Texas Higher Education Coordinating Board
New Doctoral Degree Proposal

Directions: While completing this form, institutions should refer to Texas Administrative Code (TAC) 5.46 relating to Criteria for New Doctoral Programs. This form requires signatures of (1) the Chief Executive Officer, certifying adequacy of funding for the new program; (2) a member of the Board of Regents (or designee), certifying Board approval; and, if applicable, (3) a member of the Board of Regents (or designee), certifying that criteria have been met for Coordinating Board staff-level approval. Additional directions are available in the Guidelines for Institutions Submitting Proposals for New Doctoral Programs document found on the Coordinating Board web site. (www.thecb.state.tx.us/newprogramscertificates)

Note: If an institution does not have Preliminary Authority for the proposed doctoral program, it must first submit a separate request for Preliminary Authority. That request shall address criteria set in TAC Section 5.24 (b).

Information: Contact the Division of Academic Affairs and Research at (512) 427-6200.

Administrative Information

1. Institution: Sam Houston State University.

2. Program Name – Doctor of Philosophy (PhD) in Forensic Science.

3. Proposed CIP Code – Include justification if the program title is not already included among the CIP classifications.

4. Program Description – The College of Criminal Justice is one of the leading colleges in the country, and the new degree in Forensic Science is a natural extension of the excellent work in Forensics already occurring in the College. The PhD in Forensic Science will require 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 research in the area of interest. Students are expected to fulfill the requirements during four to five years of full-time study.

The educational objectives and mission of the PhD in Forensic Science are 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 will be 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.

5. Administrative Unit – The College of Criminal Justice.

6. Proposed Implementation Date – Fall semester, 2014/2015.

7. Contact Person – Provide contact information for the person who can answer specific questions about the program.

Name: Dr. Sarah Kerrigan
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Name: Dr. Vincent Webb
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Program Information

I. Need

All proposals must include this section. If preliminary authority for the program was granted within the last four years, include updated information.

A. Job Market Need

Increases in Forensic Science Personnel

According to the most recent Census of Publicly Funded Crime Laboratories from the Bureau of Justice Statistics[1], the nation's forensic laboratories employ approximately 13,100 full-time personnel and received an estimated four million requests for forensic services in 2009. The estimated budget for all publicly funded crime labs is about $1.6 billion, compared to $1.0 billion in 2002. Despite this increase, the August 2012 report shows a backlog of more than one million requests for forensic services in publicly funded crime laboratories throughout the United States. More disturbing however, is that nine out of ten requests at years end were classified as backlogged. The shortage of resources and qualified personnel to perform critical functions in support of criminal and death investigation has profound public safety and criminal justice consequences.

Forensic laboratories are a central component of criminal investigation and the administration of justice. Requests for forensic services are received from a variety of agencies, including law enforcement, medical examiners, correctional facilities, attorneys and the intelligence community. Publicly funded laboratories provide examination, reporting and testimony on physical evidence in criminal matters for state, county, municipal and federal jurisdictions. Due to the excessive backlog of cases there are now a large number of private forensic science service providers in the United States. According to the most recent census, 28% of publicly funded laboratories now outsource some forensic work.

[1] Census of Publicly Funded Laboratories, 2009. Bureau of Justice Statistics, U.S. Department of Justice, Office of Justice Programs, August 2012.

Forensic biology and toxicology are among the most outsourced forensic disciplines.

The scientific reliability of forensics and unacceptable backlogs have drawn widespread national and international attention. Recognizing the vital importance of forensic science and the need for significant improvements, Congress directed the National Academy of Sciences (NAS) to evaluate the current state of forensic science. In February 2009, the National Academy of Sciences released a pivotal report entitled Strengthening Forensic Science in the United States: A Path Forward[2]. The report states:

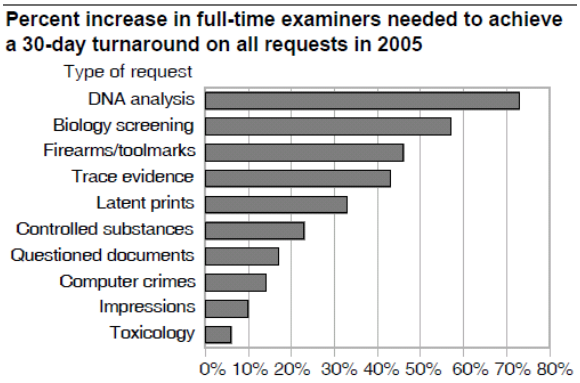
> "The forensic science system, encompassing both research and practice, has serious problems that can only be addressed by a national commitment to overhaul the current structure that supports the forensic science community in this country. This can only be done with effective leadership at the highest levels of both federal and state governments, pursuant to national standards, and with a significant infusion of federal funds."

In the years following the publication of the report, federal and state governments, professional and scientific organizations, scientific working groups (SWGs) and others have been addressing the myriad of scientific, budgetary and operational limitations faced by the forensic science community.

In order to address the shortfall in forensic science personnel, the Bureau of Justice Statistics estimated the percent increase in full-time forensic scientists needed to eliminate backlogs and prevent their recurrence[3]. DNA accounts for the largest increase in examiners, requiring an estimated 73% increase in qualified personnel. Biological screening (serology) accounted for the next highest increase (57%), followed by firearms and toolmarks (46%) and trace evidence examiners (43%). The estimated increases in personnel are staggering and all disciplines, including controlled substances and toxicology are affected by these massive shortfalls (Figure 1). The NAS report highlights in particular the need for integrated governance, national standards and a significant infusion of federal funds to address these issues.

[2] National Academy of Sciences, Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council, 2009.
[3] Census of Publicly Funded Laboratories, 2005. Bureau of Justice Statistics, U.S. Department of Justice, Office of Justice Programs, July 2009.

Figure 1. Excerpted from the Census of Publicly Funded Laboratories, 2005. Bureau of Justice Statistics, U.S. Department of Justice, Office of Justice Programs, July 2009.



Additionally, because this is a new and growing field, the US Labor and Statistics Bureau and the Texas Workforce Commission keep statistics only on Forensic Science Technicians. This field is growing with a rate of change of about 19%. The Occupational Outlook Handbook estimates approximately 13,000 jobs and a change of 2,400 jobs between 2010-2020 for Forensic Science Technicians. The need for forensic scientists and those who oversee these technicians will need to grow as well. In February 2013, the U.S. Attorney General established the National Commission on Forensic Science[4]. This commission is specifically charged with "identifying and assessing the current and future needs of the forensic sciences to strengthen their disciplines and meet growing demand".

In addition to the burgeoning demand for routine forensic examiners within the criminal justice system, there is also a pressing need for forensic science researchers and faculty. The Forensic Science Education Programs Accreditation Commission is the sole accrediting body for undergraduate and graduate forensic programs within the United States. These accreditation standards require full-time forensic faculty to have an appropriate doctoral degree and relevant research experience, in addition to work experience or familiarity with an operational forensic laboratory. The pool of qualified faculty with a doctoral degree is extremely limited. This is evidenced by several factors: applicant pools have always been extremely small; our 2011 faculty search at SHSU failed to identify any qualified candidates whatsoever; and although our 2012 search was successful, there were no qualified applicants from the United States, which meant that we had to advertise internationally and recruit faculty from Australia. As the emphasis on fundamental forensic science research and education grows, the PhD in Forensic Science at SHSU will help meet the job market needs of the criminal justice system, research and higher education.

[4] Federal Register, 78 FR 12355, 12355 -12356.

Importance of Forensic Science Education

The report to Congress recognized however, that increasing the number of scientists is only part of the solution. Education in forensic science and the need to deliver forensic scientists with appropriate training, education and experience to the workplace, received particular attention. The NAS report recognized an urgent need to provide high quality interdisciplinary education and training in forensic science. Specifically:

Recommendation 10:

> "To attract students in the physical and life sciences to pursue graduate studies in multidisciplinary fields critical to forensic science practice, Congress should authorize and appropriate funds to the National Institute of Forensic Science (NIFS) to work with appropriate organizations and educational institutions to improve and develop graduate education programs designed to cut across organizational, programmatic, and disciplinary boundaries."

They clearly recognized the role of academia with respect to the advancement of technologies used in forensic science, the validation of existing science and methodology that has recently been called into question, and the ability to deliver highly trained and well prepared professionals to the workplace. The coordinated effort to address the shortfalls and limitations of forensic science makes it all the more important that higher education is able to deliver graduates, not only with requisite knowledge and skills in forensic science, but also the ability to assume leadership roles within these organizations. Only with effective leadership in place, can these organizations (government, academia, public and private sector laboratories) make this much needed transformation possible.

The multidisciplinary doctoral program in forensic science will fulfill that role and continue the existing mission and success of the Forensic Science Program at SHSU. The PhD in Forensic Science will provide students with the critical thinking ability, problem-solving skills, and advanced discipline-specific knowledge to allow them to assume leadership positions within forensic organizations.

Forensic science education continues to be in the forefront of legislative efforts at the Federal level. In July 2012, testimony before the United States Senate Committee on the Judiciary addressed the need for continued advancement of forensic science through rigorous academic programs. The importance and role of the Forensic Science Education Programs Accreditation Commission (FEPAC) was specifically addressed. FEPAC is the barometer by which all educational programs should be measured, and ensures that the highest quality opportunities are provided.

Forensic Reform – Education & Research

Since the publication of the NAS Report in 2009, the Federal government and Congress made a significant effort to address the needs of the forensic science and the criminal justice stakeholders who rely upon its validity[5]. A critical component of this effort involves

[5] The Forensic Science and Standards Act of 2012 (S 3378); The Criminal Justice and Forensic Science

the promotion of research and the development of a national research strategy. Proposed legislation for forensic science reform or "advancement" calls for funding to support forensic science research.

Reform legislation also calls for the education and training of judges, attorneys, and law enforcement personnel in the forensic sciences: Specifically, training in fundamental scientific principles to allow them to competently use and evaluate forensic science evidence; and development of a standardized curriculum for education and training. Section 602 of the Criminal Justice and Forensic Science Reform Act of 2011 also addresses the need for continued development of undergraduate and graduate educational programs in the forensic science disciplines and related fields. As a recognized leader in forensic science and criminal justice education at the nation level, Sam Houston State University is in a strong position to expand its academic program in forensic science to include doctoral-level education, and deliver forensic training to stakeholders as proposed by Congress.

