

FORENSIC SCIENTIST III

JOB DESCRIPTION

Classification Responsibilities: A Forensic Scientist III performs highly specialized forensic evaluations and/or examinations in connection with the identification and comparison of physical evidence submitted to the Police Department Forensic Services in one of the following assignment areas:

Biology Unit Assignment: A Forensic Scientist III assigned to the Biology Unit, performs serological and/or deoxyribonucleic acid (DNA) analysis on items of evidence related to police investigations. Duties include: visual examination, microscopic examination and/or serological testing on a variety of evidence items to examine for the presence of blood, semen, saliva, hair, bone and other potential biological material; preparation of samples for DNA analysis, DNA extraction using manual or robotic techniques, quantitation using Real Time PCR technology, Polymerase Chain Reaction (PCR) for the amplification of DNA extracts using a variety of DNA typing kits and DNA typing using Capillary Electrophoresis. The incumbent will interpret DNA typing results to include making comparisons to known profiles, making determinations about the inclusion or exclusion of contributors and making determinations about profiles to be entered into the Combined DNA Index System (CODIS). Additionally, the incumbent will utilize statistical databases to make determinations about the frequency of occurrence of profiles developed in the laboratory. The incumbent must use significant judgment in determining tests performed and items tested. Incumbents may be responsible for responding to crime scenes for Bloodstain Pattern Interpretation or they may be requested to interpret bloodstain in the laboratory based upon photographs and evidence items collected from crime scenes. Incumbents may also design and conduct experiments related to specific case issues. This class performs related duties as required.

Controlled Substances Unit Assignment: A Forensic Scientist III in the Controlled Substances unit performs forensic examinations of physical evidence submitted to Forensic Services related to the identification of controlled substances. Duties include: performing qualitative analysis of samples on suspected drug samples including powders, liquids, plant materials, paper, and paraphernalia. Incumbents will perform macroscopic examinations, microscopic examinations, weight measurements, preliminary color tests, instrumental tests to include gas chromatography/mass spectrometry (GC/MS) and infrared spectrophotometry (FTIR/ATR), thin layer chromatography (TLC) and microcrystalline tests as well as interpret instrumental data. Incumbents will provide support for the K9 units and the field drug testing program including training of police personnel, proficiency testing, and distributing the test kits. This class performs related duties as required.

Firearms Unit Assignment: A Forensic Scientist III assigned to the firearms unit performs highly specialized forensic examinations of physical evidence submitted to the Forensic Services related to firearms and tool mark identification. Duties include: performing examinations of firearms, ammunition, ammunition components, tools, tool marks, and other firearms or tool related evidence. Incumbents may perform examinations on clothing, bedding and other surfaces for the presence of gunshot residues or powder patterns, muzzle to target distance determinations, chemical restoration of obliterated serial numbers, cartridge case ejection pattern testing and long range trajectory evaluations. Incumbents may also design and conduct experiments related to specific case issues. Incumbents are responsible for responding to crime scenes to assist with the documentation and collection of evidence,

chemical testing for trace metals, projectile trajectory determination, reconstruction and diagramming of shooting events, and providing assistance of a technical nature to investigators. Incumbents are also responsible for entering and searching data in the National Integrated Ballistics Information Network (NIBIN). This class performs related duties as required.

Toxicology Unit Assignment: A Forensic Scientist III in the Toxicology unit performs forensic examinations of blood and urine related to police investigations. Duties include: blood volatile analysis using headspace gas chromatography; enzyme-linked immunosorbent assay (ELISA) screening of blood and urine for drugs of abuse; confirmations of drugs of abuse from blood and urine utilizing gas chromatography mass spectrometry (GC/MS), gas chromatography tandem mass spectrometry (GC/MSMSMS), liquid chromatography tandem mass spectrometry (LC/MSMSMS), sample preparation using solid phase extraction (SPE) and associated equipment (positive pressure manifolds and sample concentrators), Liquid/Liquid extractions, pipetting and centrifuges; documentation of quality assurance and controls, maintenance logs, results entered into a Laboratory information management system (LIMS); and may be involved in training of new analysts (Forensic Scientist I) and validation of appropriate new methods. This class also performs related duties as required.

Common duties: A Forensic Scientist III operates, maintains, programs, and interprets data from highly technical and/or computerized instrumentation such as an automated blood alcohol analysis system, a gas chromatograph/mass spectrometer, or DNA-related equipment, depending on assignment. Further responsibilities include: preparing and conducting officer training; assisting with the development and monitoring of a quality assurance program; conducting field investigations at crime scenes; troubleshooting; maintenance and validation of instrumentation; method development and validation; consulting and coordinating with experts, police officers, and attorneys; writing technical, scientific reports; and providing expert testimony in court. This class is responsible for performing related duties as required.

Distinguishing Features: Forensic Scientist III is a professional class in the Forensic Scientist series which involves work in specialized areas of forensic science such as arson, drug identification, toxicology, blood alcohol, breath alcohol, serology, DNA testing, trace evidence analyses, and/or firearm, tool mark, and impression examination. This position is the highest level in the Forensic Scientist series and may be responsible for the technical work direction and training of subordinate Forensic Scientists in all operations and in evidence processing. An employee in this class provides guidance, training, and technical assistance to less experienced personnel. Incumbents in this class have progressed by non-competitive promotion through successful completion of all stipulated requirements in the criteria-based promotion plan, or meet the education and experience requirements prior to being hired by the City of Mesa Police Department. An employee in this class may conduct field investigations at crime scenes to search for, collect, and preserve evidence for laboratory analysis; and reconstruct situations and physical evidence of a crime in the demonstration of proof of the connection of persons, instruments, or materials with the crime. Supervision is received from a Forensic Scientist Supervisor and work is reviewed through meetings, reports, and results achieved. All work is performed in accordance with established departmental policies and procedures, federal/state guidelines, and accreditation standards. This position involves working with chemicals and other hazardous materials. This class is FLSA exempt-professional.

