

# DEPARTMENT OF FORENSIC SCIENCE

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## About

### Chair

Sarah Kerrigan, PhD (Sarah.kerrigan@shsu.edu)

### Mission

Our mission is to provide students the knowledge, skills and abilities to prepare them for successful careers in forensic science. This mission is accomplished through academic coursework, hands-on experience in the laboratory, research and the completion of an internship in a forensic science laboratory.

### Contact Information

Kelsie Bryand, MS. (kelsie@shsu.edu)

(936) 294-4370

## Academic Programs

The Department of Forensic Science offers two minor degrees, a master's degree, and a doctoral degree. For a listing of the programs offered within the Department of Forensic Science, please, reference the Programs tab on this page.

## Highlights

The Master of Science in Forensic Science is accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC (<http://fepac-edu.org>)). The program itself was established in 2001 and was the very first accredited program in Texas. The program gives students the flexibility to tailor a degree toward their individual interests and professional goals while working in a state-of-the-art facility. We have been preparing students for careers in forensic science for over a decade, with proven success.

Sam Houston State University offers a PhD in Forensic Science for those seeking leadership positions or intending to pursue careers in research or education. The doctoral program at SHSU is an interdisciplinary science degree that can be completed in four to five years of full-time study.

The minor in Forensic Science is tailored towards criminal justice majors interested in pursuing investigative or non-laboratory based careers in forensic science (i.e., crime scene investigators) and science majors who may have an interest in traditional (laboratory-based) careers in forensic science. The minor in Forensic Anthropology provides hands-on training with state-of-the-art technology at the Southeast Texas Applied Forensic Science (STAFS) facility.

## Career Opportunities

The forensic science program is designed to prepare graduates for successful careers in forensic science. Students not only develop scientific understanding essential to forensic science, but also acquire the practical skills, knowledge and problem solving abilities that will help them advance into leadership positions. Through extensive hands-on and laboratory instruction, students acquire the practical skills that are sought after by potential employers.

## Student Organizations and Activities

- Society of Forensic Science
- Graduate Student Organization (Criminal Justice)

## Internships

The Department of Forensic Science partners with numerous accredited crime laboratories and medical examiner's offices for forensic science internships throughout the United States. All students enrolled in one of the graduate programs must successfully complete a forensic science internship. The department does not facilitate internships for students from other colleges or universities.

## Scholarships

Scholarship opportunities, assistantships, and financial assistance are available. Student assistantships and scholarships are awarded on a competitive basis based upon academic performance, GRE scores, letters of recommendation and previous laboratory experience.

Financial awards are available, including out-of-state tuition waivers. University policy requires all students to pay in-state tuition.

Information on graduate assistantships are available by contacting Kelsie Bryand (kelsie@shsu.edu) in the Department of Forensic Science at (936) 294-4370.

Information on specific scholarships available in the College of Criminal Justice are available through Cutty Gilbert (cutty@shsu.edu) at (936) 294-3755.

Please see the College of Criminal Justice section for information on college and university level scholarships.

- Minor in Forensic Anthropology (catalog.shsu.edu/archives/2016-2017/undergraduate/colleges-academic-departments/criminal-justice/forensic-science/minor-forensic-anthropology)
- Minor in Forensic Science (catalog.shsu.edu/archives/2016-2017/undergraduate/colleges-academic-departments/criminal-justice/forensic-science/minor-forensic-science)

**FORS 3331. Foundations of Applied Anthro. 3 Hours.**

This is an introductory course on the study of the biology of humans from an applied anthropological perspective. It is a foundation course for students interested in careers in applied anthropology, biological or forensic anthropology, nursing, medicine, or crime scene investigation. The course will introduce the student to all four fields of anthropology: archaeology (prehistoric and historic human activity), cultural anthropology (medical practices in past and present cultures),

**FORS 3366. Forensic Science. 3 Hours.**

This course introduces students to a wide variety of forensic science disciplines. Students will gain basic knowledge of evidence handling, fingerprints, impression evidence, trace evidence, firearms and toolmarks, serology and forensic DNA, controlled substances and toxicology.

**FORS 3380. Intro to Forensic Chemistry. 3 Hours.**

This course provides an introduction to forensic chemistry. Current practices, technologies, and techniques will be discussed for some of the most common forensic chemistry disciplines.

