

Georgetown University Announces
Three-Year Full Time Program
for

The Professional Preparation and Certification of Document Examiners

This is a non-academic professional training program sponsored by the Institute of Criminal Law and Procedure, Georgetown University Law School, and the Forensic Sciences Laboratory in cooperation with the School for Summer and Continuing Education.

Short courses in special applications of forensic science are also scheduled.

Details of the certificate courses and short courses follow. For further information write: The Director, Forensic Sciences Center, 9 Reiss Science Building, Georgetown University, Washington, D.C. 20007.

Certificate Course in Forensic Document Examination

Entrance Qualifications

The general regulations applicable to this program are those approved by Georgetown University and each of the cooperating schools and departments of the University, in the instructional programs of which any certificate candidate shall participate, as auditor or otherwise, with the addition of the following regulations.

Basic Course—One Year Full Time Program Leading to the First Certificate

(1) Candidates must satisfy the prerequisites of the several schools and departments for auditing participation and the prerequisites of the Institute of Criminal Law and Procedure and the Forensic Sciences Center for certificate candidates. Candidates' written and spoken language abilities shall meet the requirements of the several schools and departments and of the Forensic Sciences Center in the English language.

(2) Candidates must have completed with a satisfactory score the Document Examiner Student Aptitude Tests, provided by the Center and furnished by mail or in person prior to acceptance.

(3) Candidates shall pursue a full time course of studies for a period of twelve months. (Syllabus—First Certificate in Documents.)

(4) Candidates will be required to study topics by attending lectures, tutorials and seminars, including test specimen slide seminars. They will follow a reading schedule and a program of laboratory work under the direct supervision and evaluation of the Forensic Sciences Center, and will participate in field work in collaboration with enforcement laboratories and with other laboratories.

(5) Major emphasis will be on the examination of handwriting and hand printing in the language in which the candidate plans to devote his professional career as a document examiner. Acceptance of a candidate planning to work in a language other than English will be contingent upon availability of specimens of handwriting and hand printing in that language in a quantity judged to be sufficient in the opinion of the Center. If the selected language employs an alphabet other than the Latin alphabet, the requirement for specimens of writings of different individuals will be greater. The writings of as many as ten thousand individuals fully representative of the writing and marking systems of the nation in which the candidate intends to practice will be used in the development of teaching materials.

(6) Candidates' progress will be measured by means of practical laboratory test analyses and written and oral examinations given at frequent intervals throughout the course.

(7) Issuance of the certificate shall be predicated upon approval by a board of examiners selected from the profession. The examining board shall review the work of the candidate and conduct such written and oral examinations and require such laboratory test analyses as the board shall see fit.

(8) The major portion of the candidate's work will be done in the Forensic Sciences Center, where space will be assigned to each candidate. In cooperating laboratories and in various departments and schools of the University, there is a wide selection of scientific instrumentation with which the candidate will be expected to develop familiarity, particularly insofar as the basic principles and underlying theory are concerned. During the required full year of study and laboratory work, the candidate shall design and build some of the basic tools which he will use in the analysis of documentary evidence. These will include calibration plates and special photographic equipment for the most part. Funds for materials, including the purchase of a suitable camera, if the candidate does not have one, shall be provided by the candidate. Excluding camera, a sum of approximately \$200 should be sufficient to cover costs of these materials and needed text books. A high quality 35 mm camera, fitted with a distortion free close-up lens and a through-the-lens exposure meter shall constitute minimum student camera requirement. It is anticipated that the camera equipment and other instrumentation built by the candidate will continue to be used by him in his professional practice. It is therefore essential that all equipment used by the candidate be approved, whether made by the candidate or purchased. All photographic film and other expendable photographic costs must be provided by the candidate. These will vary from candidate to candidate because of the wide range of learning response. An expenditure of \$150 over 12 months per candidate for film and other photographic supplies is not excessive. Binocular and trinocular zoom microscopes will be made available to candidates for their use as needed during the course of their training. A \$25 laboratory breakage refundable deposit will be made at the start of each of the three semester periods.