Reform legislation also calls for a national research strategy, grants and funding, oversight, and the need for public-private collaboration. Proposed legislation calls for a comprehensive strategy and agenda to foster and improve peer-reviewed scientific research and to address issues of accuracy, reliability, and validity in the forensic science disciplines. This is to include funding for competitive grants to promote collaboration between academic institutions and accredited forensic science laboratories, and the development of new technologies and processes to increase the efficiency, effectiveness, and accuracy of forensic testing procedures. The existing Master of Science in Forensic Science at SHSU currently partners with over 50 agencies and accredited forensic science service providers in Texas and throughout the United States. The existing collaborations exist principally in support of the internship program, but also as part of federally funded forensic science research projects at SHSU. The breadth and scope of this grant-funded research highlights the interdisciplinary nature of the research at SHSU that exists currently, and the collaborative nature of the work. Sam Houston State University is in a strong position to further develop relationships with forensic science laboratories, both public and private, in an effort to expand and optimize collaborative research between academia and accredited laboratories.

B. Existing Programs

History

Forensic science is an analytical science requiring good observation skills, uses a wide range of analytical technologies, and requires critical skills in data analysis and interpretation. However, forensic science education has been greatly influenced by the popularization of forensic science in the media since 2000, due to television shows such as "CSI" (Crime Scene Investigation). Although forensic science has long been an area of public interest and intrigue, the extraordinary success of television shows like this led to a generation of students seeking a career in forensic science due to its glamorous portrayal by the media. An unfortunate consequence of the "CSI-effect" is a demand for forensic education by students who are poorly informed and ill equipped to tackle the level of scientific rigor demanded by

Reform Act of 2011 (S 132).

high-quality programs. From 1977 to 2002, there was an inclusive average of 1.3 new forensic programs per year among universities in the US, which represents a very nominal increase. In contrast however, between 2002 and 2007, a total of 110 new programs were created, representing an unsustainable average of 22 new programs annually[6].

Accreditation

As a result of the proliferation of programs nationally, the US Department of Justice released a report in 2007 entitled "Addressing Shortfalls in Forensic Science Education". The report highlighted the lack of a standardized forensic science curriculum, which created a problem for students, future employers and the criminal justice system as a whole[7]. The lack of nationally recognized standards and exposure to forensic science through the media resulted in many graduates having unrealistic expectations and insufficient scientific exposure to competently perform their work. In 2001, the National Institute of Justice (NIJ) took steps to address the problem and in 2004, published landmark recommendations on education and training in forensic science[8]. After the recommendations were published the American Academy of Forensic Sciences (AAFS), a professional association devoted to improving and achieving justice through science, stepped forward to develop an academic accreditation program for forensic science. With financial assistance from both the NIJ and AAFS, the Forensic Science Education Programs Accreditation Commission (FEPAC) was established in 2003.

The mission of FEPAC is to maintain and to enhance the quality of forensic science education through a formal evaluation and recognition of college-level academic programs. The primary function of the Commission is to develop and to maintain standards and to administer an accreditation program that recognizes and distinguishes high quality undergraduate and graduate forensic science programs. The Commission consists of both academicians and practitioners alike. The creation of a standard for measuring the quality of forensic science education programs allows students to identify the highest caliber programs, and as the number of students from accredited programs increases, more job applicants meet the requirements of forensic science service providers. Since 2003, the FEPAC standards have been revised and strengthened eight times. Educators recognize that FEPAC accreditation is difficult[9], but realize that it affords them access to higher quality and more competitive students. Today, FEPAC is recognized by the Association of Specialized and Professional Accreditors (ASPA) and the Council on Higher Education Accreditation (CHEA). It is recognized nationally and internationally as the sole accrediting body for both undergraduate and graduate (MS-level) forensic science programs.

The Forensic Science Master's degree at Sam Houston State University was the first in Texas to be accredited by FEPAC. Although the Master of Science in Forensic Science (MSFS)

[6] The Status of Forensic Science Degree Programs in the United States. GP Jackson. Forensic Science Policy and Management, 1: 2-9, 2009.
[7] Addressing Shortfalls in Forensic Science Education. US Department of Justice, Office of Justice Programs. National Institute of Justice, May 2007.
[8] Education and Training in Forensic Science. A Guide for Forensic Science Laboratories, Educational Institutions, and Students. National Institute of Justice, U.S. Department of Justice Office of Justice Programs, 2004.
[9] The Status of Forensic Science Degree Programs in the United States. GP Jackson. Forensic Science Policy and Management, 1: 2-9, 2009.

program began in 2001, investments in capital equipment, faculty, curriculum and a state-of-the art scientific building in 2006 allowed the program to make progress towards its accreditation goals. In 2009, the MSFS Program at SHSU was the only graduate program in the nation to achieve full five-year accreditation status. At that time it was one of just seven accredited graduate programs in the United States and has been recognized as a leader in forensic science education ever since. The current Department Chair of Forensic Science was the architect of the MSFS program curriculum in 2006, and is a former State Laboratory Director and FEPAC Commissioner.

The number of FEPAC-accredited programs has grown steadily since 2003. There are now 19 MS-level accredited programs in the US (Table 1) and 18 at the Bachelor's level[10]. Since 2003, graduate program growth outpaced accredited undergraduate forensic science programs. This may be in large part due to employer preference for undergraduate majors in natural science (rather than more specialized degrees), the growing desire for a more qualified and credentialed forensic scientist to withstand the scrutiny of the courts, and the highly competitive nature of the field.

Table 1. FEPAC-accredited MS Programs in Forensic Science (2012).

MS Degree	Institution	Department/Program
Master of Science in Forensic Science	University of Alabama at Birmingham (AL)	Forensic Science Program
Master of Science in Forensic Science	Arcadia University (PA)	Forensic Science Program
Master of Science in Biomedical Forensic Science	Boston University School of Medicine (MA)	Department of Anatomy and Neurobiology
Master of Science in Forensic Science	University of California at Davis (CA)	The Interdisciplinary Forensic Science Graduate Group/Forensic Science Graduate Program
Master of Science in Criminalistics	California State University at Los Angeles (CA)	School of Criminal Justice and Criminalistics
Master of Science in Forensic Science	Cedar Crest College (PA)	Department of Chemistry and Physical Sciences
Master of Science in Forensic Science	Duquesne University (PA)	Forensic Science and Law Masters Program
Master of Science in Forensic Science	Florida International University (FL)	Department of Chemistry and Biochemistry
Master of Science in Forensic Science	George Washington University (DC)	Columbus College of Arts and Science
Master of Science in Forensic Science	University of Illinois at Chicago (IL)	Department of Biopharmaceutical Sciences
Master of Science in Forensic Science	Marshall University (WV)	Forensic Science Center
Master of Science Degree (Biology and Chemistry Tracks)	Michigan State University (MI)	Forensic Science Program

[10] Available at www.aafs.org.

Master of Science in Forensic Science	Nebraska Wesleyan University (NE)	Forensic Science Program
Master of Science in Forensic Genetics	University of North Texas Health Science Center at Fort Worth	Department of Forensic and Investigative Genetics
Master of Science in Forensic Science	Oklahoma State University	Center for Health Sciences
Master of Science in Forensic Science	Pennsylvania State University	Forensic Science Program
Master of Science in Forensic Science	Sam Houston State University	Forensic Science Department, College of Criminal Justice
Master of Science in Forensic Science	Towson University (MD)	Chemistry Department
Master of Science in Forensic Science	Virginia Commonwealth University (VA)	Department of Forensic Science

Doctoral Programs

There are very few academic institutions that offer a PhD in forensic science, and none is within the United States[11]. In the US, most forensic scientists with a terminal degree obtained their PhD in chemistry or biology, with a specialization or area of research related to forensic science. In order to perform forensic research at an academic institution, a PhD is essential and a doctoral degree can also make a forensic scientist a more credible witness in court. Opportunities for advancement and leadership positions are more likely for PhD- level scientists. Additionally, some forensic science service providers are now specifically requesting PhD-level applicants to address laboratory accreditation needs, and the growing complexity of scientific and legal issues addressed by practicing forensic scientists.

Although there are no PhD programs in Forensic Science currently, some FEPAC-accredited MS programs offer PhDs in the basic sciences. This long-standing, traditional approach is likely to change as there is greater demand for recognized and credentialed experts in forensic science with PhDs. Although existing doctoral programs in molecular biology, chemistry and related natural sciences provide adequate preparation scientifically, they do not address the interdisciplinary nature of forensics, encompassing science, law and criminal justice. As a result, existing programs do not adequately meet workforce needs. The proposed Forensic Science PhD at SHSU is an interdisciplinary scientific program, rooted in the natural sciences. However, in addition to the traditional focus on core scientific principles and understanding, it will address additional knowledge, skills and abilities to develop effective forensic leaders for the future. Leadership challenges in forensic science are similar to other technology-intensive organizations. To survive, leaders in forensic laboratories must continuously monitor productivity, efficiency, quality, turnover, intellectual capital and client needs. The PhD in Forensic Science at SHSU will better prepare candidates who hope to pursue leadership roles within forensic organizations in the future.

The NAS Report also specifically commented on the absence of doctoral programs in forensic science, which is considered by some to be a shortcoming in forensic science education as a

[11] Nature, Vol 473, p 409-411, May 2011 (Forensics: The Call of the Crime Lab).

whole. Given the lack of forensic science PhD programs in the US currently, there is no way to estimate the number of PhD graduates annually who seek employment in forensic science. However, according to the Bureau of Justice Statistics, 13% of full time employees in publicly funded laboratories are managers (directors and supervisors)[12]. The lack of existing programs means there is no duplication. In contrast, it would set SHSU apart from other institutions by establishing a path forward for forensic science education at the doctoral level. The proposed program will be a pioneering effort that will place Texas at the forefront of forensic science education and research.