**Prerequisite:** CHEM 2325 and FORS 3366.

**FORS 3420. Hum Osteol Analys of Hum Bone. 4 Hours.**

This course thoroughly examines the human musculoskeletal system. The course covers the structure and function of bone including bone growth and development and the distinction between juvenile and adult skeletal elements. The course is designed to equip the student with thorough knowledge of the normal appearance of the human skeleton and its variation caused by population variation, genetic disorders, diseases, or trauma.

**FORS 4077. Special Topics in Forensic Sci. 1-4 Hours.**

This course is designed to give advanced undergraduate students academic flexibility by allowing them to take structured courses on emerging topics or other matters about which there are no courses already approved in the catalog. Variable Credit (1-4).

**Prerequisite:** Senior standing.

**FORS 4310. Physical Evidence Techniques. 3 Hours.**

This course provides an overview of physical evidence concepts and identification techniques. Pattern recognition of physical evidence, including fingerprints, bloodstains, gunshot residue, tire prints, shoeprints, fire investigation, firearms, and digital evidence will be discussed. The use of electronic databases in pattern evidence comparison will be addressed. Prerequisite: FORS 3366.

**FORS 4320. Fundamentals of Forensic Bio. 3 Hours.**

This course explores fundamental principles of forensic biology including serology and DNA. Current technologies and procedures used within the field of forensic biology will be discussed.

**Prerequisite:** BIOL 2440, BIOL 3450, and FORS 3366.

**FORS 4343. Advanced Techniques in Forensic Anthropology. 3 Hours.**

This course provides practical experience in the application of various methods that aid in the identification of unknown skeletal remains, such as geometric morphometrics and digital imaging. Students will understand the histology and biomechanics of bone and identify and differentiate bone pathology from bone trauma. The course will train students in proper writing in forensic anthropology, manuscript preparation including photography of bone trauma and pathology.

**Prerequisite:** FORS 4442.

**FORS 4364. Crime Scene Invstg Techniques. 3 Hours.**

This course provides a foundational overview of criminalistics from the standpoint of crime scene investigation. Theoretical understanding and hands-on experience in crime scene processing is provided. Basic criminalistic and laboratory techniques are introduced and discussed.

**Prerequisite:** FORS 3366.

**FORS 4380. Ethics & Prof Practice. 3 Hours.**

This course provides an overview of ethics and professional practice in forensic science. Ethical dilemmas, bias, and organizational culture will be explored.

**Prerequisite:** FORS 3366.

**FORS 4442. Intro to Forensic Anthropology. 4 Hours.**

This course equips students with the methodologies and applications of forensic anthropology. The course includes extensive hands-on exercises working with the human skeletal system. Students will learn and apply the methods used in building the human biological profile, which includes the determination of sex, age, ancestry, and stature based on skeletal features. Students learn the biomechanics of bone and identify skeletal pathologies and/or trauma. **Prerequisite:** FORS 3420.

**Patrick A Buzzini, Ph.D.** (patrick.buzzini@shsu.edu), *Associate Professor of Forensic Science, Department of Forensic Science*, Ph.D., University of Lausanne (Switzerland); M.S., University of Lausanne (Switzerland)

**Joan A. Bytheway, Ph.D.** (jab039@shsu.edu), *Associate Professor of Forensic Science, Department of Forensic Science*, Ph.D., University of Pittsburgh; B.A., University of Pittsburgh

**David A. Gangitano, Ph.D.** (dag006@shsu.edu), *Associate Professor of Forensic Science, Department of Forensic Science*, Ph.D., University of Buenos Aires, Argentina; B.S., University of Buenos Aires, Argentina

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**Sarah Kerrigan, Ph.D.** (sxx003@shsu.edu), *Professor of Forensic Science and Chair, Department of Forensic Science*, Ph.D., The University of British Columbia (Vancouver, Canada); B.Sc., The University of Hull, England

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## Interim Faculty

**Kelsie D. Bryand, M.S.** (kds001@shsu.edu), *Adjunct Faculty, Department of Forensic Science*, M.S., Sam Houston State University; B.A., Texas AM University

**Jasmine M. Drake, Ph.D.** (jmd055@shsu.edu), *Lecturer of Forensic Science, Department of Forensic Science*, Ph.D., Louisiana State University; B.S., Southern University and AM College