

**MONTGOMERY COUNTY GOVERNMENT
ROCKVILLE, MARYLAND
CLASS SPECIFICATION**

**Code No. 003518
Grade 24**

FORENSIC FIREARMS/TOOLMARK EXAMINER

DEFINITION OF CLASS:

This is professional and technical work applying forensic science in the examination of firearms, toolmarks, and fracture identification associated with routine and complicated police investigations involving firearms and ballistic evidence. Personal contacts include investigative officers to give and receive information; State's Attorneys, to discuss "expert" court testimony concerning the analysis of firearms and ballistics evidence; forensic service personnel, regarding matters related to the collection and processing of evidence; and State and Federal law enforcement representatives to articulate concepts, discuss technical information, and resolve problems. Performance of the work of the class involves limited public service and assistance to the public.

An employee in this class conducts examinations, which include the following: microscopic comparisons of evidence and known specimens for the purpose of identification; microscopic and chemical processing of evidence for the presence of gunpowder and lead residues; shot pattern testing; testing firearms for proper function and safety; and restoration of obliterated serial numbers. The employee is responsible for planning and carrying out assignments, resolving most conflicts which arise, and coordinating work with others as necessary. The employee has full technical responsibility for the work. Due to the sensitive legal nature of the work, the employee is required to apply complex technical procedures to make critical and absolutely accurate identifications. This requires analysis where the meaning, significance, or interrelationships among situations, conditions and /or facts may not be clear, and must be identified through some systematic analytical procedure, such as assembling and categorizing information, examining the information to ascertain its significance or meaning, and taking appropriate action. Guidelines and procedures for performing the work have been established and are available. The employee uses judgment in selecting and applying the appropriate guidelines. It is important to note that these guidelines and procedures must be rigorously adhered to in order that evidence be considered by the court to have been obtained in accordance with acceptable standards. The impact of properly performed work is significant, for the evidence detected, collected, tested, and secured as part of a continuous chain of custody, is often a key factor in a successful criminal prosecution. Performance of the work of the class involves occasional exposure to elevated noise levels resulting from the discharging of firearms, exposure to lead and residues from blood and body fluids on bullets and firearms. The work requires strict observance of safety precautions and procedures in utilizing chemicals to perform various forensic analyses applicable to firearms and toolmark examinations, and in the handling and firing of firearms. Safety equipment includes protective gloves, goggles, and ear protectors. Performance of the work involves occasional long periods of standing while conducting examinations at laboratory counters, and the lifting and carrying of weapons and ammunition boxes weighing up to fifty pounds.

EXAMPLES OF DUTIES: (Illustrative Only)

- Conducts forensic examination of recovered bullets, cartridges, and shell casings in order to identify, classify, and type firearms and ammunition of evidentiary value.
- Prepares comprehensive investigative reports of findings that are used in the apprehension, indictment, prosecution, or exoneration of suspects; and maintains documentation records of analyses conducted.
- Test fires suspect weapons in order to determine malfunctions and peculiarities, and to obtain test bullets and cartridge casings for comparative examination.
- Photographs firearms and related evidence for documentation.
- Performs National Integrated Ballistic Information System (NIBIN) data entry, and analyzes system data.
- Conducts forensic examination to determine muzzle proximity from a given object by chemical testing (i.e., Griess and Sodium Rhodizonate tests) and infrared imaging; and tests shot dispersion patterns.
- Testifies in court as an expert witness.
- Coordinates the examination of firearms evidence with other units in the crime laboratory in order to ensure that all essential tests are performed.
- Performs chemical/electrolytic etching process for serial number restoration.
- Provides training to other employees in ballistic examination methods and techniques.
- Performs related duties as required.

KNOWLEDGE, SKILLS AND ABILITIES:

- Knowledge of modern theories and methods of firearms classification and identification.
- Knowledge of different firearms and ammunition, and those currently available on the market.
- Skill in the safe use and handling of firearms and ammunition.
- Skill in performing standard ballistics tests, and in measuring and recording general rifling characteristics of bullets and bullet fragments.
- Skill in operating specialized equipment such as micrometers and stereo microscopes.
- Ability to utilize photographic equipment and techniques applicable to firearm, toolmark, and fracture identification, and in preparing clear and accurate photographic records of the condition of evidence prior to and following laboratory analysis.
- Ability to employ chemical testing for forensic analyses (i.e., Griess and Sodium Rhodizonate testing, infrared imaging, and chemical/electrolytic/etching processes).
- Ability to apply County, State, and Federal laws and court decisions regarding preservation and storage of, and maintaining the chain of custody for, evidence items and materials.
- Ability to examine and analyze data and evidence, and to reach accurate conclusions.
- Ability to prepare clear and concise reports of findings.
- Ability to provide expert testimony in sensitive court cases with the expectation of extensive and intensive cross-examination; and to prepare charts and exhibits in support of testimony.
- Ability to prepare and present lectures and/or demonstrations on firearms and ballistics analysis, as well as firearms theory, tool marks, and bullet fracture identification for Police personnel, and for public and private organizations.
- Ability to provide training to Police Officers and other Department staff on firearms and ballistics analysis methods and techniques.
- Ability to establish and maintain effective working relationships with co-workers, attorneys, court personnel, and other firearms/toolmark examiners.

- Ability to conduct business, attend meetings, or perform other assignments at multiple locations.

MINIMUM QUALIFICATIONS:

Experience: Two (2) years of full-time professional experience conducting examinations of firearms, bullets, and related evidence as a firearms examiner Court-qualified as an expert witness.

Education: Possession of a Bachelor's degree in Criminal Justice, Criminology, Biology, Biochemistry, Chemistry, Physics, or a related field from an accredited college or university.

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

LICENSE:

- Possession and maintenance at all times of a valid Class "C" (or equivalent) driver's license from the applicant's state of residence.

PROBATIONARY PERIOD:

Employees 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: December 2004

Revised: August 2011

August 2013