



**CITY OF PHILADELPHIA  
MEDICAL EXAMINER'S OFFICE  
TOXICOLOGY LABORATORY**

**General Information for Potential Interns**

The Toxicology Laboratory at the Philadelphia Medical Examiner's Office uses state-of-the-art instrumentation to analyze blood and body fluids for drugs and the occasional poison. The type of cases that this lab gets are non-natural deaths within the city limits, natural deaths where the primary care physician is unwilling to sign the death certificate, and all deaths where the decedent or next-of-kin are unknown. The type and amount of testing done depends on the sample volume, state of decomposition, and cause/manner of death. This lab is not in any way connected with the Philadelphia Police crime scene unit or crime lab. We do not perform any DNA testing, ballistics, or hair/fiber analysis, nor do toxicologists go to death scenes. We occasionally will go into the morgue while autopsies are being performed, and interns in our lab are usually able to spend one day watching the pathologists perform autopsies. There are no opportunities for toxicology lab interns to go to death scenes or to spend any time in the investigative unit. Only two interns are accepted each semester, and the lab does not take two interns from the same college in the same semester.

In order to get the most out of an internship experience, interns should have at least 18 hours each week to spend in the lab. This time must be blocked together (ie, not spending 2 hours here in the morning, then leaving for classes and coming back for 4 hours in the afternoon) and should be between the hours of 8am and 3pm. We do not work on weekends or at nights. The amount of time that an intern spends in the lab dictates the approach to the internship. All internships begin with an orientation to the lab and overview of our safety procedures, including biohazard precautions. The student is then shown all of the analyses that are done on our samples, from wet chemical methods and GC to GC-MS. Interested students may also spend time with the toxicologist learning how case assignments are made and how toxicology reports are finalized. Time permitting, the student may be given a special project that allows them to get hands-on experience with extraction and instrumentation in the lab. The types of projects given to interns include extraction of drug(s) from a unique matrix, a new way to analyze or extract drug(s), or another project that we would like done but don't have time to do ourselves. Some of the projects done by interns were extraction of drugs from maggots, method development for benzodiazepine analysis, use of  $\beta$ -phenethylamine as a marker for asphyxia, and postmortem production of cocaethylene in liver. If the toxicologist is called to court to testify on a case during the student's internship, the intern may accompany the toxicologist to court as well.

Potential interns are students in their junior or senior semesters who have taken organic chemistry, analytical chemistry, and biochemistry classes. Before any internship can begin, the college and City must finalize a legally binding contract that is a sort of insurance agreement. This process can take up to a year, and interns should be aware of this time constraint. Students whose schools have an internship contract in place may

apply for internships at the beginning of the semester immediately preceding the requested internship semester; students whose schools do not have agreements in place should apply no later than 2 semesters before the requested internship semester. If you are unsure of whether your school has an internship agreement in place, contact your academic advisor or department chair.

When applying to be considered for an internship, the student should provide an unofficial transcript (include undergrad transcript if currently in grad school), cover letter, and resume. A letter of recommendation from the academic advisor or department chairperson should be sent directly from the professor to us as well. Students at schools without current internship contracts must provide the lab with the contact information for the person to whom the internship contract should be sent—commonly the academic advisor or department chair. Only if all application criteria are met before the deadline will an official application be sent to the student. Please note that we get many applications for summer internships and it is incumbent on the student to follow up with us for their specific application. This is especially true for students whose schools do not have an internship agreement, as these contracts go through our Law department and are a lower priority than most other legal matters.

For students who are interested in the lab but either do not qualify for or cannot fit a full internship into their schedule, the opportunity to shadow in the lab for a day is also available. Contact the laboratory supervisor for more information:

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