C. Student Demand

Enrollment in Forensic Science Programs

Growth in forensic science education exists in two forms: admission of more students to existing programs and the development of new programs, both of which have been burgeoning over the past decade. As discussed previously, the proliferation of forensic programs nationally over a relatively short period caused serious concerns regarding quality and sustainability. The increase in FEPAC-accredited programs provides a better measure of quality, or high caliber growth. A review of the nine FEPAC-accredited programs (MS and BS) in 2009 showed that the average BS enrollment increased over a seven year period from fifty-seven to eighty-five and the average MS enrollment remained constant at approximately eighteen students[13]. The total number of students enrolled in and graduating from FEPAC-accredited forensic science programs tripled over the same time period, primarily due to the introduction of new programs. The considerable growth in the number of students seeking forensic-related degrees at FEPAC-accredited universities was largely attributed to new program growth, rather than growth in enrollment at existing programs.

Enrollment and Post-Graduate Success at SHSU

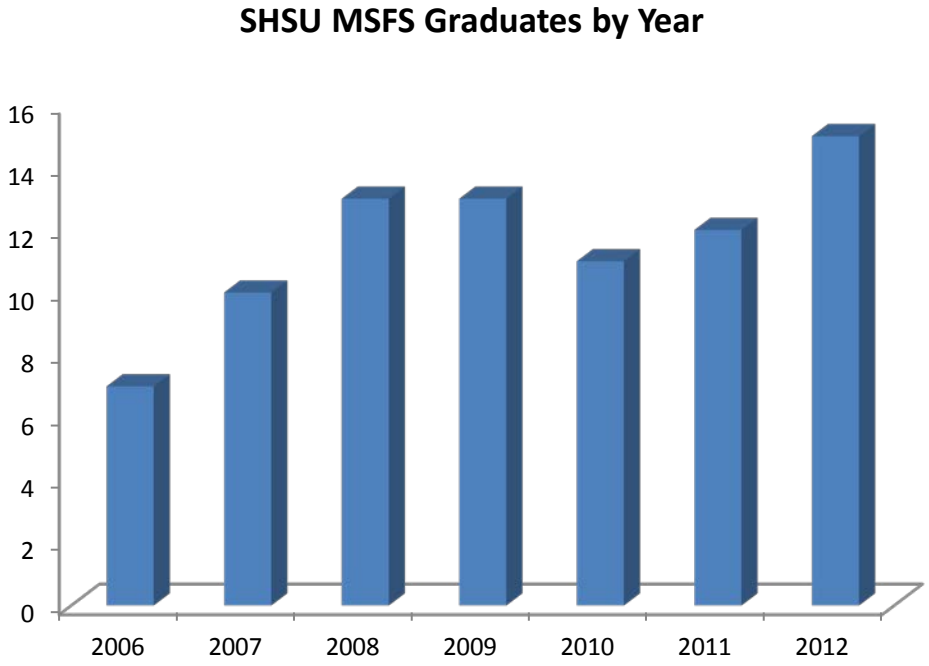
Student enrollment in the Forensic Science MS program at SHSU increased more than 100% since 2006. In 2012, fifteen students graduated from the MS program, compared with 7 in 2006 (Table 2). Enrollment has grown steadily, with no attrition. This is not uncommon for FEPAC-accredited forensic science MS programs. Despite the fact that forensic science continues to attract some students who are not prepared for rigorous scientific study, FEPAC-accredited programs at the undergraduate and graduate level are less susceptible to attrition compared with non-accredited programs due to the high standards of admission required as part of the accreditation requirements.

Graduation rates since 2006 have been 100% at the MS level and most recently during the fall 2012 semester, the MSFS Program accepted its largest class of seventeen new students. Moreover, the appeal is not regional. In 2012, almost one third of students admitted to the program were out-of-state students, and as many as 45% during previous years (2006-2012). This demonstrates not only the widespread appeal of the program at the national level, but also its reputation among students for high quality forensic education.

[12] Census of Publicly Funded Laboratories, 2005. Bureau of Justice Statistics, U.S. Department of Justice, Office of Justice Programs, July 2009.
[13] The Status of Forensic Science Degree Programs in the United States. GP Jackson. Forensic Science Policy and Management, 1: 2-9, 2009.

Table 2. Graduation rates by year (2006-2012).

Year	Number of Graduates
2006	7
2007	10
2008	13
2009	13
2010	11
2011	12
2012	15



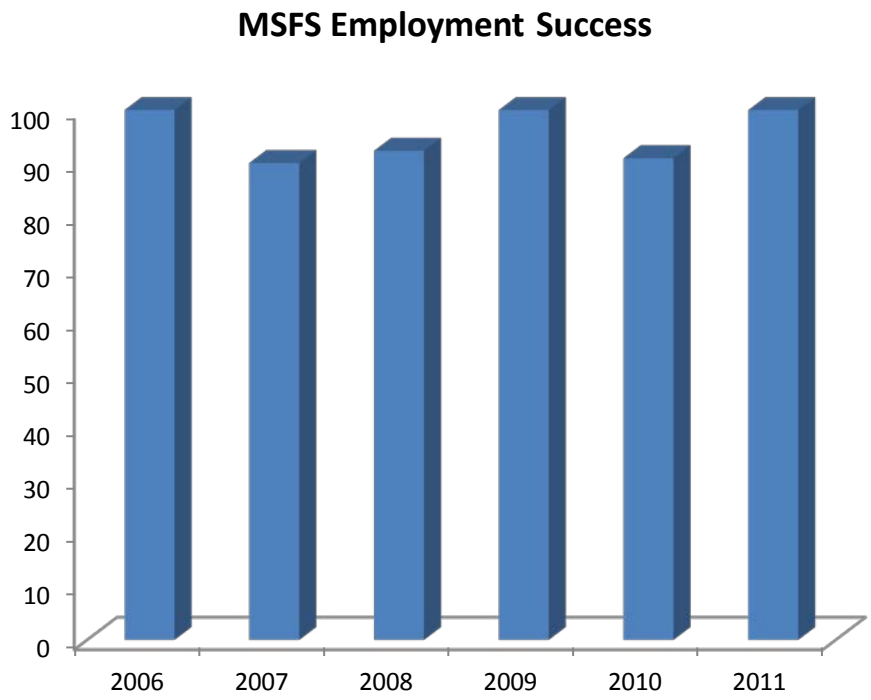
Post-graduate employment success within the MS Program is outstanding. Employment success is quantitatively assessed within one year of graduation (Table 3). This allows new graduates the time to apply and complete the necessary background checks and other requirements that can delay employment into safety sensitive positions. Since 2006, the program reported postgraduate success rates in excess of 90% each year. For years in which employment success was less than 100%, this represented no more than one student per graduating class unable to find work in forensics, and was often due to a non-academic issue such as failure to pass a background check.

Forensic science is rooted in the natural sciences of physics, chemistry, biology and medicine. Therefore, any forensic science program must be firmly based on these fundamental disciplines. The education must meet recruitment expectations of industry and produce graduates equipped to enter training programs of operational laboratories. A well-structured program is grounded solidly in the natural sciences, while at the same time providing necessary forensic science perspective to students to increase their value to prospective employers.

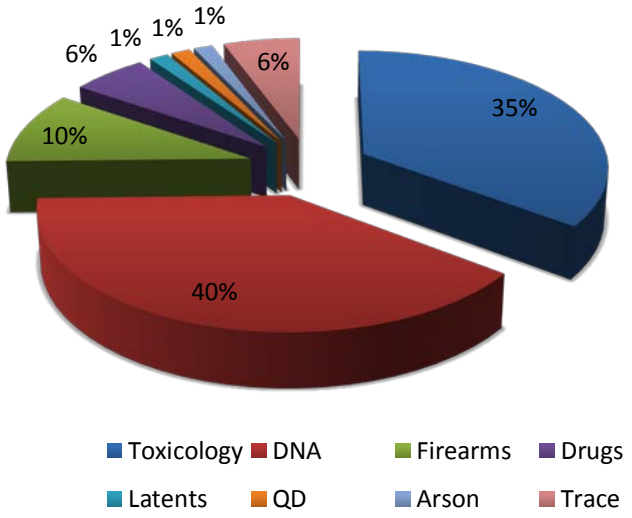
In addition to post-graduation employment data gathered by the program, an employer satisfaction survey is conducted annually to determine whether graduates of the MS Program meet employer expectations. The MSFS Program has conducted these surveys annually since 2006. In response to the survey, 100% of employers identified our graduates as being prepared and were willing to hire additional MSFS graduates in the future. The assessment data is supported by the fact that each year the Program Director receives requests from employers specifically looking to hire SHSU graduates to fill positions in accredited laboratories across the Unites States.

Table 3. Employment success and satisfaction rates by year (2006-2011).

Graduation Year	Employment Success within 1 year (%)	Employer Satisfaction (%)
2006	100	100
2007	90	100
2008	92	100
2009	100	100
2010	91	100
2011	100	100

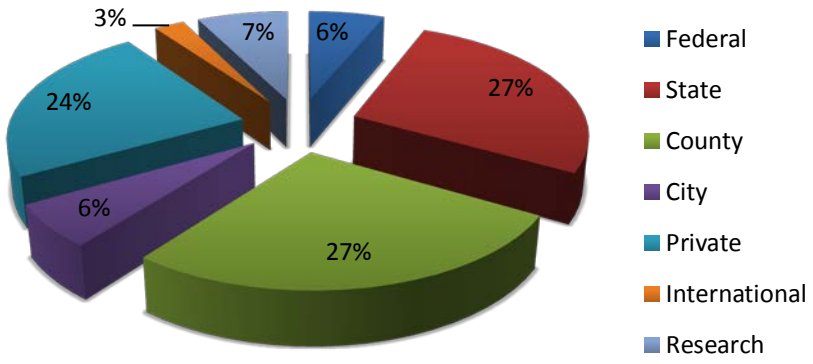


Forensic science programs, because of their underpinnings in natural science, are relevant to a wide range of chemistry, biology and medical applications. Nevertheless, post- graduation employment statistics reflect the diversity of the MSFS program as it is today. The majority of forensic science employment opportunities are rooted in molecular biology and chemistry. Employment statistics related to forensic discipline show that our graduates meet the needs of forensic science service providers, with the vast majority finding employment within the major disciplines of DNA (40%) and toxicology (35%). According to the Bureau of Justice Statistics, DNA and toxicology are among the most outsourced forensic disciplines[14]. Publicly funded crime laboratories faced a backlog of more than 1 million cases at years-end, so there is no question that SHSU forensic science graduates are effectively meeting job market needs.



