

**FORENSIC SCIENTIST
FORENSIC BIOLOGY UNIT (DNA)
CS-0401-09**

INTRODUCTION

This position is located in the Department of Forensic Sciences (DFS). The mission of the DFS is to provide high-quality, timely, accurate, and reliable forensic science services using best practices and best available technology, focusing on unbiased science and transparency, to enhance public safety and health.

The position is primarily responsible for routine administrative casework functions and forensic biology laboratory work, which includes: laboratory aspects of casework, accreditation, quality assurance and control programs within the Forensic Science Laboratory (FSL).

MAJOR DUTIES

Utilizes experience and/or training to perform a variety of operations in a forensic laboratory setting, e.g., laboratory testing for casework and accreditation; prepares and maintains detailed records in accordance with laboratory, accreditation and statutory requirements; demonstrates continuous efforts to improve operations; works cooperatively and jointly to provide seamless customer service; conducts routine functions for the forensic biology unit to include but not limited to maintenance and evaluation of data sets, case/evidence tracking, monitoring laboratory inventory, professional communication with customer agencies and monitoring of testing requests.

Utilizes experience and/or training to perform forensic biology laboratory functions within the Forensic Science Laboratory; utilizes computer software to analyze results of laboratory testing results including casework and quality/performance checks in order to perform quality control measures and laboratory functions; as needed, assists with audit preparation and administration; as needed, assists with documentation and maintenance of detailed logs and records of materials, reagents, equipment and instruments to include but not limited to: inventory, location, maintenance schedule and last/next maintenance/QC date.

Participates in a structured training program that pertains to the quality control/quality assurance programs, proficiency testing and safety programs and the laboratory steps involved in casework examination to include: evidence handling and storage, sample processing, laboratory/workspace decontamination, instrument setup, equipment maintenance and casefile documentation; attends relevant seminars, lectures and other training and development activities; keeps up-to-date on current studies, pamphlets, journals, and books for use in assisting with devising new methods and tests.

Utilizes verbal and written instructions to perform various procedures involved in the handling of forensic biology evidence, demonstrate the importance of evidence control, documentation and maintenance of chain of custody, and preservation of the integrity of evidence examined.

Instructed in how to properly complete laboratory processing on forensic biology evidence using validated processes, established techniques and standard operating procedures; demonstrates competency and on-going proficiency in laboratory processing steps as authorized by the

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technical leader; prepares detailed notes regarding evidence examination and laboratory processing to include but not limited to labeling of evidence items, reagents/equipment used and specific lot numbers.

Applies routine procedures and takes corrective action as instructed; accepts and resolves incidences of abnormal or unusual specimens in accordance with written or verbal instructions; assists with maintaining quality control procedures and coordinating the laboratory program with the overall quality control program of the laboratory; as needed, maintain and calibrate complex equipment used for a variety of test and evaluation procedures; works with manager, supervisor, technical lead, lead scientist and/or team leader and other personnel to ensure laboratory and accreditation standards are met.

Receive training in court room testimony for laboratory work conducted in connection with a criminal case.

Projects a professional image while representing the FLS and DFS; and exemplifies Department values, both on and off duty.

Performs other related duties as assigned.

KNOWLEDGE REQUIRED BY THE POSITION

Knowledge of and skills and ability gained through work experience or training in applying theories, principles, concepts, methodology and practices of analytical chemistry, physical science, or biology or related field to the work that is sufficient to perform forensic biology laboratory work.

Knowledge of and experience or classroom training related to equipment and supplies used in a forensic biology laboratory including specialized scientific equipment, instrumentation and software; current developments, literature and other sources of information related to the assignment; and the ability to solve problems or respond to technical issues in regards to quality control measures.

Knowledge of or experience in quality control procedures and accreditation standards; proper procedures and standard laboratory rules and safety precautions regarding chemicals, toxins and biohazards; evidence handling and preservation procedures; forensic biology casework laboratory processing to include but not limited to DNA extraction, quantitation, PCR amplification and capillary electrophoresis.

Knowledge of, and ability to apply D.C. and Federal Laws, codes and regulations pertaining to forensic science; and the ability to follow training on how to apply ISO 17025 and FBI QAS accreditation standards.

Experience with or the ability to apply theoretical and analytical principles of natural and physical sciences, including organic, inorganic, biochemistry, physical chemistry and other applicable fields; apply quality methods and techniques used in the forensic laboratory, including

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laboratory testing procedures.

Experience or ability to work with chemicals and biohazards in a safe manner; and the ability to perform a variety of quality and performance checks and analyses; ability to recognize anomalies, prepare hypotheses, and take appropriate action; prepare and maintain accurate records/data and prepare clear and concise summaries.

Ability to keep up to date with recent developments, current literature and sources of information related to forensic sciences associated with forensic DNA and the ability to learn how to apply analytical methods, to solve problems or respond to technical issues.

Demonstrates the ability to communicate effectively, both orally and in writing; and maintain effective working relationships.

Skill and ability to use a personal computer to apply forensic software applications; prepare, store and retrieve data and knowledge of software affiliated with the laboratory.

Exercises discretion and sound judgment to determine proper courses of action and assesses and evaluates a variety of situations, problems, conditions or questions.

Ability to work safely without presenting a threat to self or others is essential.

SUPERVISORY CONTROLS

Works under the supervision of the manager, supervisor, technical lead, lead scientist, team leader or designated authority who initially provides direction on the priorities, objectives, and/or deadline related to work previously performed and therefore covered by precedent. New or unusual assignments may be performed by utilizing general background information, including advice on the location of reference material to use or receive technical guidance and assistance from the supervisor, team leader or higher level scientists.