(9) Because of the gravity of the professional responsibilities which candidates prepare to assume, only those applicants will be considered who can furnish adequate evidence of sound physical and emotional health, that applicant has normal color vision, that applicant is of excellent moral character and is without a criminal record. Willful concealment of any disqualifying defect shall be sufficient grounds for dismissal after acceptance, upon the initiative of the director of the Center. Misconduct shall be sufficient grounds for dismissal upon the initiative of the director of the Center.

(10) The tuition per candidate will be billed at the rate of \$3349.00 per candidate for the 12-month course.

The syllabus of the first-year basic course follows. Second and third-year course programs are in preparation.

One Year Full Time Curriculum Leading to the First Certificate—Syllabus

The course is designed to provide the candidate with a grounding in those fundamentals which, from the experience of the most respected practicing document examiners, are considered to be of prime importance to the education and training of those undertaking lifetime careers as document examiners.

The general purposes of the course are:

(1) To bring the candidate to a level of expertise which will enable him to handle with professional competence the more commonly encountered evidential document problems.

(2) To instill in the candidate a sensitivity to the causes and circumstances of errors in evidence examinations and conclusions or opinions reached, together with an as accurate as possible understanding of his abilities and limitations in order to enable the candidate to recognize situations in which assistance is needed, and a willingness to call upon assistance when the need is recognized.

(3) To facilitate ready and easy communication between the successful candidate and the international community of recognized professional document examiners.

(4) To develop the candidate's skills in articulation as well as his knowledge of court room decorum to enable him to testify with maximum clarity and effectiveness before any judicial proceeding as an expert witness, within the limits recognized by the First Certificate.

Because of practical limitations, which dictate that the course be taught within a one year period, and because of the extensive nature of the material to be learned, the content presented in this

course is more concentrated and the program is more intensive than might be considered optimal for students at or near the population mean for graduate students in stability, motivation, and stamina. This fact should be fully understood beforehand by those contemplating taking the course and by those making financial commitment for the support of prospective candidates.

Prerequisites—Because of the unusually broad range of knowledge and skills required of the practicing professional document examiner, whether a prospective candidate has, in effect, a background preparation sufficient to insure successful completion of the program, including courses contemplated for intermediate and advanced phases of the field, shall be determined on an individual basis. In general, a baccalaureate degree, preferably but not necessarily in a physical science discipline, from an accredited college or university shall be required. However, other factors in the prospective candidate's qualifications may be overriding. Possession of a previously granted degree or degrees shall not assure acceptance; nor shall absence of a degree preclude acceptance.

Objectives—of this course are:

- (1) To give the student an understanding of:
 - (a) The philosophic and scientific principles which underlie the field;
 - (b) Logic and statistical analysis as these disciplines relate to source determinations at varying levels of specificity;
 - (c) The scope of the field of document examination, built on a foundation in philosophy and science and relying on a spectrum of disciplines in science and art; and
 - (d) Ethical principles and thought as applied to the juridical process and the importance of an attitude of willingness to act in accordance with mature ethical judgement.
- (2) To cultivate the student's skills in:
 - (a) Form perception to a level which will enable the student to observe analytically many of the subtle features of document materials and to sharpen his image recognition abilities in the examination of writings, printed matter, and other impressed indicia.
 - (b) The use of standards of known source for comparison with questioned evidence.
 - (c) Discriminating between individual characteristics and cultural and style characteristics in handwritings, and among analogous features of other indicia producing media.
 - (d) Perceiving and evaluating indications of genuineness as well as those of fraud in the more commonly seen types of document cases.
 - (e) The examination of disguised writings, such as are encountered at times in: anonymous letters, extortion letters, bank robbery notes, kidnap notes, dyssimulated signatures, wall writings, and others.
 - (f) The examination of hand printed and other disconnected styles of manually produced writings, through extensive laboratory experience.
 - (g) The examination of handwritten script writings, through extensive laboratory experience.
 - (h) The uses of the microscope and of photographic and micromanipulative techniques in the examination of writing intersections for determination of writing sequence.
 - (i) Classification and Identification as to machine source of typewritten material, through extensive laboratory experience.
 - (j) Analysis by thin layer chromatography for dye composition of typewriter ribbon inks, pencil and pen writing inks and transfer paper (carbon paper) inks.
 - (k) Photographic procedures in the examination of documents, recording of laboratory observations and preparation of and use of court room demonstration materials including full color presentations where permissible and appropriate.
 - (l) Chemical procedures for the restoration of obliterated, erased or bleached writings and markings.
 - (m) Special photographic methods for restoration as described above.
- (3) To give the student a knowledge of:
 - (a) Instrumentation and procedures most commonly used in the scientific examination of documents.

