

### Class Concept

Positions serve as technical experts in lower-tier postmortem forensic toxicology laboratory testing. Positions develop and perform a variety of complex and advanced laboratory diagnostic work to identify the presence or extent of toxicity of drugs, environmental toxins, or synthetic toxic substances which may directly or indirectly cause death. Positions provide professional, diagnostic, and technical direction for laboratory assay method development, implementation, quality assurance, technical training, problem assessment, and routine maintenance of cutting-edge forensic toxicology techniques in a postmortem toxicology laboratory. Assays are often considered "laboratory developed tests" (LDTs) requiring advanced training and experience in method development and are more complex than other assays performed using commercially available and/or Food and Drug Administration cleared kits.

Positions work independently to perform technical reviews and certifications of Tier I, Tier II and select Tier III final reports on volatiles, color tests, carbon monoxide, and select drug toxicology (fentanyl and stimulants). In formulating results and relating these chemical analyses to the cause and manner of death, positions exhibit an in-depth understanding of biological sciences to include biochemistry, toxicology, anatomy, and physiology as well as fundamental concepts of pharmacy, medicine, and law. Positions must be able to integrate applications of theoretical chemistry into work decisions and must apply toxicological findings within the broad field of public health. Positions must understand drug interactions, disease etiology, characteristics and nature of an extensive variety of synthetic and naturally occurring toxic substances, methods of medicolegal investigation, and concepts of forensic science. Positions may develop procedures and methods for new drugs or poisons and assist in the quality assurance program.

Work in this class includes training, technical assistance, and consultation regarding laboratory activities. Positions train and advise agents and other law enforcement officers. Work includes testifying in court or at hearings as a technical expert, conducting consultations and participating in pretrial conferences with prosecutors and defense attorneys, in addition to providing guidance to stakeholders on the testing and preservation of postmortem biological specimens. Positions may lead Chemists and other laboratory staff in daily operations and projects.

### Recruitment Standards

#### Knowledge, Skills, and Abilities

- Intermediate knowledge of theoretical principles of analytical chemistry, physiology and pharmacology, biological science, drug interaction, toxicogenomics, biochemistry, toxicology, anatomy as well as the fundamental concepts of pharmacy, medicine, and law
- Intermediate knowledge of laboratory protocol, procedure, and techniques associated with medicolegal investigative principles for operations of analytical instrumentation
- Ability to interpret and apply analytical results on causes and manner of death according to professional standards and ethical practices
- Ability to maintain professional working relationships with forensic staff, law enforcement authorities, physicians, and attorneys in North Carolina
- Ability to express technical information clearly both orally and in writing when reporting results, testifying, or explaining procedures to others

#### Minimum Education and Experience

Doctorate degree in toxicology, biochemistry, chemistry, or pharmacology with one year of experience in forensic toxicology or in a clinical chemistry laboratory; or

Master's degree in toxicology, biochemistry, chemistry, or pharmacology with at least three years of experience in forensic toxicology or in a clinical chemistry laboratory; or

Bachelor's degree in toxicology, biochemistry, chemistry, or pharmacology chemistry with five years of experience in forensic toxicology, a medical examiner system, or in a clinical chemistry laboratory; or an equivalent combination of education and experience.