DEFINITION OF CLASS:
This is the highest level of non-supervisory lead level professional work in the field of forensic science, leading the Forensic Biology Unit, Forensic Chemistry Unit, or the Forensic Firearms Examination Unit of the Montgomery County Crime Laboratory through daily technical and administrative oversight of unit work in coordination with the Laboratory Supervisor. Personal contacts include coworkers, discipline specific (forensic) work groups and/or scientific workgroups, a wide range of persons at various levels in the criminal justice system and the medical community (including nurses and doctors) and others to quality assure technical work and custody of evidence within the unit, to personally perform casework to establish a fact-pattern, to analyze and report on evidence, to advise others on crucial basics so they can preserve potential evidence at crime scenes, make informed analytical requests, etc. The incumbent exchanges information with, and provides unbiased technical advice to, sworn law enforcement officers, prosecutors and defense attorneys, and testifies in court regarding the scientific interpretation of evidence in trace amounts, which can be controversial and highly important to the prosecution and/or the defense. While this class of work involves an employee talking with citizens groups, teachers and students about the field of forensic science, such presentations occur occasionally and are incidental to the primary purpose of the job.

An employee in this class receives, screens, prioritizes, assigns, monitors and reviews (quality assures) all cases for the Forensic Biology Unit, Forensic Chemistry Unit, or Forensic Firearms Examination Unit of the Montgomery County Police Department (MCPD) Crime Laboratory, and personally performs forensic casework as a full performance level laboratory scientist. As technical leader and quality manager of the unit, stays abreast of and evaluates advances in technology (techniques and equipment), documents procedures, establishes standards, trains subordinates, reviews their work, makes grant applications or requests for funding, and performs related functions. As a full performance level forensic scientist, conducts biological or chemical or comparison tests, writes reports and testifies in court as an expert witness regarding forensic analysis of evidence, such as physiological fluids (blood, semen and saliva), hairs, fibers, paints, harmful inhalants and controlled dangerous drugs (CDS) and other substances and firearms related evidence. Work is performed under general direction of the Laboratory Supervisor who assigns work in terms of functional responsibilities, available resources and ongoing requirements for quality, quantity, timeliness and other factors. The employee is responsible for planning and carrying out unit technical leadership and quality assurance independently, resolving most of the daily problems that arise, coordinating work with others as necessary, and seeking supervisory assistance with vexing technical or administrative problems or conflicts. The employee has full technical responsibility for personal technical work and unit technical leadership. Personal technical work is evaluated only from an overall standpoint in terms of effectiveness in meeting laboratory objectives and standards. An employee in this class has definitive guidelines to follow (including but not limited to State and Federal regulations, standards and rules of evidence, Montgomery County Police Department directives and procedures, County Crime Laboratory standards and procedures, Forensic Biology Unit standards and procedures,
forensic biology principles, methods and techniques, and County procedures that govern the leadership of employees). However, mature judgment is applied in evaluating new techniques, equipment and procedures for improving unit operations and adherence to accreditation standards, in interfacing with prosecutors, defense attorneys and others on high-stakes issues, in leading subordinates in their work, and in personally analyzing the evidence gathered in a case, determining the number and types of tests to conduct, and interpreting and explaining the results of tests. The complexity of this class of work is marked by continuing leadership of subordinates in their work, evaluation and implementation of improved analytical techniques or equipment for use in the unit, diversity of substances the employee examines, the actual conduct of numerous types of analyses and tests to produce optimum results for identification or enhancement, and the presentation of findings which will stand up in a court of law according to Maryland Rules of Evidence and the licensing requirements set forth by Forensic Laboratory Unit of the Maryland Department of Health, Office of Health Care Quality. Often the work requires analysis based on either incomplete or conflicting information. Unit leadership (in the form of quality assurance, forensic analyses performed by subordinates or the incumbent, etc.) has an important impact on meeting accreditation standards, on police investigations or arrests, and on the results of criminal trials (through analysis and testimony). Stands or stays in one place for prolonged periods and bends while performing analyses. Lifts and carries objects weighing twenty (20) to fifty (50) pounds. Performs work in an office setting and a crime laboratory with regular exposure to toxic substances, carcinogens, biohazards (including human blood and needles used by drug users), corrosives and/or sharp instruments. Uses face shield, gloves, lab coat, and special ventilation and adhere to safety procedures.