The majority of existing MSFS graduates find work as government forensic scientists, finding employment in publicly funded laboratories at the state (27%), county (27%), city (6%) and federal (6%) level. To date, 7% pursue research, continuing their academic study at other institutions across the US. These students typically pursue doctoral degrees in chemistry, molecular biology or a related natural science. Current and past graduates of the MSFS Program are keen to pursue doctoral research within the institution in the future. Three of the 14 students graduating in 2012 indicated a preference to remain at SHSU and complete a PhD in Forensic Science. Instead, they pursued doctoral degrees in natural science out of state. Based on the reputation of the MS Program, its ability to attract out-of-state students, and the desire of students to continue their research once they are enrolled in the MS Program, the PhD in Forensic Science is likely to be extremely successful.

[14] Census of Publicly Funded Laboratories, 2009. Bureau of Justice Statistics, U.S. Department of Justice, Office of Justice Programs, August 2012.



D. Student Recruitment

Recruitment efforts would focus on attracting highly motivated applicants with strong and proven academic success in the natural sciences. Recruitment would take place on a state and national level, with emphasis on potential candidates already enrolled in the existing MS program, other FEPAC-accredited programs, and individuals already employed as forensic scientists who wish to pursue doctoral studies. The strong academic-industrial partnerships that already exist are also a vehicle for recruitment, particularly for those with laboratory experience and the desire to pursue doctoral research for advancement purposes. Students from underrepresented groups will be a targeted focus of recruitment and retention efforts, and scholarship funds will be made available to help attract and keep highly qualified students.

The MSFS program attracts a large number of out of state students due to recruitment efforts at the national level. This includes participation in the American Academy of Forensic Sciences (AAFS) Education Fair, an exposition of FEPAC-accredited forensic science programs, which takes place in conjunction with the annual AAFS meeting, attracting more than 3,000 attendees.

E. Enrollment Projections

Use this table to show the estimated cumulative headcount and full-time student equivalent (FTSE) enrollment for the first five years of the program. Include summer enrollments, if relevant, in the same year as fall enrollments. Provide explanations of how headcounts, FTSE numbers, and projections for under-represented students were determined.

Table 4. Enrollment projections.

	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	6	6	6	7	7
African-American	1	0	1	0	1
Hispanic	1	2	1	2	1
Cumulative Headcount	6	12	17	24	31
FTSE[15]	6.3	12.7	17.9	25.3	32.7
Attrition	0	0	1	0	1
Graduates	NA	NA	NA	6	6

The existing MSFS limits enrollment to no more than 20 students in each academic year cohort. The proposed Ph.D. program will admit an annual cohort of 6 doctoral students during the first three years of operation and offset estimated attrition of 1 student in years 3 and 5 by admitting 7 students in years 4 and 5. The size of the cohort is based upon past experience with applicant pools in forensic science as well as available resources for the proposed program. There should be no difficulty in recruiting and enrolling 6 highly qualified doctoral students annually. The numbers of new students listed in the enrollment projections in Table 4 are inclusive of African-American and Hispanic students. These projections for the PhD program are based upon the existing racial mix within the existing MS program.

II. Academics

Opportunities for Research

The research philosophy of the doctoral program in forensic science is two-fold: First, to promote interdisciplinary scientific research and second, promotion of academic-industrial partnerships with forensic laboratories.

Forensic research at SHSU is already interdisciplinary in nature and attracts significant federal funding. Since 2008, SHSU has attracted more than $4.5 million in external funding (Table 5), of which core and support faculty associated with the doctoral program account for more than $3 million. The proposed PhD program would make SHSU more competitive in terms of federal awards and assistance. In addition to state, local and federal funds in support of forensic science and related research, students at SHSU would be eligible for the Ph.D. Graduate Research Fellowship (GRF) program of the National Institute of Justice (NIJ). These competitive awards support research on crime, violence, and other criminal justice-related topics within accredited academic universities that offer research-based doctoral degrees in disciplines relevant to NIJ's mission.

The report to Congress from the National Academy of Science specifically addressed the need for additional research and the importance of FEPAC-accredited educational programs.

[15] FTSE calculated based upon the completion of 19 SCH (year one) / 18 SCH (requirement for doctoral programs) x number of students (cumulative headcount).

Proposed forensic science reform legislation specifically addresses these issues. Reform legislation calls for the development of a national research strategy. It calls for grant funding to specifically address the need to conduct research, build relationships with forensic practitioners, and educate students. It calls for academia and practitioners alike to stimulate innovative and creative solutions to satisfy the research needs and priorities identified in the research strategy.

Table 5. Summary of external funding demonstrating interdisciplinary forensic research at SHSU.

Funding Agency and Title	**Award**
Bureau of Justice Assistance. SHSU **Rural Crime Laboratory.** Dr. Vincent Webb, Principal Investigator (Criminal Justice), 2011-2012.	$1,000,000
Bureau of Justice Assistance. SHSU **Rural Crime Laboratory.** Dr. Vincent Webb, Principal Investigator (Criminal Justice), 2010-2011.	$800,000
Department of Justice, Office of Justice Programs**,** National Institute of Justice. SHSU **Rural Crime Laboratory.** Dr. Vincent Webb, Principal Investigator (Criminal Justice), 2010-2011.	$701,475 $335,360
United States Environmental Protection Agency (EPA). **Environmental Crimes Program Training (Project ENCRIPT).** Dr. David Webb, Principal Investigator (Criminal Justice), 2012.	$893,483
Department of Justice, Office of Justice Programs**,** National Institute of Justice. **Designer Amphetamines in Forensic Toxicology Casework: Analysis and Prevalence**. Dr. Sarah Kerrigan, Principal Investigator (Forensic Science/Criminal Justice), 2008-2011.	$466,492
National Institute of Health. **Catalytic Bio-Scavengers with Broad Specificity Against OP Nerve Agents**. Dr. Ilona Petrikovics, Principal Investigator (Chemistry), 2007-2011.	$400,861
Department of Justice, Office of Justice Programs**,** National Institute of Justice. **Opening the Black Box of NIBIN**. Dr. William King, Principal Investigator (Criminal Justice), 2011 (3 yrs).	$341,807
Department of Justice, Office of Justice Programs**,** National Institute of Justice. **Development of Quantitative Evaluation of Steganalysis and Digital Forgery Detection Systems.** Qingzhong Liu, Principal Investigator (Computer Science), 2012 (3 yrs).	$331,056
Department of Justice, Office of Justice Programs**,** National Institute of Justice. **Human Decomposition: A Mosaic Model for Community Succession and Implications for Future Forensic Research**. Sybil Bucheli/Aaron Lynne, Principal Investigators (Biological Science), 2012 (3 yrs).	$304,961
United States Army Medical Research Institute of Chemical Defense (USAMRICD). **Development and Efficacy Testing of Next Generation Cyanide Antidotes**. Dr. Ilona Petrikovics, Principal Investigator (Chemistry), 2012.	$192,880
National Institute of Health: National Institute of Allergy and Infectious Disease/United States Army Medical Research Institute of Chemical	$191,712 $208,305

Defense (NIH:NIAID/USAMRICD). **Investigation of Sulfur Donors for Cyanide Antagonism**. Dr. Ilona Petrikovics, Principal Investigator (Chemistry), 2008-2013.	$218,682 $237,844 $219,680
Department of Justice, Office of Justice Programs**,** National Institute of Justice. **Improved Detection of Synthetic Cathinones ("Bath Salts") in Forensic Toxicology Samples**. Dr. Sarah Kerrigan, Principal Investigator (Forensic Science/Criminal Justice), 2012.	$190,227
Department of Justice, Office of Justice Programs**,** National Institute of Justice. **Sex Assault Kit Backlog/HPD.** Dr. William Wells, Principal Investigator (Criminal Justice), 2011, Phase III (pending).	$80,898 $211,533 $132,254
Texas Education Agency. **Development/revision of CTE Forensic Science project**. Dr. David Webb, David Gangitano, Principal Investigators (Criminal Justice), 2011, 2012, (pending).	$151,000 $100,000
Court of Criminal Appeals of Texas. **Eyewitness Identification Policy**. Dr. Rita Watkins, Principal Investigator (Criminal Justice), 2012.	$40,000
National Institute of Justice (NIJ)/Forensic Science Foundation (FSF) Student Grant, **Species Composition of the Maggot Mass**. David Gangitano/Sybil Bucheli, Principal Investigators (Forensic Science/Criminal Justice; Biological Science) for Ashleigh Faris. 2011-2012.	$7,000
National Institute of Justice (NIJ)/Forensic Science Foundation (FSF) Student Grant, **Salvinorin A in Blood: Detection, Stability and Selection of Internal Standard**. Sarah Kerrigan, Principal Investigator (Forensic Science/Criminal Justice) for Lyndsi Ayers. 2009-2010.	$6,900
National Institute of Justice (NIJ)/Forensic Science Foundation (FSF) Student Grant, **Detection of Beta-Keto Amphetamines in Biological Samples**. Sarah Kerrigan, Principal Investigator (Forensic Science/Criminal Justice) for Kayla Ellefsen. 2011-2012.	$6,750
National Institute of Justice (NIJ)/Forensic Science Foundation (FSF) Student Grant, **The Detection of Synthetic Cannabinoids in Biological Samples**. Sarah Kerrigan, Principal Investigator (Forensic Science/Criminal Justice) for Emily Young. 2010-2011.	$6,700
National Institute of Justice (NIJ)/ Forensic Science Foundation (FSF), Student Grant, **Marijuana Profiling Using Headspace Solid Phase Microextraction Coupled with Gas Chromatography/Mass Spectrometry.** Dr. Jorn Yu, Principal Investigator (Forensic Science/Criminal Justice) for Tiffany McCann, 2012-2013.	$6,000
National Institute of Justice (NIJ)/ Forensic Science Foundation (FSF), Student Grant, **The Separation Of Chiral Psychedelic Amphetamine By Molecularly Imprinted Monolithic Polymers.** Dr. Jorn Yu, Principal Investigator (Forensic Science/Criminal Justice) for Seongshin Gwak, 2010-2011.	$4,000
National Institute of Justice (NIJ)/Forensic Science Foundation (FSF) Student Grant, **Pollen DNA: A New Tool for Forensic Investigations**. David Gangitano, Principal Investigator (Forensic Science/Criminal Justice) for Jennifer Sycalik. 2009-2010.	$3,700

Academic-Industrial Partnerships

Most operational laboratories are overwhelmed by casework and carry significant backlogs, making it difficult for examiners to accommodate research within the operational pressures of their organizations. Laboratories are also able to provide ideas for research projects based upon problems encountered in casework and technological needs, based on their own experience of where scientific improvements are needed and where knowledge gaps exist.