QUALIFICATIONS

Employee Values: All employees of the City of Mesa are expected to uphold and exhibit the City's shared employee values of Knowledge, Respect, and Integrity.

Minimum Qualifications Required. Graduation from an accredited college or university with a Bachelor's or advanced degree in Biology/Biochemistry, Chemistry, Forensic Science, or closely related natural science. At least seven years' experience as a Forensic Scientist or equivalent in a recognized laboratory actively engaged in the forensic sciences; experience testifying in court as an expert witness; and state-of-the-art expertise in a specialized area of forensic science as described in the Distinguishing Features section, **OR** successful completion of all requirements stipulated in the criteria-based promotion plan for this classification. In addition, the following disciplines have specific minimum educational requirements: **Blood Alcohol:** 24 credit hours of college coursework in chemistry completed successfully. **Controlled Substances:** 20 credit hours of college coursework in chemistry completed successfully. **DNA:** A minimum of three courses (biochemistry, genetics, and molecular biology) totaling at least nine credit hours of college coursework completed successfully. **Toxicology:** 24 credit hours of college coursework in chemistry completed successfully.

Special Requirements. Because of the confidential, sensitive nature of information handled, successful completion of a background investigation and polygraph examination is required. Must possess a valid Arizona Driver's License by hire date.

Substance Abuse Testing. Due to the safety and/or security sensitive nature of this classification, individuals shall be subject to pre-employment or pre-placement alcohol, drug and/or controlled substance testing as outlined in City policy and procedures.

Preferred/Desirable Qualifications. Experience as a Criminalist/Forensic Scientist in an American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) accredited laboratory actively engaged in the forensic sciences. **Firearms Assignment:** 20 credit hours of college coursework in chemistry completed successfully, experience with firearms examination, membership in the Association of Firearm and Toolmark Examiners in good standing, and completion of the National Firearms Examiner Academy.

ESSENTIAL FUNCTIONS

Communication: Communicates with the general public, other City employees, management, public officials, sworn officers, attorneys, officers of the court, and vendors. Communicates with other experts in the field to exchange information on all types of forensic methodologies. Consults and coordinates with other forensic scientists, forensic latent print examiners, police officers, attorneys, private experts, and others regarding the analysis, comparison, and identification of physical evidence. Instructs and trains law enforcement officers in a classroom setting regarding the collection of evidence and forensic science methodologies. Prepares written scientific examination reports with clearly organized thoughts using scientific nomenclature, proper sentence structure, punctuation, and grammar in order to represent laboratory results. Assists the Forensic Scientist Supervisor with instruction and training of laboratory personnel, quality assurance implementation and monitoring, case review, laboratory safety, and expediting day-to-day workflow within the unit.

Manual/Physical: Inspects and evaluates equipment, objects, information, and work-related conditions to determine compliance with prescribed operating and safety standards, regulations, and guidelines including manufacturer's specifications on computerized scientific equipment and national laboratory accreditation standards. Distinguishes colors to determine results of drug test/analyses and/or chemical tests. Uses common hand tools such as a screwdriver and various instrument maintenance tools to maintain, set up, and clean the laboratory instruments. Installs and replaces computer software and scientific instrument parts to maintain and update laboratory equipment. Enters data or information into a personal or laboratory computer in order to complete and analyze scientific examinations. Operates a motor vehicle requiring a standard Arizona Driver's License to respond to crime scenes, attend meetings, and provide court testimony. Prepares graphs, charts, and/or diagrams to perform scientific examinations. Works with chemicals using specialized, non-routine, protective equipment to perform laboratory analyses.

Mental: Conducts research and analyzes data to perform scientific examinations. Develops laboratory analytical procedures. Performs mathematical and statistical computations in order to complete scientific examinations. Interprets graphs, charts, and mathematical formulas to check scientific reports. Comprehends and makes inferences from written material such as laboratory reports, scientific journals/literature, and testimony transcripts to maintain current expertise in the forensic field. Prioritizes own casework. Learns job-related material through on-the-job training and in a classroom setting regarding updated and new forensic laboratory techniques.

Knowledge/Skill/Abilities:

Knowledge of:

ASCLD/LAB accreditation standards;
Occupational Safety and Health Administration (OSHA) safety requirements;
Material Safety Data Sheets (MSDS);
applicable Arizona State Revised Statutes;
applicable scientific technical working groups requirements (for discipline/unit assigned);
applicable professional organizations (for discipline/unit assigned);
the principles, methods, materials, equipment, and techniques of forensic science;
the principles of chemistry, physics, biology/biochemistry, and mathematics/statistics as related to forensic science;
crime scene procedures;
recent developments, current literature, and sources of information in the forensic science field;
state and federal statutes and case law covering contraband, drugs, and the use of physical evidence in court; and
the rules of criminal procedures concerning time limits, discovery, evidence, and expert witnesses.

Skill in the use of specialized forensic laboratory equipment and in demonstrating tests and examinations to others.

Ability to:

carefully follow verbal and written instructions;
secure the cooperation of others in difficult work situations;
withstand intense examination in court as an expert on the laboratory analysis evidence;
make accurate observations and records of test results;
assist other laboratory personnel with the analysis of critical evidence and interpretation of results;
supervise a unit of the laboratory in the absence of the unit's Forensic Scientist Supervisor; and
establish and maintain effective working relationships with department personnel and outside agencies.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included does not exclude them from the position if the work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the City as the needs of the City and requirements of the job change.

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INCREMENTS 43-200

PAY GRADE: 55

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