

FORENSIC SCIENTIST (DIGITAL EVIDENCE)
CS-401-11

INTRODUCTION

This position is located in 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.

MAJOR DUTIES

Analyzes digital and electronic evidence, utilizing a variety of disciplines; examines, identifies and presents conclusions of testing of electronic and computerized devices, including cellphones, computers, tablet computers, communication devices, etc.

Analyzes digital and computerized physical evidence, utilizing a variety of methods; identifies, examines, interprets, and presents conclusions of electronic, computerized, and digital testing and comparison of evidence and known reference samples. Elaborates on the collection of evidence in criminal cases, including those involving deaths, especially when homicide is suspected; evaluates risks concerning or identifying hazardous materials in the laboratory.

Performs a variety of computer forensic and electronic discovery services from digital media including digital evidence preservation, forensic analysis, data recovery, tape recovery, electronic mail extraction, and database examination. Digital media includes a wide variety of electronic data storage and transfer devices including computers, laptops, PDAs, and the images, spreadsheets and other types of files stored on these devices.

Analyzes and interprets computer-based evidence such as e-mail, accounting data, various database extracts, and other information stored on electronic devices to develop information necessary to meet the objectives of the forensic investigation.

Effectively reports findings and conducts advanced and highly specialized computer forensic analyses using established tools and techniques; recovers electronic data that has been deleted, erased, fragmented, hidden or encrypted from data storage devices; work effectively under pressure; evaluate and maintain hardware and software necessary for the performance of computer related investigations;

Conducts a wide variety of complex and difficult analyses; provides technology advisory services to other agencies and department staff to enhance forensic investigations.

Performs research to determine new and/or revise methods for performing analyses or to determine the effectiveness of current analytical methods.

Follows evidence control procedures to maintain chain-of-evidence integrity and insure evidence is locked securely in a designate location before and after analysis.

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

Utilizes computer software to analyze results of tests in order to perform calculations and keeps up-to-date on current studies, pamphlet, journals and books for use in devising methods and tests; and devises

mathematical charts, graphs, and tables as aids to conducting tests; evaluates laboratory test results in the area of concern; prepares technical reports on findings and project results.

May be required to testify in court as a witness in legal proceedings.

Performs other related duties as assigned.

KNOWLEDGE REQUIRED BY THE POSITION:

Advanced knowledge of and skill in applying theories, principles, concepts, methodology and practices of computer science, and information and communications technology sufficient to perform mathematical and analytical laboratory work; and knowledge of and ability to apply Federal, state, and local laws, codes and regulations pertaining to forensic science, and the seizure and retention of data; apply evidence collection and preservation procedures.

Knowledge of quality assurance procedures and accreditation standards; proper procedures and standard laboratory rules and safety precautions regarding chemicals, toxins and biohazards and evidence collection and preservation procedures.

Advanced knowledge and hands-on experience with forensic investigations of systems and comprehensive knowledge of equipment and supplies used in a forensic laboratory including specialized scientific equipment, instrumentation and software; recent developments, current literature and sources of information related to the assigned forensic specialty and the ability to modify analytical methods, to solve problems or respond to complex technical issues on materials subject to analysis in the specialty area.

Ability to apply theoretical and analytical principles of natural and physical sciences, including organic, inorganic, biochemistry, physical chemistry, and other applicable fields; apply operational methods and techniques of the forensic laboratory, including laboratory testing procedures.

Thorough knowledge of evidence collection, preservation and chain of custody rules/laws and knowledge of safety practices, procedures as they apply to analyses in the laboratory; and knowledge of the rules of evidence and the methods used in presenting evidence in court, and policies and procedures for maintaining and handling evidence and the chain-of-evidence integrity.

Ability to work extensively with chemicals and biohazards in a safe manner; and perform a variety of scientific tests and analyses; recognize anomalies, formulate hypotheses, and take appropriate action; prepare and maintain accurate records/data and prepare clear and concise reports and memoranda.

Ability to testify effectively in court as a key witness in legal proceedings.

Thorough knowledge of principles, theories, concepts and practices of computer science or related field; advanced skill in personal, portable, desktop digital devices, etc.; skill and ability to use a personal computer to apply forensic software applications; and prepare, store, and retrieve data and knowledge of software affiliated with crime scene data; and advanced knowledge of intrusion tools and computer forensic methodologies, protocols, and tools.

