Forensic Science, Ph.D.

The Evidence Speaks for Itself

Over the past decade, employment in the forensic science sector has grown at an unprecedented rate due to the increased reliance on forensic techniques by law enforcement agencies. The Doctor of Philosophy in Forensic Science is a specialized, professional degree designed for students, professionals, or existing practitioners who want to further their knowledge in this area. In the forensic science fields, a graduate degree is rapidly becoming the standard of training required for advancement into leadership positions.

Faculty

As a post graduate student, you will work with a number of outstanding faculty members representing the sciences of criminal justice, biology, and chemistry. Each of these award-winning professors have years of educational and research experience and are dedicated and committed professionals.

Coursework

The Doctor of Philosophy in Forensic Science is an interdisciplinary science degree that is designed to provide students with the critical thinking ability, problem-solving skills, and advanced, discipline-specific knowledge to allow them to advance into leadership positions. This is accomplished by demonstrating the ability to perform independent, original research, the successful completion of multidisciplinary academic coursework, hands-on experience in the laboratory, and collaboration with accredited forensic laboratories, institutes and partners.

The PhD program requires the completion of 86 credit hours beyond the bachelor’s degree. Students complete a total of 45 credit hours of core coursework, a minimum of 15 credit hours of dissertation research and an additional 26 credit hours of electives. The curriculum is designed to deliver an essential core curriculum in forensic science, together with specialized electives and intensive research in the area of interest. Students are expected to fulfill the requirements during four to five years of full-time study.

Core Curriculum

- Forensic instrumental analysis
- Trace/Microscopical analysis
- Pattern and physical evidence concepts
- Controlled substance analysis
- Law and forensic sciences
- Scientific communications
- Forensic laboratory management
- Quality assurance and ethical conduct in forensic science

Electives may include

- Advanced biochemistry
- Advanced genetics
- Advanced forensic chemistry
- Advanced forensic DNA
- Advanced forensic toxicology
- Advanced topics in forensic science
- Analytical spectroscopy
- Behavioral genetics
- CSI techniques
- Electron microscopy
- Fire debris
- Firearms and toolmarks
- Forensic anthropology
- Forensic entomology
- Fundamentals of research methods
- Neuropsychopharmacology
- Population genetics
- Practicum
- Questioned documents
- Social science of forensics
- Statistical genetics
- Special topics

You will have access to state-of-the-art facilities and laboratories containing analytical instrumentation and equipment that are commonly found in crime laboratories. Our graduate teaching laboratories and research projects will expose you to DNA analysis, real time PCR (polymerase chain reaction), automated DNA extraction, gas chromatography/mass spectrometry (GC/MS), liquid chromatography/mass spectrometry/mass spectrometry (LC/MS/MS), FT-IR (fourier transform infrared spectroscopy), ion mobility mass spectrometry (IMS), pyrolysis gas chromatography/mass spectrometry (Py/GC/MS), polarized light microscopy (PLM), scanning electron microscopy (SEM), gas chromatography-flame ionization detection/nitrogen phosphorus detection (GC/NPD and GC/FID), digital and comparison microscopy, liquid chromatography diode array, accurate-mass quadrupole time-of-flight (Q-TOF) LC/MS, liquid chromatography-tandem mass spectrometry (LC-MS-MS), micro Raman spectroscopy, solid phase micro extraction (SPME) GC-MS, visual spectral comparator (VSC) and next generation DNA sequencing. Working with these tools of the trade will prepare you for a successful career in a public or private sector forensic science laboratory.
INTERNSHIPS

Internships are an integral part of all degree programs in the College of Criminal Justice, providing you with the opportunity to integrate theory with practice. You also gain benefits from the professional development and networking found through a field placement experience.

The majority of graduate placements are designed to provide applied research, teaching, and administrative learning experiences, but you are also encouraged to explore other roles. You will receive three semester credit hours for an internship.

An internship is especially important in forensic science, where you will receive hands-on training in areas such as forensic DNA, controlled substance analysis, forensic toxicology, firearms, latent prints, or trace evidence analysis.

The Department of Forensic Science collaborates with numerous city, county, state and federal agencies, both in and out of state, to provide a wide range of internship opportunities in a variety of forensic disciplines.

SCHOLARSHIPS, ASSISTANTSHIPS & FINANCIAL AID

Scholarship opportunities, assistantships, and financial assistance are available. Full-time doctoral students receive assistantship and scholarship support in the amount of $26,000 annually. Financial awards are available, including out-of-state tuition waivers. University policy requires all students to pay in-state tuition.

From the laboratory to the courtroom and everything between, we have the tools you need to build a career in forensic science.

SAM HOUSTON STATE UNIVERSITY

Since 1879, Sam Houston State University has touched the lives of over 93,000 graduates and helped shape the economic, social, and cultural development of the state and nation. Steeped in tradition and Texas hospitality, the university offers the type of educational experience most often found at private institutions. The low student-to-faculty ratio allows for more individual attention, while our beautifully maintained campus and historic architecture provide a serene backdrop to high-tech facilities, equipment, and amenities. Our tuition rates, combined with exceptional faculty and academic programs, is one of the best educational values in Texas.

BE ONE OF THE BEST AND THE BRIGHTEST

Further your studies and career at Sam Houston State's top criminal justice college. The minimum requirements to be considered for this program are:

- Graduate Admissions Application
- Application Fee
- A bachelor's degree from an accredited institution in chemistry, biology, forensic or natural science
- Official transcript(s) from degree granting institution(s)
- Official transcripts from all colleges/universities attended
- GPA of 3.5 or higher
- Program Application
- Personal statement, not to exceed 1000 words
- Three letters of recommendation in addition to the Admission Recommendation Checklist. A minimum of two letters must be from faculty who are sufficiently acquainted with the student to comment on potential for success in the doctoral program
- Current resume or vita
- Official GRE scores, within the last five years
- In some instances, a personal interview may be requested

Students are accepted in the Fall semester only. All application materials must be received by December 31st for consideration the following academic year. A holistic review of each student's application file will be completed on a competitive basis. Late applications may be accepted; please contact the program office directly.

For specific information on the PhD Program, contact:

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Visit: shsu.edu/forensicscience

All required materials should be sent to the Office of Graduate Admissions