Universities can provide a strong research capability, and partnerships between forensic laboratories and academia are mutually beneficial. The doctoral program in forensic science promotes this exchange, whereby the laboratory becomes engaged in meaningful research and access to additional resources, and the university is able to establish a meaningful partnership with industry. This allows the university to demonstrate industrial relevance, and the forensic laboratory to demonstrate wider scientific awareness. Academic partnerships can play a significant role in ensuring an outward looking scientific attitude is maintained, as highlighted in the NAS report.

The conflict that arises between popularly promoted science and reality makes it all the more important for programs to have strong links with operational laboratories and make the most of bilateral partnerships between academia and industry. Universities can play an important role in the quality management continuum of an operational laboratory by providing scientific education and valuable research. Access to resources necessary for rigorous scientific research is a major advantage of these partnerships. Linking operational laboratories with productive research programs provides a basis for a proactive and forward-looking profession. The strong academic-industrial partnerships that already exist at SHSU[16] will ensure that research in the PhD program will have a direct benefit to the field of forensic science.

A. Accreditation

The American Academy of Forensic Sciences (AAFS) was established in 1948 to promote education and research in the forensic sciences; to encourage the study, improve the practice, elevate the standards, and advance the cause of the forensic sciences; to promote interdisciplinary communications; and to plan, organize, and administer meetings, reports, and other projects for the stimulation and advancement of these and related purposes[17].

An assessment of forensic sciences published in 1999 by the National Institute of Justice (NIJ), entitled “Forensic Science: Review of Status and Needs,” described the educational and training needs of the forensic science community as “immense.” The report specifically called for the following:

[16] See Recommended Appendix B - Specific Clinical or In-Service Sites to Support the Program: Current Internship Agencies Illustrating Existing Academic-Industrial Partnerships.
[17] www.AAFS.org.

- National standards for education in forensic sciences.
- An independent, community-wide, consensus-building, standard-setting body such as a technical working group for education in forensic sciences.
- An accreditation system for forensic science education programs.

These recommendations from the National Institute of Justice were met in 2003 with the establishment of the standards developed by the Forensic Science Education Programs Accreditation Commission. FEPAC accredits BS and MS-level forensic science programs. There is no accrediting body for doctoral programs at present. However, that is likely to change in coming years given the recent focus on forensic science education and research needs throughout the US. When developing accreditation standards for new degree programs, the commission typically works with one or two pilot programs. Given SHSUs strong performance in the MS program under FEPAC, we would aggressively pursue the opportunity to be the pilot PhD program in forensic science.

B. Admissions Standards

Candidates for admission must hold a bachelor's degree or higher from a regionally accredited institution in chemistry or biology; or a bachelor's degree or higher from a regionally accredited institution in a forensic or natural science with the equivalent of a minor in either chemistry or biology.

The PhD in Forensic Science requires the completion of 86 semester credit hours of core course work, internship, electives and dissertation, based upon the student's original research. Students who previously graduated from the MSFS program at SHSU may incorporate up to 44 semester credit hours towards the doctoral degree with approval from the Forensic Science Advisory Committee. A maximum of 15 semester credit hours may be transferred from another graduate program with approval from the Forensic Science Advisory Committee in accordance with institutional policies.

C. Degree Requirements

Currently there are no PhD programs in Forensic Science within the United States. Instead, individuals pursue doctoral degrees in the natural sciences. Doctoral programs that offer "emphasis" in forensic science are summarized in Table 6. Degree requirements vary considerably, with credit hours ranging from 46-90 between institutions. The programs in Table 6 include those selected by past MSFS graduates for doctoral pursuits. Although several offer forensic "emphasis", course offerings in highly specialized disciplines of forensic science are very limited. The Forensic Science Department at SHSU already offers a robust and diverse graduate curriculum as a result of the FEPAC-accredited Master's program. The institution has the resources necessary to develop and support the additional courses that are needed. The foundation of the interdisciplinary doctoral program in forensic science at SHSU is rooted in the existing MS program, with strong focus on interdisciplinary and interdepartmental collaboration, course development, research, and existing industrial partnerships. The proposed doctoral program, which is designed to advance its graduates into leadership positions within forensic science, is unique in this respect.

A precedent has already been set for a truly interdisciplinary science program at the doctoral level in Texas. The Interdisciplinary Program in Chemical Biology at the University of Houston is an interdepartmental research program requiring 54 semester credit hours beyond the bachelor's level. This program was developed to establish a pathway towards doctoral level education that crossed traditional disciplines of chemistry, biology and biochemistry. Although this interdisciplinary program does not have any forensic science focus or emphasis, it is an example of how collaborative research within a doctoral program can advance modern science and technology in more than one department.

Table 6. Doctoral programs within the US offering "emphasis" in forensic science.

Institution/Department	**Degree**	**Comments**
University of Albany Department of Chemistry	PhD in Analytical/Forensic Chemistry	60 credits; (limited core coursework, heavily focused on medicinal chemistry and forensic drug chemistry)
Florida International University Department of Chemistry	PhD in Chemistry	90 credits; emphasis on analytical (trace/toxicological) or biochemical (emphasis on DNA)
Ohio University Department of Chemistry and Biochemistry	PhD in Chemistry	No fixed number of credits; Interdisciplinary programs specializing in bio-analysis, bio-organic chemistry and biochemistry; forensic chemistry focus
University of Central Florida Department of Chemistry	PhD in Chemistry	72 credits beyond the bachelor's degree with 15 credit hours of dissertation; forensic chemistry focus
University of North Texas Health Science Center Graduate School of Biomedical Sciences	PhD in Biomedical Science (with forensic/investigative genetics focus)	90 credits beyond the bachelor's degree with a minimum of 12 credit hours of dissertation; emphasis on forensic investigative genetics
University of Maryland School of Public Health	PhD in Toxicology and Environmental Health	46 credits; minimum of 12 credit hours of dissertation

The PhD in Forensic Science will require the completion of 86 credit hours beyond the bachelor's degree (Table 7). Students complete a total of 45 credit hours of core coursework (inclusive of internship), 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 research in the area of interest. Students are expected to fulfill the requirements during four to five years of full-time study.

Table 7. Degree Requirements

Category	Semester Credit Hours	Clock Hours (if applicable)
Required Courses	39	
Prescribed Electives	26	
Free Electives	0	
Dissertation	15	
Other (Specify, e.g., internships, clinical work, residencies)	6 Internship (Required)	
TOTAL	86	

In the curriculum schematic that follows, semester credit hours for each course offering are shown in parenthesis. The cumulative credit count is also indicated on the right hand side for anticipated completion over a four year period.

Curriculum Schematic

Year 1
Core course work [19]

Fall [9 Credit Hours]
FORS 5445 Forensic Instrumental Analysis [4]
FORS 5117 Controlled Substances [1]
FORS 5446 Forensic Toxicology [4]
Spring [11 Credit Hours]
FORS 5360 Pattern and Physical Evidence Concepts [3]
FORS 5440 Forensic Biology [4]
FORS 5335 Trace Evidence and Microscopic Analysis [3]

19 credits

Year 1
Forensic Science Internship [6]

Summer I and II
FORS 6371 Forensic Science Internship [6]

25 credits

Year 2
Core course work [11]
Specialized Electives [8]

Fall [9 Credit Hours]
FORS 5226 Law and Forensic Science [2]
FORS 6394 Forensic Science Capstone Course [3]
Elective(s) [4]
Spring [9 Credit Hours]
FORS 6224 Quality Assurance & Ethics in Forensics [2]
FORS 5116 Seminar in Forensic Science [1]
FORS 6394 Forensic Science Capstone Course [3]
Elective(s) [4]

44 credits

Year 2 (Spring)
Advancement to candidacy

Portfolio Review
Research Proposal
Oral Defense

Unsuccessful candidates may be allowed to complete the requirements for the MS degree

Year 3
Core course work [6]
Specialized Electives [9]
Dissertation [9]

Fall [9 Credit Hours]
FORS 7331 Research Methods [3]
FORS 7332 Scientific Communications [3]
Elective(s) [3]
Spring [9 Credit Hours]
FORS 8099 Dissertation [3]
Elective(s) [6]
Summer [6 Credit Hours]
FORS 8099 Dissertation [6]

68 credits

Year 4
Core course work [3]
Specialized Electives [9]
Dissertation [6]

Fall [9 Credit Hours]
FORS 7390 Forensic Laboratory Management [3]
FORS 8099 Dissertation [3]
Elective(s) [3]
Spring [9 Credit Hours]
FORS 8099 Dissertation [3]
Elective(s) [6]

86 credits

Formal public seminar
Dissertation defense

D. Curriculum

Educational objectives

1. Provide students the knowledge, skills and abilities to prepare them for successful careers in forensic science.

2. Develop students' critical thinking ability, problem-solving skills and advanced discipline-specific knowledge.

3. Produce high quality graduates capable of advancement into leadership positions.

4. Engage in collaborative research that demonstrates industrial relevance and wider scientific awareness.

2. Use these tables to identify the required courses and prescribed electives of the program. Note with an asterisk (*) courses that would be added if the program is approved. (Add and delete rows as needed. If applicable, replicate the tables for different tracks/options.)

Table 8. Required courses.