- (b) The principles and theory of a broader range of instrumentation and procedures applicable to the scientific examination of documents.
- (c) The characteristics of the different writing instruments under differing conditions.
- (d) The characteristics of the products of various of the many graphic arts reproduction methods.
- (e) The history and development of writing.
- (f) The characteristics of guided hand or assisted writings.
- (g) The influences on writing of drugs, alcohol and physical and emotional dysfunction.
- (h) Techniques of documentary fraud, such as: erasures, additions, alterations, interlineations and substitution of pages.
- (i) The analysis of paper by visual, microscopical (visible light, scanning electron microscope, electron microprobe) and chemical methods for the analysis of papers and inks.
- (j) The history of handwriting identification.
- (k) The examination of embossed impressions, trimmed edges, folds, watermarks, fiber felting patterns, wire and felt marks in paper and the methods for recording, interpreting and demonstrating the data observed.
- (l) The examination of rubber stamp impressions.
- (m) The classification of printers' type.
- (n) Accounting procedures.
- (o) Report writing and the general discipline of expert to layman communication.
- (p) The principles of court testimony.

The primary method of instruction will be laboratory work done by the candidate under the supervision of an experienced document examiner. Instruction and laboratory will be conducted in the following: the examination of handwriting, hand printing and typewriting for the purpose of establishing source and authenticity, restoration of illegible writings by physical, photographic, and chemical means. Lectures and slide seminars as well as specialized courses, such as, optical crystallography, chemical microscopy and fiber microscopy will be given also. These will be combination lecture and laboratory courses.

Specialized photographic procedures and radiography will be taught by cooperating laboratories of the document examining community including the Forensic Sciences Center's facilities and others.

To the extent possible, courtroom procedure and decorum will be taught in the Law Center, with such additional specialized instruction as may be needed provided by the Center.

Texts—for the course are:

Conway, James V. P., *Evidential Documents*, Thomas, Springfield, Ill., 1959.

Harrison, Wilson R., *Suspect Documents, Their Scientific Examination*, Sweet & Maxwell, Ltd., London, and Frederick A. Praeger, New York, 1958.

Harrison, Wilson R., *Forgery Detection, A Practical Guide*, Sweet & Maxwell, Ltd., and Frederick A. Praeger, New York, 1964.

Supplementing texts to the above in Documents as well as other readings in the field will be required. Additional texts as needed for specialized short courses will be announced.

Bibliography—with which the candidate will be expected to be conversant before issuance of the First Certificate will be furnished to candidates during the course. This will consist, to a large degree, of material contained in the files of the Forensic Sciences Center. A nominal page charge shall be levied for reproductions of this material requested by the candidate for study and future reference. The material will be available to candidates for study without charge unless removed from the Center. Copyrighted material, such as reference material distributed and read by the legal profession and other well known Document texts will be available to candidates through the Center's collection and through other libraries. Classical works in Documents should be acquired by the candidate as they become available on the market. These will be identified during the course.

Instruction—shall be scheduled in units. Each unit shall afford sufficient time for a given candidate to demonstrate that the unit's content has been mastered at a level which shall be considered acceptable by the Board of Examiners for First Certificate candidates. Not all units shall call for the same degree of expertise. The course is designed to develop maximum knowledge and skill in the examination of handwriting and hand printing as well as typewriting and to lay a foundation for continued growth of expertise in these three areas while providing a basic understanding only in many of the other content areas included in the First Certificate course.