Plans and carries out basic procedural and technical processes as required, seeks assistance as needed, and independently coordinates work efforts with others when necessary. Works with supervisory staff when developing solutions to common technical and procedural problems such as changes in priorities, minor needs for additional equipment or other such comparable issues. Will receive administrative direction or decisions from higher authorities on the course of action to follow when encountering significant technical or procedural problems with the work.

The work is normally reviewed in the form of an assessment as to how to resolve technical and related administrative problems encountered, e.g., success in meeting deadlines, developing solutions to problems encountered, executing the work in accordance with agency policy and accepted scientific practices, administering operations which are both technically sound and complete in terms of such criteria as project objectives, and established requirements of FSL. The review may also have emphasis on the quality of judgement used by the incumbent to resolve technical and administrative issues.

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GUIDELINES

Guidelines include policies and procedures of DFS, including but not limited to the standard operating procedures developed by the Forensic Science Laboratory Units through the validation of analytical procedures; governing laws and regulations of the District and Federal government, testing regulations manuals, quality assurance and accreditation standards, and scientific literature, precedent cases, technical references, forensic techniques and literature, catalogs and handbooks, internal protocols, Mayor's Orders, instructions, etc.

The guidelines are usually applicable, however, the incumbent may be required to seek guidance/direction when applying them to specific work situations/cases that may or may not be directly related to the core problems of the assignments, have gaps in specificity or not completely applicable.

Limited judgment is exercised independently when interpreting or adapting available standards and guidelines, such as agency policies, regulations, precedents, and work directions for application. The incumbent is encouraged to analyze results and recommend changes. Utilizes guidelines from supervisory staff as the basis for making procedural deviations from established administrative and/or technical methods.

COMPLEXITY

Based on work experience or training the work requires the performing various technical duties which involve different and sometimes unrelated processes and methods that are also associated with quality assurance and quality control. May be required to switch frequently from one type of responsible casework assignment to other types which may be substantially different in terms of equipment, techniques, and methods used, specific data produced, and/or uses to which the data will be put. The incumbent is given limited responsibility to execute the work or is expected to utilize/exercise discretion in selecting the most advantageous methods to accomplish the work.

Limited judgment is reserved in applying a wide range of conventional, established approaches, methods, techniques and solutions to new situations. Identifies and recommends resolution of discrepancies in data based; adjusts work methods to accommodate unusual conditions; and/or recommends or determines what data to use, record or report.

SCOPE AND EFFECT

Conducts processes and assists team members when required; prepares documentation regarding casework, materials, equipment, and instruments; identifies problems that may alter analytical results; and ensures that all documentation is in the appropriate order for laboratory and accreditation requirements. Performs work that is closely involved in almost all phases of the scientists study and has limited responsibility for selected phases or test applications of scientific and technical theories when the methods, techniques, and procedures are clearly outlined.

Work products directly affect the design and execution of experiments; the operation of systems, programs, or equipment systems; or the adequacy of such activities as long range work plans,

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field investigations, testing operations, or research conclusions. The results of the work may also affect other experts and/or the department's credibility, adequacy accuracy and effectiveness of laboratory tests.

PERSONAL CONTACTS

Contacts are with DFS employees, laboratory personnel, equipment maintenance representatives, consultants, Federal, District and accreditation regulatory agencies, and investigators; and contacts are usually established on a routine basis.

PURPOSE OF CONTACTS

Purpose of contacts is for exchanging, coordinating or resolving operational problems. Persons contacted are usually working toward a common goal and generally are reasonably cooperative. At this level, supervision will be required to deliver information, such as how data was obtained and their opinion as to the accuracy of the data.

PHYSICAL DEMANDS

Work is sedentary, however, some work requires periods of walking, standing, bending, stretching, etc. The incumbent occasionally carries items weighing up to fifty (50) pounds, such as bags and/or boxes of chemicals, portable computers, peripherals, and other similar materials. Incumbent must possess sufficient manual dexterity to manipulate and operate laboratory equipment; must be able to visually distinguish color, shape, size, number and picture resolution quality; and must be able to withstand exposure to disagreeable elements such as malodorous and/or decomposing samples/bodies, blood, bodily fluids, etc., that may pose a health risk.

WORK ENVIRONMENT

The work is performed in an office and laboratory. The office setting is when preparing documentation, and the laboratory setting is during the testing phase.

The incumbent may be exposed to hazardous materials, toxic substances, blood borne pathogens, and electric current and electrostatic discharge and is required to follow safe laboratory practices and wear protective clothing, including facial masks, safety glasses, gloves ear protection, etc.

OTHER SIGNIFICANT FACTS

Required to successfully complete competency testing prior to beginning technical work on any equipment or instrument in a specialty discipline or sub-discipline.

The nature of the work in the Forensic Science Laboratory requires safe handling and processing of chemicals and reagents within the laboratory, and standard health and safety processes must be constantly demonstrated and reinforced.

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Bachelor's degree from an accredited college or university in science; or a higher degree and/or industry certification favorably considered.

SPECIAL REQUIREMENTS

This position's duty station will be housed within the Consolidated Forensic Laboratory (CFL) which is a protection-sensitive facility. As such, incumbents of this position shall be subject to criminal background checks, background investigations, and mandatory drug and alcohol testing, as applicable. Due to the handling of primary evidence, the applicant will be required to submit a buccal swab for the purposes of the DNA Quality Control database for the DFS.

The nature of the DFS mission necessarily involves the potential risks associated with biological or chemical hazards, including morgue functions. Although contact with these functions is intended to be minimal, the risks are nevertheless possible; training to recognize, address, and mitigate these risks is required as is dealing with potentially personally difficult topics, such as crime, death and disease.