Prefix and Number	Required Courses	SCH	Year
FORS 5445	Forensic Instrumental Analysis	4	1
FORS 5360	Pattern and Physical Evidence Concepts	3	1
FORS 5231	Techniques for Crime Scene Investigation	2	1
FORS 5117	Controlled Substances	1	1
FORS 5440	Forensic Biology	4	1
FORS 5335	Trace Evidence and Microscopic Analysis	3	1
FORS 5446	Forensic Toxicology	4	1
FORS 6371	Forensic Science Internship (6 credit hours total)	6	1 (Summer)
FORS 5116	Seminar in Forensic Science	1	2
FORS 6394 / 6114	Forensic Science Capstone Course (6 credit hours total) – Special Topics in Forensic Science	3	2
FORS 5226	Law and Forensic Science	2	2

FORS 6224	Quality Assurance and Ethics in Forensic Science	2	2
FORS 7331	Research Methods*	3	3
FORS 7332	Scientific Communications*	3	3
FORS 7390	Forensic Laboratory Management*	3	4
FORS 8099	Dissertation (15 credit hours total)*	15	3-4

Table 9. Electives[18]

Prefix and Number	Prescribed Elective Courses	SCH	Year
FORS 5361	Advanced Forensic Biology	3	2-4
FORS 5215	Statistical Genetics	2	2-4
FORS 6333	Behavioral Genetics	3	2-4
BIOL 5391	Advanced Genetics	3	2-4
FORS 5333	Forensic Anthropology	3	2-4
BIOL 5305	Forensic Entomology	3	2-4
FORS 6346	Advanced Forensic Toxicology	3	2-4
PSYC 5361	Neuropsychopharmacology	3	2-4
CHEM 5372	Advanced Biochemistry I	3	2-4
FORS 6335	Advanced Forensic Chemistry	3	2-4
BIOL 5340	Electron Microscopy	3	2-4
CHEM 5368	Analytical Spectroscopy	3	2-4
FORS 5114	Firearms and Toolmarks	1	2-4
FORS 7381	Explosive Analysis and Detection*	3	2-4
FORS	Warfare Agents*	3	2-4

[18] Additional electives may be selected with approval of the Forensic Science Department Chair.

7385			
FORS 7334	Social Science of Forensics*	3	2-4
FORS 7389	Practicum*	3	4

Table 10. Free electives.

Prefix and Number	Free Elective Courses	SCH
	None	

E. Candidacy / Dissertation

A doctoral student may proceed to candidacy upon successful completion of 44 graduate semester credit hours as follows:

- Nineteen credit hours of core and elective coursework in forensic science during the first year of study; and
- A full-time (400 hour) internship in forensic science during summer I and summer II semesters totaling six credit hours; and
- Five credit hours of core coursework in forensic science, law and ethics during the second year of study; and
- Eight credit hours of electives in specialized courses in the departments of forensic science, chemistry, biological sciences (or other departments upon approval); and
- Completion of six credit hours of capstone research during the second year of study to demonstrate competency with respect to research.

At this time a doctoral student who does not wish to advance to candidacy may petition the Forensic Science Advisory Committee to complete the requirements for a Master of Science in Forensic Science degree.

Advancement to Candidacy

In order to advance to doctoral candidacy students must:

1. Submit a portfolio for review
2. Write a formal research proposal
3. Orally defend the proposal

Students must prepare a portfolio which is a self-evaluation of their progress. This may include papers written for coursework or research, technical reports, a presentation on a

research topic, and/or reviews from previous faculty or instructors. Students are not required to take a comprehensive exam, but must demonstrate their potential in terms of research, technical writing and scholarly enquiry.

The student must also prepare a formal written proposal describing the research. The research proposal must be an outline of the dissertation project. It must include a summary of the project, the hypothesis to be investigated, significance, research design and methodology, limitations and a review of the relevant literature.

Finally, the research proposal must be submitted and orally defended before the end of the second spring semester. The forensic science capstone course is a year-long independent research project conducted under the direct supervision of SHSU faculty. Successful completion of this course, together with the research seminar (FORS 5116), will adequately prepare students for advancement to candidacy during the second year.

A committee comprised of at least four faculty members will perform the review. At least two members of the committee shall be graduate faculty in forensic science or the Departments of Chemistry or Biological Science; one shall be from the College of Criminal Justice; at least one reviewer on each committee must be external to both Criminal Justice and Forensic Science.

If the portfolio, proposal and defense are satisfactory, the student may advance to doctoral candidacy. Doctoral students who are not successful may be dismissed or allowed to complete the requirements for a Master of Science degree.

Students must advance to candidacy before registering for dissertation credits.

During years three and four, doctoral students must maintain continuous enrollment until the dissertation has been completed and submitted for review in accordance with institutional policy. Interdisciplinary and collaborative research is highly encouraged. Although the dissertation research is performed under the direction of the faculty advisor, it is permissible for some research to be conducted off campus or at an affiliated laboratory or facility upon department approval.

During year three students must complete an additional 6 graduate credit hours of core coursework focusing on research methods and design, grant writing and scientific communications. The Forensic Laboratory Management and Leadership requirement is typically completed during the fourth or final year of study. Directed research in the form of a practicum is also highly encouraged during the final year of study. This experience is designed to bridge the gap between academic research and industry and makes use of the strong academic-industrial partnerships that exist. It affords the doctoral student the opportunity to apply the research in a practical setting, adapt technologies for maximal use, appreciate the steps necessary for the implementation of new technology within an accredited environment, and observe the technical and non-technical processes involved.

During years three and four, students are required to take an additional 18 credits of approved electives in the departments of forensic science (FORS), chemistry (CHEM) and biology (BIOL). Specialized coursework in other departments is permissible (MGMT, COMS,

PSYC) and encouraged, particularly for students who intend to pursue administrative leadership roles.

F. Use of Distance Technologies

None at present.

G. Program Evaluation

The program will be evaluated in accordance with the Graduate Program Standards of the Forensic Science Education Programs Accreditation Committee (FEPAC)[19]. In accordance with those standards, a graduate forensic science program shall provide advanced education in the scientific and laboratory problem solving skills necessary for success in a modern forensic laboratory. The program must combine rigorous scientific and laboratory training with exposure to the breadth of forensic science disciplines, including forensic science practice, law enforcement, and ethics. Additionally, the doctoral program will quantitatively evaluate its performance using institutional measures of effectiveness in terms of publication rate, postgraduate employment success and employer satisfaction. In addition, the program will be reviewed as part of the ongoing SHSU periodic academic program review process. This process involves intensive self-study complemented by an external assessment conducted by disciplinary experts. The doctoral program will be subjected to this review every five years.

III. Faculty

A. Faculty Availability

Use these tables to provide information about core and support faculty. Add an asterisk (*) before the names of the individuals who will have direct administrative responsibilities for the program. Add a pound symbol (#) before the name of any individuals who have directed doctoral dissertations or master's theses. Add and delete rows as needed. (Core Faculty: Full-time tenured and tenure-track faculty who teach 50 percent or more in the doctoral program or other individuals integral to the doctoral program who can direct dissertation research. Support Faculty: Other full-time or part-time faculty affiliated with the doctoral program.)

[19] Available at www.aafs.org.

Table 11. Core faculty

Name and Rank of Core Faculty	Highest Degree and Awarding Institution	Courses Assigned in Program	% Time Assigned to Program
*#Kerrigan, Sarah (Professor & Chair)	PhD Chemistry University of British Columbia, Canada	FORS 5446 (Forensic Toxicology), FORS 5116 (Forensic Seminar), FORS 6371 (Forensic Internship), FORS 6394 (Forensic Science Capstone), FORS 6224 (QA and Ethics in Forensic Science), FORS 7390 (Forensic Lab Management), FORS 7332 (Scientific Communications), FORS 6346 (Advanced Forensic Toxicology), FORS 7389 (Practicum), FORS 8099 (Dissertation)	50%
#Gangitano, David (Assistant Professor)	PhD Forensic Medicine & Toxicology, University of Buenos Aires, Argentina	FORS 5231 (CSI), FORS 5440 (Forensic DNA), 5116 (Forensic Seminar), FORS 6224 (QA and Ethics in Forensic Science), FORS 5361 (Advanced Forensic DNA), FORS 5215 (Statistical Genetics), FORS 6394 (Forensic Science Capstone), FORS 7331 (Research Methods), FORS 8099 (Dissertation)	50%
#Yu, Chi-Chung (Associate Professor)	PhD Chemistry, Carleton University, Canada	FORS 5445 (Forensic Instrumental), FORS 5360 (Pattern Evidence), FORS 5117 (Controlled Substances), FORS 5335 (Trace Evidence), 6224 (QA and Ethics in Forensic Science); FORS 6394 (Forensic Science Capstone), FORS 7331 (Research Methods), FORS 6335 (Advanced Forensic Chemistry), FORS 8099 (Dissertation)	50%
Hughes-Stamm, Sheree (Clinical Assistant	PhD Biology, Bond University, Australia	FORS 5440 (Forensic DNA), FORS 5116 (Forensic Seminar), FORS 5361 (Advanced Forensic DNA), FORS 5215 (Statistical Genetics), FORS 7332 (Scientific Communications), FORS 8099	50%

Professor)		(Dissertation)	
Bytheway, Joan (Associate Professor)	PhD Physical Anthropology, University of Pittsburgh	FORS 5333 (Forensic Anthropology), FORS 5116 (Forensic Seminar), FORS 6224 (QA and Ethics in Forensic Science), FORS 6394 (Forensic Science Capstone), FORS 7332 (Scientific Communications), FORS 8099 (Dissertation)	50%
Millican, Jasmine (Assistant Professor)	PhD Chemistry, Louisiana State University	FORS 5445 (Forensic Instrumental), FORS 5231 (CSI), FORS 5117 (Controlled Substances), FORS 5335 (Trace Evidence), FORS 6335 (Advanced Forensic Chemistry), FORS 6394 (Forensic Science Capstone), FORS 8099 (Dissertation)	50%

Existing students in the Master of Science in Forensic Science complete the equivalent of a master's thesis during the course of their two-year full-time study.

During the first several years of program operation, core faculty who are full-time in forensic science will have 50% of their time allocated to the doctoral program. This allocation is based on the estimated mix of masters-level and doctoral students. About 50% of the instructional and research effort of the Forensic Science Department will be devoted to doctoral-level education and 50% to masters-level education. Support faculty include those from departments other than forensic science who will teach an occasional elective in which doctoral students as well as students from other programs and disciplines are enrolled. On occasion they will serve on dissertation committees and direct doctoral student research.

Table 12. Support faculty.