EXAMPLES OF DUTIES: (Illustrative Only)

- Leads unit personnel in the performance of work by giving assignments and instructions to them and checking their work, ensuring that work processes and safety rules are strictly observed and otherwise providing lead level supervision.
- Receives, screens, prioritizes, assigns, and monitors analytical work on and quality reviews all completed Forensic Biology Unit or Forensic Chemistry Unit casework, as pertinent to the position of assignment.
- Contacts investigators about the examinations requested; determines the order and types of examination required to maximize evidentiary value for each item and case; and, reprioritizes and reassigns cases as necessary.
- Trains or ensures the training of new unit personnel, including competency testing, proficiency testing, annual training and mock court testimony. Helps screen applications of candidates for crime laboratory positions and serves on interview boards.
- Monitors adherence to, and improvement of, the unit quality control system (including laboratory safety). Stays abreast of, and evaluates, new techniques, procedures and equipment for possible application in the unit. Recommends adoption of new techniques or procedures or procurement of new equipment based on evaluation and consideration of cost-benefit. Upon approval of the Laboratory Supervisor of higher echelon, implements and documents changes and trains or ensures training of personnel in the unit.
- Maintains all requirements to ensure accreditation standards are attained and maintained, including documentation of remediation or any deficiencies and improvements.
- Develops and/or enforces unit protocols for the receipt, storage, release and destruction of evidence.
- May request funding or make the technical justification for a grant in coordination with MCPD’s grants manager. Prepares grant reports to grantor, including such requisite information as performance metrics.
- Examines physical evidence submitted by MCPD or other supported law enforcement agencies using chemical, microscopic and instrumental methods to identify biological substances and compare them to known sources using DNA analysis, or to use chemical, microscopic, and instrumental methods to identify CDS, and/or other chemical compounds or to examine firearms related evidence.
- Performs or assures routine calibrations of instruments to ensure reliability in daily use; cleans and maintains laboratory equipment, instruments, and glassware.
- Prepares solutions and reagents necessary to conduct analyses.
- Evaluates data, prepares and technically reviews (peer reviews) reports and charts of completed laboratory analyses.
- Prepares reagents for drug field test kits, for fingerprint processing and blood enhancement used by the Forensic Services Section, and prepares actual and pseudo drug samples for training canines in drug detection – Forensic Chemistry Unit.
- Confers with, and advises, the State’s Attorney on forensic aspects of cases, and preparation of testimony concerning analysis of biological material (DNA), trace evidence, CDS and/or firearms related evidence.
- Testifies in court as an expert witness in one’s area(s) of expertise, including unit procedures as well as one’s own casework. Testifies in Daubert/Frye hearings as needed.
- Instructs police officers, sexual assault forensic examiners and personnel in the judicial system or the medical community on proper collection, preservation, and submission of physical evidence (Forensic Biology Unit).
- Maintains records and files regarding casework and complies with court-mandated discovery requests.
- Accounts for receipt, storage, release and destruction of evidence; maintains a strict chain of custody of evidence submitted.
- Attends meetings, symposia and workshops to keep up with mandatory continuing education requirements.
- Adheres to all required laboratory standards with regard to unit of assignment and/or laboratory accreditation requirements.
- Enters casework profiles and conducts database searches on these profiles using the local CODIS (Combined DNA Index System) – Forensic Biology Unit or NIBIN for Firearms Examination Unit.
- Conducts tours for dignitaries, students and the general public about the role of forensic science and the Crime Laboratory.
- Performs related duties as required.

