DEFINITION OF CLASS:
This is professional work in the field of forensic science. Personal contacts include co-workers, a wide range of persons at various levels in the criminal justice system, nurses, doctors and others to establish a fact-pattern, to analyze and report on evidence, to advise others on crucial basics so they can preserve evidence, and to make informed analytical requests, etc. Exchanges of information with and unbiased technical advice to police, prosecutors and defense attorneys and testimony in court that involves interpretation of evidence in trace amounts can be controversial and highly important to the prosecution and/or 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 is responsible for conducting chemical and/or biological tests, writing reports, and testifying in courts 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 and other substances. Work is performed under general direction and the employee is responsible for planning and carrying out assignments independently, for resolving most of the conflicts that arise, and for coordinating work with others as necessary. Employee has full technical responsibility for the work and completed 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 (e.g., State and Federal regulations, current methods and practices used in forensic analysis, judicial criteria of admissibility, and Police Department directives); however, judgment is applied in analyzing the evidence and information gathered on 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 the continuous introduction of new and improved analytical techniques, diversity of substances which an employee examines, conduct of numerous types of analyses and tests to produce optimum results for identification or enhancement, and presentation of findings which will stand up in a court of law according to Maryland Rules of Evidence. Often the work requires analysis based on either incomplete or conflicting information. Forensic analysis conducted by an employee of this classification has an impact on police investigations or arrests; the employee's court testimony often has a major role in determining the results of criminal trials. Daily work involves long periods of standing and bending while performing analyses, as well as lifting and carrying of objects weighing twenty (20) to fifty (50) pounds. Work is performed in an office setting and a crime laboratory where the employee works with regular exposure to toxic substances, carcinogens, biohazards (including human blood and needles used by drug users), corrosives and sharp instruments. Goggles, gloves, lab coats, special ventilation and safety procedures are used.

EXAMPLES OF DUTIES: (Illustrative Only)
- Utilizes chemical and microscopic techniques and instrumentation to examine, identify and evaluate physical evidence related to law enforcement investigation which involves physiological fluids,
hairs, fibers, paints, harmful inhalants, controlled dangerous substances (CDS), and/or other drugs, and fire debris evidence to determine accelerants in suspected arson cases.

- Maintains a well-documented quality assurance and proficiency testing program of all analyses utilizing known reference standards for the purpose of standardizing equipment and for use as a control in analyses.
- Performs 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.
- 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 fire debris evidence.
- Testifies in court as an expert witness.
- Instructs police officers, sexual assault forensic examiners and members of the judicial system on proper collection, preservation, and submission of physical evidence.
- 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.
- Maintains all required laboratory standards with regard to section of assignment and/or laboratory accreditation requirements.
- 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.
- Enters casework profiles and conducts local searches on these profiles using the local CODIS (Combined DNA Index System).
- Participates in external proficiency testing programs.
- Helps ensure that quality assurance and laboratory safety programs are properly administered.
- Helps manage the technical operations of the laboratory and evaluates methods used in the section of assignment, while proposing new and/or modified analytical procedures to be used by examiners.
- Helps determine specifications and obtain price quotes for capital equipment.
- Conducts lectures to students and the general public about the role of forensic science and the crime laboratory.
- Helps screen applications of candidates for crime laboratory positions and serves on interview boards; helps train new employees.
- Performs related duties as required.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Thorough knowledge of the principles, methods and techniques of biology and analytical chemistry, consistent with the position of assignment, as applied to identification and comparison of evidence.
- Knowledge of the Maryland State Rules of Evidence as they apply to providing expert testimony about the analysis of drugs and other substances, and recognition by one or more courts of law as an expert witness in the employee's area of forensic expertise.
- Knowledge of State/Federal regulations and laws regarding the storage and destruction of CDS,
biohazard material, and other substances.

- Knowledge of and skill in preserving items of possible evidentiary value.
- Knowledge of the laboratory hazards and skill in working safely, as appropriate to the position of assignment. This includes skill in handling and disposing of hazardous substances and waste.
- Knowledge of quality assurance and quality control
- Knowledge of standard operating procedures on chain of custody and how it relates to the integrity of the evidence.
- Skill in quantitative analysis and statistics to collect and analyze statistical information and prepare technical reports, graphs and charts to reflect test results.
- Skill in verbal communication to exchange technical and non-technical information with co-workers, a wide range of persons at various levels in the criminal justice system, nurses, doctors and others to establish a fact-pattern, analyze and report on evidence, advise others on crucial basics so they can preserve evidence and make informed analytical requests, and to persuasively testify in court as an expert witness concerning same.
- Skill in the use and care of laboratory equipment and instruments.
- Ability to pass a police background investigation.

MINIMUM QUALIFICATIONS:
Experience: Three (3) years of professional experience in a laboratory actively engaged in the forensic sciences. Particular area of forensic science expertise work to be determined at time of position vacancy.

Education: Graduation from an accredited college or university with a Bachelor's Degree in a natural, physical or forensic science. Candidates for forensic biology (DNA) must have coursework in biochemistry, genetics, molecular biology and statistics or population genetics. Candidates for forensic chemistry must have coursework in organic chemistry and instrumental analysis.

Equivalency: An equivalent combination of education and experience may be substituted.

Physical Ability: Ability to stand and bend for long periods of time on a daily basis.

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 Department of Health and Mental Hygiene to analyze CDS, as required by 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.