Name of Support Faculty and Faculty Rank	**Highest Degree and Awarding Institution**	**Courses Assigned in Program or Other Support Activity**	**% Time Assigned to Program**
Armstrong, Todd (Associate Professor)	PhD Criminology and Criminal Justice, University of Maryland	FORS 6333 (Behavioral Genetics)	15%
Boisvert, Danielle	PhD Criminal Justice, Penn	FORS 6333 (Behavioral	15%

(Assistant Professor)	State Harrisburg	Genetics)	
Boutwell, Brian (Assistant Professor)	PhD Criminology, Florida State University	FORS 6334 (Behavioral Genetics)	15%
Bucheli, Sibyl (Assistant Professor)	PhD Entomology, Ohio State University	FORS 5305 (Forensic Entomology)	15%
Choudhary, Madhusudan (Assistant Professor)	PhD Genetics, McMaster University, Canada	BIOL 5391 (Advanced Genetics)	<5%
Dowling, Jerry (Professor)	J.D., College of Law, The University of Tennessee	FORS 5226 (Law and Forensic Science)	15%
Haines, Donovan (Assistant Professor)	PhD Chemistry, Wichita State University	CHEM 5372 (Advanced Biochemistry I)	15%
King, William (Associate Professor)	PhD Criminal Justice, University of Cincinnati	FORS 7334 (Social Science of Forensics)	15%
Petrikovics, Ilona, (Associate Professor)	PhD Medicinal Biology, University Medical School, Debrecen, Hungary; PhD Organic Chemistry, University of Arts and Sciences, Debrecen, Hungary	FORS 7389 (Warfare Agents)	15%
Randle, Chris (Assistant Professor)	PhD Evolution, Ecology and Organismal Biology, Ohio State University	BIOL 5391 (Advanced Genetics)	<5%
Williams, Darren (Associate Professor)	PhD Chemistry, Oregon State University	FORS 7381 (Explosive Analysis and Detection), CHEM 5368 (Analytical	15%

		Spectroscopy)	
Williams, Justin (Associate Professor)	PhD Botany, University of Texas	BIOL 5340 (Electron Microscopy)	<5%
Wilson, Chris (Professor and Chair)	PhD Psychology, Texas Christian University	PSYC 5361 (Neuropsychopharmacology)	<5%

B. Teaching Load

The research teaching load for faculty at SHSU requires them to teach the equivalent of 9 credit hours each long semester. Doctoral courses are weighted in such a way as to result in a reduced course load in accordance with institutional policy. Faculty also earn release time for supervising dissertation research (upon the student's completion of the research), and through external funding.

C. Faculty Productivity

For the most recent five years, indicate the number of discipline-related refereed papers/publications, books/book chapters, juried creative/performance accomplishments, notices of discoveries filed/patents issued per core faculty member, and the number and amount of external grants. Conference papers, reviews, posters, and similar scholarship need not be included. Where relevant to performing arts degrees, major performances or creative endeavors by core faculty should be included.

Table 13. Core faculty productivity.

Core Faculty	Refereed Papers/Publications	Books/Book Chapters	Number of External Grants	Amount of External Grants
*Kerrigan, Sarah	9	5	5	$677,069
Gangitano, David	7	-	4	$310,700
Yu, Chi-Chung	10	1	2	$10,000

Hughes-Stamm, Sheree	2	-	-	-
Bytheway, Joan	8	-	-	-
Millican, Jasmine	5	-	-	-

IV. Resources

A. Student Financial Assistance

Identify the number of full-time and part-time students who would be funded and the anticipated amounts for each of the first five years.

		2014	2015	2016	2017	2018
Teaching Assistantships	# of students	-	-	-	-	-
	Amount per student	-	-	-	-	-
Research Assistantships	# of students	3	6	9	12	15
	Amount per student	$20,000	$20,000	$20,000	$20,000	$20,000
Scholarships	# of students	6	6	6	7	7
	Amount per student	$6,000	$6,000	$6,000	$6,000	$6,000

The College of Criminal Justice currently provides financial support in the amount of $20,000 per academic year to doctoral students serving as research assistants. Forensic science doctoral students would receive equivalent support. The most recent (2012) survey of criminal justice doctoral programs conducted by the Association of Doctoral Programs in Criminology and Criminal Justice (ADPCCJ), indicates that the median stipend for criminology and criminal justice doctoral students is $20,000, although there is substantial variability across the 33 programs responding to the survey. The combination of stipend and scholarship support proposed for forensic science doctoral students will make the program competitive with regard to student support. The College of Criminal Justice also has a variety of different scholarships that would be made available to doctoral students and the College of Graduate Studies provides summer fellowship funding to support graduate student research that forensic science doctoral student would be able to access. Additional, external funding sources are available. The U.S. Department of Justice (DOJ), provides funding under the PhD Graduate Research Fellowship (GRF) program of the National Institute of Justice (NIJ). These competitive awards support research on research on crime, violence, and other criminal justice-related topics within accredited academic universities that offer research-based doctoral degrees in disciplines relevant to NIJ's mission. Up to $25,000 is available for a 9–18-month project period for students who have advanced to

candidacy within the institution.

B. Library Resources

The Newton Gresham Library, open 100 hours week, provides access to a collection of over 1.3 million books and journals. The library also offers access to a variety of electronic resources including licensed books, journals, and bibliographic/full text databases. The Library subscribes to over 200 electronic databases, most of which include access to full text articles and chapters. In addition, the library has access to more than 45,000 full text journals and over 68,000 electronic books. Specifically, for the Forensic Science doctorate the most relevant electronic books are provided by CRCNetbase a multidisciplinary collection of e-books in the areas of Forensics/Law Enforcement, Biology, and Chemistry. Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as American Chemical Society Publications, Science Direct, SpringerLink, Wiley Interscience, Biological Abstracts, Web of Science, MEDLINE, International Security & Counter Terrorism Reference Center, Criminal Justice Abstracts, Proquest Criminal Justice and Sage Premier. The Library provides 24/7 remote access to its collection of electronic resources.

A full service interlibrary loan system allows students access to library resources from across the country. A "Virtual Reference Desk" provides students with real time access a librarian who can guide students to the appropriate resource, or help develop a research strategy. Current holdings in the library are fully adequate for this program. The library will monitor the demand for document delivery and interlibrary loan services to determine the need for additional journals or other electronic resources as the program grows and specific research areas are identified.

C. Facilities and Equipment

The existing Department of Forensic Science is located in the Chemistry and Forensic Science (CFS) Building, located centrally on campus. This $16M state of the art scientific facility was constructed in 2006 and houses both the Departments of Forensic Science (College of Criminal Justice) and Chemistry (College of Science). The 37,000 square foot facility offers classroom, office and laboratory space.

In 2008 the university invested in the Southeast Texas Applied Forensic Facility (STAFS). This applied forensic science facility is dedicated to forensic research and training, in particular anthropological activities. The facility (approximately nine acres) is contained within the 247 acre Center for Biological Field Studies, currently operated by the Department of Biology at Sam Houston State University.

The existing graduate program in forensic science has grown considerably between 2006 and 2012. The number of full-time faculty has almost doubled to support enrollment in the FEPAC-accredited Master's program.

The Forensic Science Department occupies approximately 7,800 SF of the 37,000 SF facility. Laboratory, administrative and storage space account for approximately 5100, 2200 and 500 SF, respectively. Teaching laboratories are used for both instructional and research purposes.

Since 2007, SHSU has made considerable capital investments in scientific equipment, totaling more than $1,000,000. For the doctoral program to be competitive, additional investments totaling $600,000 would be required over the first two years to support research in forensic molecular biology (DNA sequencer), trace evidence (scanning electron microscope) and other universal forensic instrumental techniques (mass spectrometry).

D. Support Staff

The Forensic Science Department is currently supported by one full-time staff member who provides a combination of both technical and administrative support. Staff within the College of Criminal Justice provide supplemental administrative support as needed. One additional full time employee to provide both technical (scientific) and administrative support will be required. Funding for this position will come from new and reallocated budget lines.

E. Five-Year Costs and Funding Sources Summary

On the attached forms, provide estimates of new costs to the institution related to the proposed program and provide information regarding sources of the funding that would defray those costs. Use the Program Funding Estimation Tool found on the Coordinating Board web site (www.thecb.state.tx.us/newprogramscertificates) and attach a saved copy of the completed Excel spreadsheet to your application.

V. Institutional Readiness

A. Strategic Plan

Describe how the proposed doctoral program fits into the institution's overall strategic plan, and provide the web link to the institution's strategic plan.

The doctoral degree in Forensic Science emerged from the University's academic plan and is the highest graduate program priority for the University. It builds on the strength of the programs in the nationally recognized College of Criminal Justice. It is a natural extension of the excellent forensic programs already housed in the college. SHSU's strategic goals include the development and delivery of rigorous, contemporary curricula and optimizing the mix of academic programs in an effort to maximize research potential. The proposed doctoral program at SHSU is consistent with these strategic goals.

In addition to implementing a rigorous contemporary curricula, the program will significantly enhance research capability at the institution. Research contributions in the area of forensic science are already strong, but the doctoral program affords an opportunity for expanded research, additional external funding opportunities and continued growth. The PhD program in Forensic Science allows SHSU to capitalize on the existing MS program to achieve what is most likely to be a nationally recognized program. Just as the MS in Forensic Science was the first graduate program to be accredited by FEPAC in Texas, development of a doctoral program at a time when there is so much focus on forensic reform, education and training at the national level, is most timely.

The institution's strategic plans can be found at the following web link:
http://www.shsu.edu/~pre_www/documents/StrategicPlanSummaryComplete10%202012.pdf

B. Related and Supporting Programs

Use this table to list all undergraduate and graduate programs within the same 2-digit CIP code that would support the proposed program. Include enrollment, number of graduates, graduation rate, and average time to degree for the last five years. Calculate the program graduation rate starting at the time a student takes the first course in his or her major outside the core curriculum. (Add and delete rows as needed.)

Programs in chemistry and biology do not share the same 2-digit CIP code, but are clearly relevant since they would support the program.