KNOWLEDGE, SKILLS AND ABILITIES:
- Comprehensive knowledge of the principles, methods and techniques of forensic biology or forensic chemistry or firearms examination unit, consistent with the position of assignment, to develop and enforce quality control measures for, and quality assure the work of the laboratory unit led.
- Knowledge of the Maryland State Rules of Evidence and licensing requirements of the Forensic Laboratories Unit of the Maryland Department of Health, Office of Health Care Quality as they apply to providing expert testimony about the analysis of bodily fluids, drugs and other substances, and firearms related evidence and recognition by one or more courts of law as an expert witness in the employee’s area of forensic expertise, as well as skill in developing and enforcing laboratory protocols for the receipt, storage, release and destruction of evidence. This includes knowledge of and skill in preserving items of possible evidentiary value, of the procedures for chain of custody
and how it relates to the integrity of evidence, of State and Federal regulations regarding the storage and destruction of CDS, biohazard material, and other substances and firearms related evidence, and knowledge of quality control, quality assurance and laboratory hazards, and skill in overseeing quality and leading others in working safely.

- Skill in problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. Examples include skill in performing forensic tests, in conducting quantitative and statistical analyses to collect and analyze statistical information and prepare technical reports, graphs and charts to reflect test results, in using reference materials to establish laboratory guidelines that are consistent with technical and legal requirements, and in using and caring for laboratory equipment and evidence.
- Skill in leading the work of others in the field(s) of the unit of assignment.
- Skill in written communication to understand written information (including facts, assertions and ideas), and to express information in writing so that others will understand and, at times, be convinced or persuaded. This includes but is not limited to skill in reading incoming biology case work, in staying abreast of accreditation requirements and the latest in forensic techniques, equipment and custody requirements through literature reviews and other means, in documenting validation studies, and in writing grant applications/reports etc.
- Skill in verbal communication to understand verbal information (including facts, assertions and ideas) and to express such information verbally so that others will understand and in some cases be convinced or persuaded. Examples include technical information exchange with forensic scientists and technicians, expert technical testimony in court, and technical and non-technical information exchange with persons at various levels in the criminal justice system, the medical community (including nurses and doctors) and others to establish a fact-pattern, analyze and report on evidence and advise others on crucial basics so they can preserve evidence and make informed analytical requests.
- Skill in encouraging effective verbal communication by others, such as subordinates regarding casework and police officers regarding forensic information for investigations, is included.
- Interpersonal skills to interact effectively with business contacts in customer service-oriented, businesslike manner. This includes ability to deal courteously, tactfully and effectively with all types and levels of contacts, including contacts during high-pressure situations.
- Skill in using a computer for planning, scheduling, communicating (email), word processing, presentations, spreadsheets and other applications.
- Ability to pass a police background investigation.

MINIMUM QUALIFICATIONS:
Experience: Five (5) years of professional experience in a laboratory actively engaged in the forensic sciences, with particular area of forensic science expertise linked to the position vacancy – Senior/Lead Forensic Scientist (Biology Unit), Senior/Lead Forensic Scientist (Chemistry Unit), or Senior/Lead Forensic Scientist (Firearms Examination Unit). Specific Federal- or State-mandated experience requirements shall apply.
Education: Graduation from an accredited college or university with a Bachelor’s Degree in a natural, physical or forensic science for the Chemistry and Firearms Examination Unit, plus a Masters Degree as required by applicable laboratory accreditation standards for the Biology unit. Specific Federal- or State-mandated educational requirements shall apply.
Equivalency: An equivalent combination of education and experience may be substituted if and exactly as permitted by the applicable Federal or State mandate.
LICENSE:

- Possession and maintenance at all times of a valid Class "C" (or equivalent) driver’s license from the applicant's state of residence when required for job-related duties.
- Certification by the Maryland State Department of Health and Mental Hygiene as required for the position of assignment such as Certification as a Chemist for Chemistry division/section.
- Certification by the ASCLAD/LAB, as required for the position of assignment.
- Certification as required by any other Federal or State mandate, as required for the position of assignment.

Note: There will be no substitutions for this section.

PROBATIONARY PERIOD:
Individuals appointed or promoted to this class will be required to serve a probationary period of six (6) months, during which time performance will be carefully evaluated. Continuation in this class will be contingent upon successful completion of the probationary period.

MEDICAL EXAM PROTOCOL: Core II Exam with a Drug/Alcohol Screen.

Class Established: November, 2010
Revised: August, 2013
October, 2014
(Included Senior Forensic Scientist - Firearms Examination Unit) August, 2021