Unit Designations

Unit Number	Subject Matter	Scheduling	
1	Examination of Handwriting and Hand Printing for Author Identification	Lecture	2 h /week, 50 weeks
		Lab	16 h /week, 50 weeks
2	Examination of Typewriting for Machine Identification	Lecture	2 h /week, 50 weeks
		Lab	8 h /week, 50 weeks
3	Document Photography	Lecture	4 h /week, 4 weeks
		Lab	4 h /week, 8 weeks
4	Moot Court		2 h /week, 40 weeks
5	Logic	Lecture	1 h /week, 10 weeks
6	Statistical Analysis	Lecture	1 h /week, 10 weeks
7	Ethics	Lecture	1 h /week, 10 weeks
8	Special Problems in Forgery and Fraud Detection	Lecture	2 h /week, 8 weeks
		Lab. (Incl. Unit 1)	
9	Microscopy (visible light)	Lec. /Lab	40 h /week, 1 week
10	Chemical Microscopy	Lec. /Lab	40 h /week, 1 week
11	Optical Crystallography	Lec. /Lab	40 h /week, 1 week
12	Chromatographic Principles	Lec. /Lab	40 h /week, 1 week
13	Obliterated Writing Problems	Lecture	2 h /week, 2 weeks
		Lab	4 h /week, 2 weeks
14	General Instrumentation	Lecture	1 h /week, 5 weeks
		Lab	2 h /week, 5 weeks

(Continued)

Unit Number	Subject Matter	Scheduling	
15	The Graphic Arts	Lecture	1 h/week, 3 weeks
		Lab	2 h/week, 3 weeks
16	History of Writing	Lecture	1 h/week, 2 weeks
17	Guided Hand and Assisted Writings	Lecture	1 h/week, 3 weeks
		Lab (Incl. Unit 1)	
18	Influences of Drugs, Alcohol, Physical and Emotional Dysfunction on Writing	Lecture	1 h/week, 3 weeks
		Lab (Incl. Unit 1)	
19	Paper Analysis/Ink Analysis	Lecture	1 h/week, 10 weeks
		Lab	2 h/week, 10 weeks
20	History of Handwriting Identification	Lecture	1 h/week, 3 weeks
21	Embossed Impressions, Trimmed Edges, Folds, Watermarks, Fiber Felting Patterns, Wire and Felt Marks	Lecture	1 h/week, 3 weeks
		Lab	1 h/week, 3 weeks
22	Rubber Stamp Impressions	Lecture	1 h/week, 2 weeks
		Lab	1 h/week, 2 weeks
23	Printers' Type	Lecture	1 h/week, 3 weeks
		Lab	2 h/week, 3 weeks
24	Accounting Procedures	Lecture	30 h
22	Report Writing	Lec. Lab	30 h
Total Contact Hours of Instruction			1890 h
Final Examinations and Review by Board of Examiners			80 h
Holidays and Contingency Time			110 h
		Total	2080 h

Scheduled Short Courses

17-21 July 1972—Forensic Document Microscopy

Line intersection and sequence of marking problems; micromanipulation procedures; photomicrography in the examination process; line morphology studies. Concentration will be on practical problems and methods of examination. Instructor: J. M. English, Institute of Criminal Law and Procedure, Georgetown University.

24-28 July 1972—Forensic Analysis of Writing Inks

Varying types of writing inks; sample extraction from the document; sample preparation; physical and chemical characteristics of a number of commonly encountered writing and marking media methods of examining. Applications and problems involved in the examination of writing inks by gas and liquid chromatography; quantitative analysis by liquid chromatography; pyrolysis gas chromatography. Instructors: E. P. Cofield, Jr., Scripto Inc., and Dr. R. W. McKinney, W. R. Grace & Co.

