their functions
- 2. Acid/Base equilibrium and the principles of buffers
- 3. Enzymes and enzyme kinetics

### C. Immunology

1. Antigens
2. Antibodies

D. Physiology and Anatomy

1. Physical, chemical and functional characteristics of blood
2. Physical, chemical and functional characteristics of semen
3. Physical, chemical and functional characteristics of saliva
4. Basic cell structure

E. DNA Typing

1. Basic principles underlying methods used to analyze DNA
  - a. Restriction fragment length polymorphism (RFLP)
  - b. Polymerase chain reaction (PCR)
2. Sample requirements for successful DNA analysis
  - a. RFLP
    - i. Sample size
    - ii. Methods of preservation
    - iii. Contamination effects
  - b. PCR
    - i. Sample size
    - ii. Methods of preservation
    - iii. Contamination effects

IV. Identification of blood, semen and other physiological fluids

A. Blood

1. Presumptive tests
2. Confirmatory tests
3. Species determination

B. Semen

1. Methods for semen stain location (e.g. visual,

tactile, alternative light source)

2. Presumptive tests

3. Confirmatory tests

a. Microscopic identification of semen

b. Immunological identification

C. Saliva

D. Other Physiological Fluids

V. Bloodborne Pathogens

American Board of Criminalistics  
Forensic Biology Speciality Examination  
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Revised:  
November 16, 1993

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Winchester, A. M., Human Genetics, Charles E. Merrill Publishing Co., 1975.

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Knowledge, Skills, and Abilities of the  
Forensic Biochemistry Specialty

Revised:  
March 13, 1993

I. Basic biochemical pathways and metabolism of genetic markers

A. Polymorphic enzymes

1. Basis of genetic variability
2. Enzyme structure
  - a. Subunit structure
  - b. Post-translational modifications
3. Polymorphic enzymes of forensic significance
  - a. Function of the enzyme
  - b. Distribution in body fluids/tissues
  - c. Distribution in populations
  - d. Common enzyme patterns
  - e. Effects of degradation on enzyme patterns
  - f. Effect of mixed body fluid stains on enzyme patterns
  - g. Methods to visualize enzyme markers

B. Polymorphic Proteins

1. Basis of genetic variability
2. Polymorphic proteins of forensic significance
  - a. Structure and function of proteins
  - b. Distribution in body fluids/tissues
  - c. Distribution in populations
  - d. Common protein banding patterns
  - e. Effects of degradation on banding patterns
  - f. Methods to visualize protein bands

II. Immunological blood and serum group systems

A. Basis of genetic variability

B. ABO, Lewis and Secretor

1. Biochemistry of ABH antigens
2. Structure of ABH antigens
3. Immunological and biochemical relationships of ABO, Hh, Sese and Lele genes on the production of

detectable antigens in secretions and on red blood cells

4. Distribution of immunological genetic systems in body fluids and tissues

- C. Other blood and serum group systems used to characterize biological evidence (e.g. GM/KM Rh)

### III. Methods

- A. Electrophoretic methods for isoenzyme and serum proteins

1. Electrophoresis

- a. Methods for polymorphic enzyme and serum protein of forensic interest
- b. Properties and use of different electrophoretic media
- c. Technical variations (e.g. gradient gels)

2. Isoelectric focusing

- a. Methods for polymorphic enzyme and serum proteins of forensic interest
- b. Properties and use of different electrophoretic media
- c. Properties and use of ampholytes

3. Genetic marker system type/subtype nomenclature

- B. Forensic methods used to detect blood group antigens/antibodies

1. Direct test on whole blood

2. Absorption/Elution

3. Absorption/Inhibition

4. Lattes

5. ELISA

### IV. Genetic Marker Selection and Interpretation

- A. Limitations of each test performed such as sample contamination environmental insults, aging and mixed stains

Biochemistry 3/13/93

3

- B. Relative marker stability
- C. Discrimination Potential
- D. Genetic marker selection strategy

American Board of Criminalistics  
Biochemistry Speciality Examination  
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Knowledge, Skills, and Abilities of the  
Forensic Molecular Biology Specialty