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

SUPERVISORY CONTROLS

Works under the Forensic Scientist Supervisor (Digital Evidence Analysis Unit), who provides administrative direction on new and unusual techniques, desired results, required data to obtain, change in regulatory constraints, or methods and procedures that may apply to specific cases. Also, receives technical guidance and assistance from the Lead Forensic Scientist (Digital Evidence Analyst). The incumbent independently plans and carries out individual assignments; and determines the validity of test methods and results and recommends acceptance or rejection of evidence items. Exercises independent responsibility and is held accountable for actions and findings; and consults and keeps the leader and supervisor apprised of unusual technical problems, best practices and controversial issues.

The work is reviewed for conformance to guidelines, feasibility, soundness of overall approach and the effectiveness of meeting objectives, deadlines, and expected results and adherence to requirements; and is held accountable for actions and findings.

GUIDELINES

Guidelines include policy and procedures of DFS; governing laws, regulations and protocol of the District and Federal Government, testing regulations manuals, quality assurance and accreditation standards, scientific literature, etc. Also, computer processes, digital data and equipment, precedent cases, technical references, forensic techniques and literature, catalogs and handbooks, internal protocols and instructions, etc. Available precedents outline existing approaches to more general problems or issues. These guides are normally applicable, but may require the incumbent to exercise judgment when applying them to specific work situations/cases that may or may not be covered.

Judgment is utilized when interpreting and adapting guidelines and precedents for application to assignments or problems in accordance with established policies and accepted theories.

COMPLEXITY

Work involves performing research, analyzing, testing digital evidence that require unrelated steps, processes, methods, or procedures, which include bio-chemicals, natural and physical sciences, including organic, inorganic, physical chemistry, and other applicable fields.

Determines what needs to be done by analyzing, evaluating, and selecting an appropriate course of action from several known alternatives that concern or impact the assignment. Also, identifies, interprets, analyzes, and applies a range of established approaches and solutions to tests, problems or issues or the criteria for testing parameters with new methods and equipment.

SCOPE AND EFFECT

Work efforts affect the scientific adequacy, accuracy and effectiveness of submitted evidence. Conducts scientific investigations including collecting the appropriate samples to prepare for examination/testing; and prepares documentation regarding findings and analysis that is instrumental in preparing the results of the tests; and identifies problems that may alter collected evidence; insures that all documentation is in the appropriate order for court cases and/or final discovery.

Work affects the resolution of digital evidence associated with specific cases and practices and the impact of the decision seldom extends beyond the authority of the incumbent; however, the credibility of the work can affect judicial decisions in solving specific cases.

PERSONAL CONTACTS

Contacts are with agency officials, laboratory personnel, consultants, regulatory agencies, and the general public law enforcement, and investigators.

PURPOSE OF CONTACTS

Contacts are for the purpose of exchanging and gathering information, ensuring the orderly flow of work as it pertains to maintaining the chain-of-custody of collected evidence, storage, and prepare a detailed report.

PHYSICAL DEMANDS

Work is sedentary, however, some work requires periods of walking, standing, bending, stretching etc. Also, some work requires sufficient personal agility to collect and process evidence at a variety of crime scenes. Occasionally carry items weighing up to 50 pounds, such as bags and/or boxes of evidence, small instruments or samples, 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; 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 a laboratory. The office setting is when preparing documentation and the laboratory setting is during the testing and analysis phase. The incumbent may be exposed to hazardous materials, toxic substances, and blood borne pathogens and is required to follow safe laboratory practices and wear protective clothing, including facial masks, safety glasses, gloves, etc.

OTHER SIGNIFICANT FACTS

Bachelor's degree from an accredited college or university in computer science, information and communications technology, or related field. Higher degree and/or industry certification favorably considered and two (2) years of relevant experience in Digital Evidence at the Forensic Scientist Class I or equivalent. Employees at this level are distinguished from the Forensic Scientist I by their experience in Digital Evidence, and their recognized expertise.

Applicant may be exposed to material containing explicit imagery, audio and text associated with child exploitation and abuse and/or extreme violence in the course of digital evidence analysis.

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.