24-28 July 1972—Forensic Microscopy of Human and Animal Hairs and Fibers

Microscopic examination and comparison of evidential textile, fur and other fibers from natural sources; root structure and growth of human and mammalian fibers; techniques used in sectioning and surface analysis by casts, impressions, metal shadowing, photomicrography; identification as to species of origin; study of damage; comparison of scale patterns; effects on dyeing of various fiber types; effects of various treatments on human hair. Instructor: Marie Jones, Bristol-Myers Co.

31 July-4 Aug. 1972—Forensic Analysis of Ethyl Alcohol

Pharmacological and physiological effects of ethyl alcohol; postmortem alcohol determinations; sampling of living persons; titrimetric, micro-diffusion and gas-liquid-chromatographic determinations of blood alcohol concentrations; breath alcohol analysis. Instructor: Dr. H. C. Freimuth, Office of the Chief Medical Examiner, Baltimore, Md.

31 July-4 Aug. 1972—Forensic Microscopy of Synthetic and Cellulosic Fibers

Microscopic examination and comparison of evidential textile and paper forming fibers of synthetic and cellulosic origin, including: cellulose, rayon, polyamides, polyesters and acrylics; the use of the interference, polarizing and standard bright field optical microscopes; techniques of sample preparation, including microtomy and staining. Instructor: R. Scott, E. I. duPont de Nemours & Co., Inc.

7-18 Aug. 1972—Forensic Microscopic Analysis of Inorganic Ions

Fundamental concepts in the identification of common inorganic ions in organic, inorganic or heterogeneous mixtures; reagents; manipulation of microscopical quantities; chemical reactions in single drops. Specific applications: very limited samples, such as a smear on cloth or paper; extremely valuable samples, e.g., paintings, statuary, jewelry; hazardous samples: explosives and toxic substances; instances in which physical nature is important, such as particle size, particle shape, agglomeration, distribution of components. Instructor: Elizabeth Anne Whitman, Naval Ordnance Station, Indian Head, Md.

24 July-4 Aug. 1972—Forensic Optical Microscopy

The microscope: optical theory, magnification, numerical aperture, adjustments, polarization; Particulates: information obtainable from rapid examination; crystal growth; optical crystallography; orthoscopic and conoscopic observation; refractive index and birefringe; optical crystallography, relevant chemistry and identification of drugs; photo-micrography of textiles and hairs; microscopic examination of handwriting, typescript and inks; inorganic and organic microscopic analysis; identification of drugs using thin layer chromatography and microscopy. Instructor: Professor emerita Mary L. Willard, Pennsylvania State University.

PATHOLOGISTS are invited to contribute well-documented cases of fatal drug overdose to the Armed Forces Institute of Pathology. With the collection of sufficient cases, a compilation will be made of lethal levels in body fluids and tissues. Currently there is a need for a listing of such data. This would furnish the practicing pathologist and toxicologist with a reference point in interpreting the significance of toxicology reports on suspected fatal and non-fatal cases due to drug overdose.

At present, overdose information is available in scattered sources. It frequently consists of drug amounts that have been lethal (MLD), but often does not include specific drug levels found at autopsy. The proposed compilation would include maximum, minimum and average drug levels found in validated fatal cases of drug overdose. Validation implies a combined study of the historic, morphologic, and toxicologic information so that the relationship of the drug to death may be reasonably confirmed. Of particular interest are cases involving the more recently marketed drugs. (Ethanol and carbon monoxide cases are not to be included in this compilation.)

This project is a combined effort of the Registry of Tissue Reactions to Drugs, the Registry of Forensic Pathology, and the Toxicology Branch of the Institute. Already on hand in the Institute files is a nucleus of 350 cases on which quantitative data are available. Cases for inclusion in this study should have an adequate history, an autopsy protocol, either slides, blocks, or formalin-fixed tissue, and a copy of the toxicologist's report. The latter should include blood concentrations of the drug(s) as well as distribution studies in various tissues and body fluids when available. It is requested that cases are not submitted on which litigation is pending.

Please send cases to: The Director, Armed Forces Institute of Pathology, Washington, D.C. 20305, ATTN: Registry of Tissue Reactions to Drugs.