Revised  
February 24, 1992

I. Molecular Biology

- A. Structure and properties of Deoxyribonucleic acid (DNA)
- B. Function of DNA and RNA in living cells
  - 1. Transcription
  - 2. Translation
  - 3. Replication
- C. Characteristics of loci appropriate for forensic usage
- D. Related techniques of Molecular Biology
  - 1. Cloning
  - 2. Library Construction
  - 3. Sequencing

II. Restriction Fragment Length Polymorphism (RFLP)

- A. Restriction enzymes and factors affecting their functions
- B. Factors affecting migration of the DNA fragments
- C. Principles of Southern blot transfer and DNA fixation to membrane
- D. Principles of probe labeling
- E. Principles of hybridization
- F. Principles of detection
  - 1. Radioactive (including autoradiography)
    - a. <sup>32</sup>P properties and theories
    - b. Radiation decay
  - 2. Non-radioactive

III. Polymerase Chain Reaction (PCR)

- A. Principles of primer selection
- B. Principles underlying selection of PCR reaction conditions
- C. Methods and procedures for detection of PCR products
- D. Characteristics of thermostable DNA polymerase
- E. Different types of polymorphism associated with the PCR technique
  - 1. Sequence
  - 2. Length

#### IV. Methods

- A. Isolation and purification of DNA
  - 1. Organic
  - 2. Non-organic
  - 3. Other (e.g. Chelex)
- B. Evaluation of DNA quality and quantity
- C. Electrophoresis
  - 1. Agarose
  - 2. Acrylamide
  - 3. Other

#### V. Interpretation of analytical data

- A. Potential effects of various amounts and types of DNA contamination
- B. Principles of visual VNTR pattern interpretation
- C. Principles and limitations of the computer assisted image analysis of the VNTR band patterns
- D. Principles of dot blot and reversed dot blot pattern analysis of PCR based results
- E. Limitations of tests performed such as the effects of sample contamination environmental insults, aging and

mixed stains

- F. Evaluation of test results based on the performance of standards and controls
- G. Formulation of conclusions based on results and literature available
- H. Application of population frequency data to the interpretation of results

VI. Laboratory Safety

- A. Handling and disposal of hazardous, chemical and radioactive waste
- B. Radiation safety procedures, methods of detection and measurement of radiation.



American Board of Criminalistics  
Molecular Biology Speciality Examination  
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November 16, 1993

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**APPENDIX D**

**AMERICAN BOARD of CRIMINALISTICS**

**RULES OF PROFESSIONAL CONDUCT**

American Board of Criminalistics, Inc.

-RULES OF PROFESSIONAL CONDUCT

Article IV.5 of the By-laws of the ABC allow for disciplinary actions by the Board including denial and revocation of Certificates. Articles IV.5.a through IV.5.c state reasons for such action as follows:

- a. 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).
- b. 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.
- c. 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.

Article IV.5.d also allows for disciplinary actions for the following reason:

- d. Violations of the Rules of Professional Conduct of the ABC by an applicant or holder of a certificate of this Board.

The following are the Rules of Professional Conduct of the ABC, as referred to in Article IV.5.d, and together with Articles IV.5.a through IV.5.c, they stipulate situations and rules which may, if violated, cause disciplinary action by the Board to be taken.

These rules describe conduct in the profession of forensic science (criminalistics). 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.

Applicants and Diplomates of the ABC shall:

1. Comply with the By-laws and regulations of the ABC.
2. Treat all information from an agency or client with the confidentiality required.
3. Treat any object or item of potential evidential value with the care and control necessary to ensure its integrity.

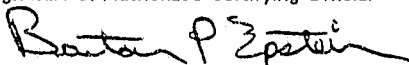
4. Ensure that all exhibits in a case receive appropriate technical analysis.
5. Utilize standards and controls to conduct examinations and analyses.
6. Not utilize techniques and methods which are known to be inaccurate and/or unreliable.
7. Make full and complete disclosure of the findings to the submitting agency.
8. Prepare a written report of the findings and conclusions in all cases.
9. Make and keep worknotes on all items, examinations, results and findings at the time that they are done.
10. 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.
11. 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.
12. Not exaggerate, embellish or otherwise misrepresent qualifications, when testifying.
13. Consent to, if it is requested and allowed, interviews with counsel for both sides prior to trial.
14. 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.
15. Maintain an attitude of independence and impartiality in order to ensure an unbiased analysis of the evidence.
16. Carry out the duties of the profession in such a manner so as to inspire the confidence of the public.
17. Regard and respect their peers with the same standards that they hold for themselves.
18. Set a reasonable fee for services if it is appropriate do so however, no services shall ever be rendered on a contingency fee basis.
19. Find it appropriate to report to the Board, any violation of these Rules of Professional Conduct by another applicant or Diplomate.

