



ARKANAS STATE CRIME LABORATORY



Summer Internship Undergraduate Program

Qualifications:

Science majors interested in pursuing a career in forensic science.

Duration:

6 weeks early-July to mid-August
(specific dates vary)

Application Deadline:

May 1, 2008

Program:

Students will briefly observe each discipline at the laboratory, participate in a discipline specific project and gain hands-on experience in one of the following areas:

Forensic Disciplines:

Forensic Chemistry
Forensic DNA
Latent Prints
Trace Evidence

Information about the Arkansas State Crime Laboratory and on-line application materials can be found at <http://www.arkansas.gov/crimelab/>

How to Apply:

Submit the following to the address below:

- Complete the on-line application form
- Official copy of undergraduate transcript
- Two letters of recommendation from faculty
- ***Items must be received by deadline***

Summer Internship Undergraduate Program
Arkansas State Crime Laboratory
#3 Natural Resources Drive
Little Rock, AR 72205

This is an unpaid internship.

For Further details, contact Dr. Hays Young at (501) 683-6225
hays.young@crimelab.arkansas.gov

Forensic Chemistry

The forensic chemistry section receives evidence for analysis of suspected controlled substances. This refers to drugs and/or chemicals placed on the Controlled Substances Act under federal law and the Controlled Substances List under Arkansas Code, Chapter 64. Evidence is generally in the form of powders, capsules, tablets, vegetable matter and paraphernalia, as well as any solid, liquid, or vapor that could contain a chemical to be identified.

Techniques used in the forensic chemistry section include Thin-Layer Chromatography (TLC), Gas Chromatography (GC), Fourier Transform Infrared Spectroscopy (FTIR), Gas Chromatography-Mass Spectroscopy (GC-MS), Gas Chromatography (GC) and Energy Dispersive X-Ray Fluorescence (XRF).

The Forensic Chemistry Section is composed of forensic chemists possessing a formal education equivalent to a bachelor's degree in chemistry.

Forensic DNA

The Forensic DNA section provides the users of laboratory services access to forensic DNA typing of selected biological materials associated with official investigations. The DNA section processes biological evidence utilizing methods of extraction, quantitation, amplification, and capillary electrophoresis to determine the source of biological evidence that may have been transferred during the commission of a criminal act.

An internship in Forensic DNA will provide a basic understanding of quantitation, amplification, and analysis of DNA to produce a DNA profile, and will conclude in the completion of a mini validation study.

The Forensic DNA section is composed of examiners possessing a bachelor's degree in a biology, chemistry, or forensic science with graduate or undergraduate coursework in genetics, biochemistry, and molecular biology (molecular genetics or recombinant DNA technology).

Latent Prints

The Latent Print Section is involved in the development and identification of latent fingerprints, palm prints, and foot prints. This section deals with virtually any area of friction ridge skin impressions that may be developed.

The Latent Print Section employs over forty different methods in order to develop this often fragmentary and elusive evidence. This is quite a change from just twenty years ago, when most labs used only four or five methods to develop latent prints. Some methods in use on a daily basis in the crime lab involve magnetic and fluorescent powders, alternate light sources, superglue processing, dye stain techniques and computerized digital imaging.

Additional forensic examinations performed by the Latent Print Section include the examination and comparison of questioned footwear impression and questioned tire impression evidence.

The Latent Prints Section is composed of forensic scientists possessing a formal education equivalent to a bachelor's degree in forensic science, criminalistics, or in a physical or natural science.

Physical Evidence (Trace Unit)

The trace evidence unit analyses hairs, fibers, glass, paint, GSR, physical matches, duct tape, unknown substances, accelerants and arson debris.

The instruments used for analysis are the stereomicroscope, polarized light microscope, GRIM2 (Glass Refractive Index Measurement), μ FTIR (Fourier Transform InfraRed), microspectrophotometer, SEM/EDS (Scanning Electron Microscope/Energy Dispersive Spectrometer), GC/MS (Gas Chromatography/Mass Spectrometer).

Upon their analyses, analysts will write a report on their findings. Analysts will also appear in court for expert testimony, if needed.

The Physical Evidence Section is composed of forensic scientists possessing a formal education equivalent to a bachelor's degree in chemistry.



ARKANAS STATE CRIME LABORATORY



Summer Internship Undergraduate Program Recommendation Form

TO THE APPLICANT: Complete this part of the form, then give it to the evaluator and have them complete the form and return it directly to the Arkansas State Crime Laboratory.

Applicant Name: _____

I understand that federal legislation provides me with the right of access to this recommendation that may be waived but that no school or person can require me to waive this right.

Mark one of the following statements: I hereby WAIVE my right of access to this recommendation.

I do NOT waive my right of access to this recommendation.

Student's Signature: _____ Date: _____

APPLICANT SHOULD NOT WRITE BELOW THIS SPACE

TO THE EVALUATOR: Please provide your candid evaluation of this applicant's ability to participate in the Summer Undergraduate Research Program and their motivation to pursue a career in forensic science. Use space onback of form if necessary.

In what capacity and how long have you have known the applicant? _____

On t he following scale, please rate this applicant relative to other students whom you have known. _____

Top 2%	Top 10%	Top 25%	Top 50%	Bottom 50%	No basis for judgment
--------	---------	---------	---------	------------	-----------------------

Name: _____ Date: _____

Title and Department: _____ at _____

(College or University)
Address: _____ Signature: _____

Please return this form directly to: Summer Internship Undergraduate Program, Arkansas State Crime Laboratory, #3 Natural Resources Drive, Little Rock, AR 72205