Bud get

# FINANCIAL STATUS REPORT

(Short Form)

(Follow instructions on the back)

<b>1. Federal Agency and Organizational Element to which Report is Submitted</b> U.S. Dept. of Justice Office of Justice Programs		<b>2. Federal Grant or Other Identifying Number Assigned By Federal Agency</b> 92-IJ-CX-K007		<b>OMB Approval No.</b> 0348-0039		<b>Page</b> of <b>pages</b>	
<b>3. Recipient Organization (Name and complete address, including ZIP code)</b> American Board of Criminalistics 4 Mannakee Street Rockville, MD 20850							
<b>4. Employer Identification Number</b> 113000406		<b>5. Recipient Account Number or Identifying Number</b>		<b>6. Final Report</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>7. Basis</b> <input type="checkbox"/> Cash <input checked="" type="checkbox"/> Accrual	
<b>8. Funding/Grant Period(See Instructions)</b> From: (Month, Day, Year) 08/31/92		To: (Month, Day, Year) 12/31/94		<b>9. Period Covered by this Report</b> From: (Month, Day, Year) 07/01/94		To: (Month, Day, Year) 12/31/94	
<b>10. Transactions:</b>				I Previously Reported 06/30/94	II This Period	III Cumulative	
a. Total outlays				37,643.00	0.00	37,643.00	
b. Recipient share of outlays				0.00	0.00	0.00	
c. Federal share of outlays				37,643.00	0.00	37,643.00	
d. Total unliquidated obligations						0.00	
e. Recipient share of unliquidated obligations						0.00	
f. Federal share of unliquidated obligations						0.00	
g. Total Federal share (Sum of lines c and f)						37,643.00	
h. Total Federal funds authorized for this funding period						37,643.00	
i. Unobligated balance of Federal funds (Line h minus line g)						0.00	
<b>11. Indirect Expense</b>							
a. Type of Rate(Place "X" in appropriate box) <input type="checkbox"/> Provisional <input type="checkbox"/> Predetermined <input type="checkbox"/> Final <input type="checkbox"/> Fixed							
b. Rate		c. Base		d. Total Amount		e. Federal Share	
<b>12. Remarks: attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.</b>							
A. Block/Formula passthrough \$ B. Federal Funds Subgranted \$				<b>PROGRAM INCOME:</b> C. Forfeited \$ D. Other \$			
				E. Expended \$ F. Unexpended \$			
<b>13. Certification:</b> I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.							
Typed or Printed Name and Title Barton P. Epstein, Treasurer					Telephone (Area code, number and extension) 612 )642 -0700		
Signature of Authorized Certifying Official 					Date Report Submitted March 1, 1995		

Previous Editions not Usable

Standard Form 269A (REV 4-88)  
Prescribed by OMB Circulars A-102 and A-110

ORIGINAL: ACCOUNTING COPY



# American Board of Criminalistics

4 Mannakee Street, Rockville, MD 20850

## Board of Directors

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At-Large - NEAFS  
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Criminalistics Section  
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Lucy Davis  
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Secretary - MAAFS  
Peter Barnett  
Member - CAC  
Lucy Davis  
Member - MAFS  
Charles Tindall  
Member - AAFS  
Criminalistics Section

NIJ GRANT (#92IJCXK007)  
SUMMARY FINANCIAL REPORT  
FROM JANUARY, 1993 TO DECEMBER 31, 1994  
SEATTLE, WASHINGTON

## INCOME/EXPENSE

### INCOME

Funds from NIJ 92IJCXK007 \$37,643.00

**TOTAL INCOME** 37,643.00

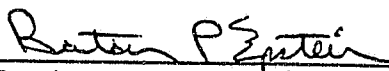
### EXPENSES

Postage	76.20
Printing	466.58
Miscellaneous Expense	75.99
Bank Fees	9.19
Insurance	3,250.70
Travel Expenses	11,230.38
Lodging	455.00
Room-Meals	4,696.12
Miscellaneous-Travel	291.15
Contractual	15,562.56
Equipment	1,529.13

**TOTAL EXPENSES** \$37,643.00

**Balance on December 31, 1994** 0.00

Respectfully submitted,

  
Barton P. Epstein  
ABC Treasurer



SUMMARY REPORT  
1/ 1/93 Through 12/31/94

NIJ Grant  
1/30/95

Page 1

Category Description	1/ 1/93- 12/31/94
-----	
INCOME/EXPENSE	
INCOME	
NIJ 92IJCXK007	37,643.00
-----	
TOTAL INCOME	37,643.00
EXPENSES	
400 Postage	76.20
420 Printing	466.58
425 Misc. Exp.	75.99
430 Bank fees	9.19
435 Equipment	1,529.13
445 Insurance	3,250.70
460 Travel Exp.	11,230.38
470 Lodging	455.00
470 Room-Meals	4,696.12
475 Misc-Travel	291.15
485 Contractual	15,562.56
-----	
TOTAL EXPENSES	37,643.00
TOTAL INCOME/EXPENSE	0.00
-----	
BALANCE FORWARD	
NIJ Grant	0.00
-----	

NIJ Grant  
1/30/95

Date	Num	Description	Memo	Category	Clr	Amount
<b>INCOME/EXPENSE</b>						
<b>INCOME</b>						
NIJ 92IJCXK007						
2/24/93		Request #1	NIJ 92IJCXK007			1,700.00
3/ 2/93		Request #2	NIJ 92IJCXK007			13,098.00
4/ 1/93		Request #3	NIJ 92IJCXK007			10,136.00
9/23/93		Request #4	NIJ 92IJCXK007			7,600.00
3/14/94		Request #5	NIJ 92IJCXK007			5,109.00
<b>TOTAL NIJ 92IJCXK007</b>						<b>37,643.00</b>
<b>TOTAL INCOME</b>						<b>37,643.00</b>
<b>EXPENSES</b>						
400 Postage						
12/17/93	5040	Ed Rhodes	400 Postage			-4.90
2/24/94	5043	Lucy Davis	400 Postage			-59.70
4/20/94	5045	William Mehrens	400 Postage			-11.60
<b>Total 400 Postage</b>						<b>-76.20</b>
420 Printing						
2/24/94	5042	Quik Print	Fire Debris T 420 Printing			-231.26
2/24/94	5043	Lucy Davis	Biology Tests 420 Printing			-235.32
<b>Total 420 Printing</b>						<b>-466.58</b>
425 Misc. Exp.						
4/20/94	5045	William Mehrens	425 Misc. Exp.			-75.99
<b>Total 425 Misc. Exp.</b>						<b>-75.99</b>
430 Bank fees						
3/10/93			Checks printe 430 Bank fees			-9.19
<b>Total 430 Bank fees</b>						<b>-9.19</b>
435 Equipment						
8/11/94	5046	Gwen Lefler	Computer prin 435 Equipment			-751.85
2/21/94	5047	Viking Office Supp	Canon copier 435 Equipment			-777.28
<b>Total 435 Equipment</b>						<b>-1,529.13</b>

NIJ Grant  
1/ 1/93 Through 12/31/94

N. Grant  
1/30/95

Page 2

Date	Num	Description	Memo	Category	Clr	Amount
9/23/93	5033	Bloom Insurance Ag D & O Insuran	445	Insurance		-3,250.70
Total 445 Insurance						-3,250.70
460 Travel Exp.						
3/19/93	5000	Dan Bergman	Airplane	460	Travel Exp.	-311.00
3/19/93	5001	Cheryl Cherry	Airplane	460	Travel Exp.	-243.00
3/19/93	5002	James O'Connor	Airplane	460	Travel Exp.	-293.00
3/19/93	5003	Barbara Crim-Swans	Airplane	460	Travel Exp.	-425.00
3/23/93	5004	John DeHaan	Airline & mil	460	Travel Exp.	-359.00
3/23/93	5005	Michael Haas	Airline & mil	460	Travel Exp.	-493.00
3/23/93	5006	Peter Barnett	Airline	460	Travel Exp.	-331.00
3/23/93	5007	Daniel Burhans	Airline & mil	460	Travel Exp.	-251.00
3/23/93	5008	Frank Garland	Airline & Tax	460	Travel Exp.	-314.00
3/23/93	5009	George Neighbor	Airline & mil	460	Travel Exp.	-221.20
3/23/93	5010	Lucy Davis	Airline	460	Travel Exp.	-270.00
3/23/93	5011	Edwina Ard	Milage	460	Travel Exp.	-193.75
3/23/93	5012	SERI (Laurie Rawli	Airline & mil	460	Travel Exp.	-343.50
3/23/93	5013	Elaine Scott	Milage	460	Travel Exp.	-200.00
3/23/93	5014	Frank Schehr	Airline & mil	460	Travel Exp.	-264.00
3/23/93	5015	Eileen Davis	Airline & mil	460	Travel Exp.	-329.00
3/23/93	5016	Bill Chapin	Airline	460	Travel Exp.	-300.00
3/23/93	5017	Susan Ballou	Airline	460	Travel Exp.	-320.00
3/23/93	5018	Larry Flinn	Milage	460	Travel Exp.	-26.00
3/23/93	5019	Nicholas Petraco	Airline & mil	460	Travel Exp.	-253.50
3/29/93	5020	Pat Wojtkiewicz	Milage	460	Travel Exp.	-293.00
3/29/93	5021	Robert Parsons	Airline	460	Travel Exp.	-262.00
3/29/93	5022	Ron Hrynychuk	Airline & tax	460	Travel Exp.	-441.68
3/30/93	5023	Robert Shaler	Airline & mil	460	Travel Exp.	-267.75
3/30/93	5024	Jo Ann Buscaglia	Airline & tax	460	Travel Exp.	-413.00
4/13/93	5025	Edward Rhodes	Airline & tax	460	Travel Exp.	-384.00
4/13/93	5026	Ronald Nichols	Airline	460	Travel Exp.	-341.00
4/13/93	5027	Isable Conley	Airline	460	Travel Exp.	-310.00
4/21/93	5028	Jeff Kercheval	Airline	460	Travel Exp.	-300.00
5/20/93	5031	Georgia P.S. Train	2-Day worksho	460	Travel Exp.	-920.00
11/ 4/93	5034	Ronald Nichols	CAC Drug Pilo	460	Travel Exp.	-141.00
11/30/93	5036	David Metzger		460	Travel Exp.	-323.00
12/14/93	5037	James Bailey		460	Travel Exp.	-375.00
12/17/93	5038	William Mehrens		460	Travel Exp.	-290.00
12/17/93	5040	Ed Rhodes		460	Travel Exp.	-428.00
Total 460 Travel Exp.						-11,230.38

## 470 Lodging

11/ 4/93 5035 Ed Rhodes

Deposit for m 470 Lodging

-455.00

Total 470 Lodging

-455.00

470 Room-Meals

## NIJ Grant

1/ 1/93 Through 12/31/94

NIJ Grant  
1/30/95

Page 3

Date	Num	Description	Memo	Category	Clr	Amount
3/19/93	5003	Barbara Crim-Swans		470 Room-Meals		-5.00
3/23/93	5004	John DeHaan		470 Room-Meals		-2.05
3/23/93	5007	Daniel Burhans	Dinner	470 Room-Meals		-7.32
3/23/93	5008	Frank Garland	Dinner	470 Room-Meals		-15.00
3/23/93	5011	Edwina Ard	Lodging & mea	470 Room-Meals		-66.20
3/23/93	5012	SERI (Laurie Rawli	Dinner	470 Room-Meals		-7.00
3/23/93	5013	Elaine Scott	Lodging & mea	470 Room-Meals		-42.42
3/23/93	5014	Frank Schehr	Meals	470 Room-Meals		-10.00
3/23/93	5015	Eileen Davis	Dinner	470 Room-Meals		-5.00
3/29/93	5022	Ron Hrynychuk		470 Room-Meals		-175.41
3/30/93	5023	Robert Shaler	Room & 2 meal	470 Room-Meals		-54.80
3/30/93	5024	Jo Ann Buscaglia	Dinner	470 Room-Meals		-2.68
4/13/93	5026	Ronald Nichols	Lodging	470 Room-Meals		-100.56
4/13/93	5027	Isable Conley	Room & 2 meal	470 Room-Meals		-172.15
4/21/93	5028	Jeff Kercheval	Room & 1 meal	470 Room-Meals		-162.15
5/20/93	5030	Georgia P.S. Train	2-Day worksho	470 Room-Meals		-3,343.50
11/ 4/93	5034	Ronald Nichols		470 Room-Meals		-110.85
11/30/93	5036	David Metzger		470 Room-Meals		-47.90
12/14/93	5037	James Bailey		470 Room-Meals		-26.12
12/17/93	5038	William Mehrens		470 Room-Meals		-14.61
12/17/93	5040	Ed Rhodes		470 Room-Meals		-325.40
Total 470 Room-Meals						-4,696.12

## 475 Misc-Travel

3/23/93	5004	John DeHaan	Tolls & Parki	475 Misc-Travel		-34.00
3/23/93	5005	Michael Haas	Parking	475 Misc-Travel		-12.00
3/23/93	5006	Peter Barnett	Parking	475 Misc-Travel		-26.40
3/23/93	5012	SERI (Laurie Rawli	Parking	475 Misc-Travel		-33.00
3/23/93	5014	Frank Schehr	Parking	475 Misc-Travel		-15.00
3/23/93	5015	Eileen Davis	Parking	475 Misc-Travel		-22.00
3/23/93	5016	Bill Chapin	Parking	475 Misc-Travel		-19.00
3/23/93	5019	Nicholas Petraco	Parking	475 Misc-Travel		-4.00
3/29/93	5021	Robert Parsons	Parking	475 Misc-Travel		-12.00
3/30/93	5023	Robert Shaler	Parking	475 Misc-Travel		-30.00
4/13/93	5026	Ronald Nichols	Parking	475 Misc-Travel		-41.25
11/ 4/93	5034	Ronald Nichols	Parking	475 Misc-Travel		-16.50

11/30/93	5036	David Metzger	Parking	475 Misc-Travel	-13.00
12/17/93	5040	Ed Rhodes	Airport shutt	475 Misc-Travel	-13.00
Total 475 Misc-Travel					-291.15

485 Contractual

5/11/93	5029	Educational Testin	2-Day worksho	485 Contractual	-4,456.00
9/ 3/93	5032	William A. Mehrens	Consultation	485 Contractual	-190.00
12/17/93	5038	William Mehrens		485 Contractual	-3,427.93
12/17/93	5039	Parrick Driscoll		485 Contractual	-2,500.00
1/ 7/94	5041	Patrick Driscoll		485 Contractual	-770.00
3/14/94	5044	Patrick Driscoll		485 Contractual	-1,309.60

NIJ Grant  
1/ 1/93 Through 12/31/94

NIJ Grant  
1/30/95

Page 4

Date	Num	Description	Memo	Category	Clr	Amount
4/20/94	5045	William Mehrens		485 Contractual		-1,520.00
12/29/94	5048	Brown, Simonet, Dick	Grant Audit	485 Contractual		-1,389.03
Total 485 Contractual						-15,562.56
TOTAL EXPENSES						-37,643.00

TOTAL INCOME/EXPENSE	0.00
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BALANCE FORWARD

NIJ Grant

2/24/93	Opening Balance	[NIJ Grant]	X	0.00
Total NIJ Grant				0.00

TOTAL BALANCE FORWARD	0.00
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OVERALL TOTAL	0.00
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Audit Report

AMERICAN BOARD OF CRIMINALISTICS  
(A Nonprofit Corporation)

STATEMENT OF CASH RECEIPTS AND  
DISBURSEMENTS AND INDEPENDENT  
AUDITORS' REPORT  
(Program - Specific Audit)

FOR THE PERIOD ENDED DECEMBER 31, 1994

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INDEPENDENT AUDITORS' REPORT ON COMPLIANCE WITH LAWS AND REGULATIONS	7
SCHEDULE OF FINDINGS AND QUESTIONED COSTS	9





**Brown & Company**

CERTIFIED PUBLIC ACCOUNTANTS

5930 Brooklyn Boulevard  
Brooklyn Center, MN 55429  
Phone (612) 566-4340  
Fax (612) 569-5799

**INDEPENDENT AUDITORS' REPORT ON  
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS**

Board of Directors  
American Board of Criminalistics  
Rockville, Maryland

We have audited the accompanying statement of cash receipts and disbursements of the NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" of the American Board of Criminalistics for the period ended December 31, 1994. This financial statement is the responsibility of the American Board of Criminalistics' management. Our responsibility is to express an opinion on this financial statement based on our audit.

We conducted our audit in accordance with generally accepted auditing standards and Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the statement of cash receipts and disbursements is free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statement. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

As described in Note 1, this financial statement was prepared on the basis of cash receipts and disbursements, which is a comprehensive basis of accounting other than generally accepted accounting principles.

In our opinion, the financial statement referred to above presents fairly, in all material respects, the cash receipts and disbursements of the NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" of the American Board of Criminalistics for the period ended December 31, 1994.

*Brown & Company*

Minneapolis, Minnesota  
January 25, 1995

AMERICAN BOARD OF CRIMINALISTICS

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

DECEMBER 31, 1994

<u>Grantor Agency</u>	<u>CFDA Number</u>	<u>Grant Number</u>	<u>Grant Period</u>	<u>Grant Amount</u>	<u>Grant Receipts</u>	<u>Grant Expenditures</u>
U.S. Department of Justice National Institute of Justice, Office of Justice Programs:						
"Development of Specialty Examinations Leading to Certification in Criminalistics	16.560	92-IJ-CX-K007	8/31/92-12/31/94	\$ 37,643	\$ 37,643	\$ 37,643

AMERICAN BOARD OF CRIMINALISTICS

NOTES TO THE STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

FOR THE PERIOD ENDED DECEMBER 31, 1994

NOTE 1

The accompanying financial statement has been prepared on the cash receipts and disbursements basis of accounting. Under that basis, the only asset recognized is cash, and no liabilities are recognized. All transactions are recognized as either cash receipts or disbursements, and noncash transactions are not recognized. The cash basis differs from generally accepted accounting principles primarily because the effects of outstanding receivables and obligations unpaid at the date of the financial statement are not included in the financial statement.



## Brown & Company

CERTIFIED PUBLIC ACCOUNTANTS

5930 Brooklyn Boulevard  
Brooklyn Center, MN 55429  
Phone (612) 566-4340  
Fax (612) 569-5799

### INDEPENDENT AUDITORS' REPORT ON THE INTERNAL CONTROL STRUCTURE

Board of Directors  
American Board of Criminalistics  
Rockville, Maryland

We have audited the statement of cash receipts and disbursements of the NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" of the American Board of Criminalistics for the period ended December 31, 1994, and have issued our report thereon dated January 25, 1995. We have also audited the Organization's compliance with requirements applicable to its NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" and have issued our reported thereon dated January 25, 1995.

We conducted our audit in accordance with generally accepted auditing standards and Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the statement of cash receipts and disbursements is free of material misstatement and about whether the Organization complied with laws and regulations, noncompliance with which would be material to its NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics".

In planning and performing our audit of the statement of cash receipts and disbursements of NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" of the American Board of Criminalistics for the period ended December 31, 1994, we considered its internal control structure in order to determine our auditing procedures for the purpose of expressing our opinion on the financial statement and on its compliance with requirements applicable to its NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" and not to provide assurance on the internal control structure.

The management of the American Board of Criminalistics is responsible for establishing and maintaining an internal control structure. In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of internal control structure policies and procedures. The objectives of an internal control structure are to provide management with reasonable, but not absolute, assurance that assets are safeguarded against loss from unauthorized use or disposition, and that transactions are executed in accordance with management's authorization and recorded properly to permit the preparation

of the statement of cash receipts and disbursements in accordance with the cash basis of accounting and that the NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" is managed in compliance with applicable laws and regulations. Because of inherent limitations in any internal control structure, errors or irregularities may nevertheless occur and not be detected. Also, projection of any evaluation of the structure to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or that the effectiveness of the design and operation of policies and procedures may deteriorate.

For the purpose of this report, we have classified internal control structure policies and procedures in the following categories:

- Cash;
- Support, revenue and receipts;
- Expenses for goods and services;
- Property and equipment; and
- Purchases and disbursements;

We noted certain matters involving the internal control structure and its operation that we consider to be reportable conditions under standards established by the American Institute of Certified Public Accountants. Reportable conditions involve matters coming to our attention relating to significant deficiencies in the design or operation of the internal control structure that, in our judgment, could adversely affect the Organization's ability to record, process, summarize, and report financial data in a manner that is consistent with the assertions of management in the financial statements.

Segregation of Duties - Due to the limited number of personnel available, the treasurer exercises considerable control over the recording and reporting of transactions. This situation is not unusual in an organization of your size. The limited number of personnel available also creates certain other situations where adequate segregation of duties is not possible.

A material weakness is a reportable condition in which the design or operation of one or more of the internal control structure elements does not reduce to a relatively low level the risk that errors or irregularities in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions.

Our consideration of the internal control structure would not necessarily disclose all matters in the internal control structure that might be reportable conditions and, accordingly, would not necessarily disclose all reportable conditions that are also considered to be material weaknesses as defined above. However, we believe none of the reportable conditions described above is a material weakness.

This report is intended for the information of the audit committee, board of directors, management and grantor agencies. However, this report is a matter of public record and its distribution is not limited.

*Brown & Company*

Minneapolis, Minnesota  
January 25, 1995



# **Brown & Company**

CERTIFIED PUBLIC ACCOUNTANTS

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## **INDEPENDENT AUDITORS' REPORT ON COMPLIANCE WITH LAWS AND REGULATIONS**

Board of Directors  
American Board of Criminalistics  
Rockville, Maryland

We have audited the statement of cash receipts and disbursements of NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" of the American Board of Criminalistics for the period ended December 31, 1994, and have issued our report thereon dated January 25, 1995.

We conducted our audit in accordance with generally accepted auditing standards and Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the statement of cash receipts and disbursements is free of material misstatement.

Compliance with laws, regulations, contracts, and grants applicable to the NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" is the responsibility of the American Board of Criminalistics' management. As part of obtaining reasonable assurance about whether the statement is free of material misstatement, we performed tests of the American Board of Criminalistics' compliance with the specific requirements applicable to its NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" governing types of services allowed and unallowed; eligibility; matching, level of effort; reporting; special tests and provisions; claims for advances and reimbursements; and amounts claimed or used for matching. We also applied procedures to test the Organization's compliance with the general requirements applicable to its NIJ Grant: "Development of Specialty Examinations Leading to Certification in Criminalistics" including:

### **General requirements:**

- Political activity;
- Civil rights;
- Cash management;
- Federal financial reports;
- Allowable costs/cost principles; and
- Administrative requirements
- Specific Requirements

However, the objective of our audit of the statement of cash receipts and disbursements was not to provide an opinion on overall compliance with such provisions. Accordingly, we do not express such an opinion.

The results of our tests indicate that, with respect to the items tested, American Board of Criminalistics complied, in all material respects, with the provisions referred to in the preceding paragraph. With respect to items not tested, nothing came to our attention that caused us to believe that the American Board of Criminalistics had not complied, in all material respects, with those provisions.

This report is intended for the information of the audit committee, management and grantor agencies. However, this report is a matter of public record and its distribution is not limited.

*Brown & Company*

Minneapolis, Minnesota  
January 25, 1995



AMERICAN BOARD OF CRIMINALISTICS  
SCHEDULE OF FINDINGS AND QUESTIONED COSTS  
FOR THE PERIOD ENDED DECEMBER 31, 1994

There were no findings.