MS in Forensic Science 43010600					
	Fall 07	**Fall 08**	**Fall 09**	**Fall 10**	**Fall 11**
Enrollment (Fall only)	27	24	23	27	22
	F07-Summer08	**F08-Summer09**	**F09-Summer10**	**F10-Summer11**	**F11-Summer12**
# of Graduates (Fall to Summer)	14	13	11	12	15
	Entering Cohort F06 Graduated until Sum08	**Entering Cohort F07 Graduated until Sum09**	**Entering Cohort F08 Graduated until Sum10**	**Entering Cohort F09 Graduated until Sum11**	**Entering Cohort F10 Graduated until Sum12**
2 Year Graduation Rate	100.0%	92.3%	91.7%	91.7%	100.0%
	Entering Cohort F03 Graduated until Sum08	**Entering Cohort F04 Graduated until Sum09**	**Entering Cohort F05 Graduated until Sum10**	**Entering Cohort F06 Graduated until Sum11**	**Entering Cohort F07 Graduated until Sum12**
5 Year Graduation Rate	100.0%	87.5%	100.0%	100.0%	100.0%
	# of Semesters for students who Graduated in F07 - Sum08	**# of Semesters for students who Graduated in F08 - Sum09**	**# of Semesters for students who Graduated in F09 - Sum10**	**# of Semesters for students who Graduated in F10 - Sum11**	**# of Semesters for students who Graduated in F11 - Sum12**
Avg. Time to Degree (# of Semesters)	5.2	5.0	5.0	5.3	5.8

MS in Biology 26010100					
	Fall 07	**Fall 08**	**Fall 09**	**Fall 10**	**Fall 11**
Enrollment (Fall only)	24	28	32	35	38
	F07-Summer08	**F08-Summer09**	**F09-Summer10**	**F10-Summer11**	**F11-Summer12**
# of Graduates (Fall to Summer)	6	5	9	5	11
	Entering Cohort F06 Graduated until Sum08	**Entering Cohort F07 Graduated until Sum09**	**Entering Cohort F08 Graduated until Sum10**	**Entering Cohort F09 Graduated until Sum11**	**Entering Cohort F10 Graduated until Sum12**
2 Year Graduation Rate	28.6%	16.7%	38.5%	8.3%	40.0%
	Entering Cohort F03 Graduated until Sum08	**Entering Cohort F04 Graduated until Sum09**	**Entering Cohort F05 Graduated until Sum10**	**Entering Cohort F06 Graduated until Sum11**	**Entering Cohort F07 Graduated until Sum12**
5 Year Graduation Rate	50.0%	33.3%	50.0%	71.4%	50.0%
	# of Semesters for students who Graduated in F07 - Sum08	**# of Semesters for students who Graduated in F08 - Sum09**	**# of Semesters for students who Graduated in F09 - Sum10**	**# of Semesters for students who Graduated in F10 - Sum11**	**# of Semesters for students who Graduated in F11 - Sum12**
Avg. Time to Degree (# of Semesters)	8.8	8.8	7.2	9.4	8.3

MS in Chemistry (40050100)					
	Fall 07	**Fall 08**	**Fall 09**	**Fall 10**	**Fall 11**
Enrollment (Fall only)	7	8	5	9	11
	F07-Summer08	**F08-Summer09**	**F09-Summer10**	**F10-Summer11**	**F11-Summer12**
# of Graduates (Fall to Summer)	1	4	4	1	5
	Entering Cohort F06 Graduated until Sum08	**Entering Cohort F07 Graduated until Sum09**	**Entering Cohort F08 Graduated until Sum10**	**Entering Cohort F09 Graduated until Sum11**	**Entering Cohort F10 Graduated until Sum12**
2 Year Graduation Rate	50.0%	33.3%	100.0%	NA	62.5%
	Entering Cohort F03 Graduated until Sum08	**Entering Cohort F04 Graduated until Sum09**	**Entering Cohort F05 Graduated until Sum10**	**Entering Cohort F06 Graduated until Sum11**	**Entering Cohort F07 Graduated until Sum12**
5 Year Graduation Rate	100%	50.0%	100.0%	100.0%	100.0%

	# of Semesters for students who Graduated in F07 - Sum08	# of Semesters for students who Graduated in F08 - Sum09	# of Semesters for students who Graduated in F09 - Sum10	# of Semesters for students who Graduated in F10 - Sum11	# of Semesters for students who Graduated in F11 - Sum12
Avg. Time to Degree (# of Semesters)	6.0	6.5	6.5	7.0	6.0
BS in Chemistry (40050100,40051000,40059911)					
	Fall 07	**Fall 08**	**Fall 09**	**Fall 10**	**Fall 11**
Enrollment (Fall only)	238	263	290	317	334
	F07-Summer08	**F08-Summer09**	**F09-Summer10**	**F10-Summer11**	**F11-Summer12**
# of Graduates (Fall to Summer)	15	17	35	29	23
	Entering Cohort F04 Graduated until Sum08	**Entering Cohort F05 Graduated until Sum09**	**Entering Cohort F06 Graduated until Sum10**	**Entering Cohort F07 Graduated until Sum11**	**Entering Cohort F08 Graduated until Sum12**
4 Year Graduation Rate	15.2%	21.9%	20.9%	20.5%	8.9%
	Entering Cohort F02 Graduated until Sum08	**Entering Cohort F03 Graduated until Sum09**	**Entering Cohort F04 Graduated until Sum10**	**Entering Cohort F05 Graduated until Sum11**	**Entering Cohort F06 Graduated until Sum12**
6 Year Graduation Rate	23.8%	14.3%	48.5%	43.8%	32.6%
	# of Semesters for First time Freshmen who Graduated in F07 - Sum08	**# of Semesters for First time Freshmen who Graduated in F08 - Sum09**	**# of Semesters for First time Freshmen who Graduated in F09 - Sum10**	**# of Semesters for First time Freshmen who Graduated in F10 - Sum11**	**# of Semesters for First time Freshmen who Graduated in F11 - Sum12**
Avg. Time to Degree (# of Semesters)	17.3	15.4	13.2	12.9	14.6
BS in Biology 26010100					
	Fall 07	**Fall 08**	**Fall 09**	**Fall 10**	**Fall 11**
Enrollment (Fall only)	511	550	683	868	981
	F07-Summer08	**F08-Summer09**	**F09-Summer10**	**F10-Summer11**	**F11-Summer12**
# of Graduates (Fall to Summer)	61	71	79	59	78
	Entering Cohort F04 Graduated until Sum08	**Entering Cohort F05 Graduated until Sum09**	**Entering Cohort F06 Graduated until Sum10**	**Entering Cohort F07 Graduated until Sum11**	**Entering Cohort F08 Graduated until Sum12**
4 Year Graduation Rate	12.8%	18.6%	15.5%	10.4%	11.2%

	Entering Cohort F02 Graduated until Sum08	Entering Cohort F03 Graduated until Sum09	Entering Cohort F04 Graduated until Sum10	Entering Cohort F05 Graduated until Sum11	Entering Cohort F06 Graduated until Sum12
6 Year Graduation Rate	30%	24.0%	32.1%	36.1%	31.1%
	# of Semesters for First time Freshmen who Graduated in F07 - Sum08	**# of Semesters for First time Freshmen who Graduated in F08 - Sum09**	**# of Semesters for First time Freshmen who Graduated in F09 - Sum10**	**# of Semesters for First time Freshmen who Graduated in F10 - Sum11**	**# of Semesters for First time Freshmen who Graduated in F11 - Sum12**
Avg. Time to Degree (# of Semesters)	13.5	12.9	14.6	14.0	14.7

C. Graduation Rates

1. Confirm that the six-year undergraduate graduation rate is at or above the statewide average, minus the students from Texas A&M University and The University of Texas at Austin. The six-year graduation rate is defined as the percentage of first-time degree-seeking students enrolled in a minimum of 12 SCH their first fall semester who have graduated from the same institution or another Texas public or independent institution in six years. It includes students enrolled in developmental education courses, but it excludes students who transfer in from a community college. The data for each university can be found on the Coordinating Board's web site at www.thecb.state.tx.us/newprogramscertificates.

The six-year undergraduate graduation rate at Sam Houston State University is 60.3%, above the statewide average of 58.3% (and the statewide average excluding UT-Austin and TAMU of 50.2%).

D. Existing Doctoral Programs

Provide the web link(s) for the 18 Characteristics of Doctoral Programs for each of the institution's existing doctoral programs. Describe how the data represent the current quality of the institution's existing doctoral programs. Describe how existing closely related doctoral programs would enhance and complement the proposed program.

(a) The web link for the 18 Characteristics of Doctoral Programs for each of Sam Houston State University's existing doctoral programs can be found at:
http://www.shsu.edu/~grs_www/18Characteristics.html

(b) The University currently has five doctoral programs in operation:

- PhD in Criminal Justice
- PhD in Clinical Psychology
- EdD in Educational Leadership
- PhD in Counselor Education

- EdD in Reading

The data available on the 18 Characteristics demonstrate that each program supports rigorous and high quality doctoral education. Each program is represented with strong numbers of graduates, graduation rates, student and faculty publications, and other quality indicators. Although the programs differ in scope, size, purpose, and age, each existing doctoral program demonstrates a commitment to programmatic rigor while also demonstrating commitment to the success of students enrolled in the program.

(c) One of the existing doctoral programs resides in the College of Criminal Justice. The doctoral program in forensic science will complement the PhD in criminal justice and afford additional opportunities for intellectual collaboration, external funding and interdisciplinary research. There is a growing national interest in the social science-forensic science interface and existing collaborations between the departments of forensic science, criminal justice and criminology will benefit directly from the proposed doctoral program.

VI. Required Appendices

A. Course Descriptions and Prescribed Sequence of Courses
B. Curricula Vitae for Core Faculty
C. Curricula Vitae for Support Faculty
D. Five-Year Faculty Recruitment Plan/Hiring Schedule
E. Institution's Policy on Faculty Teaching Load
F. Itemized List of Capital Equipment Purchases During the Past Five Years[20]
G. Librarian's Statement of Adequate Resources
H. Articulation Agreements (if relevant) with Partner Institutions – Not applicable
I. Action Plan for Improving Undergraduate Success Measures (if relevant) – Not applicable

VII. Recommended Appendices (as applicable)

A. Requests for the addition of new courses
B. Specific Clinical or In-Service Sites to Support the Program: Current internship agencies illustrating existing academic-industrial partnerships
C. Letters of support

[20] "Equipment" has the meaning established in the Texas Administrative Code §252.7(3) as items and components whose cost are over $5,000 and have a useful life of at least one year.

Signature Page

1. Adequacy of Funding – The chief executive officer shall sign the following statement:

   I certify that the institution has adequate funds to cover the costs of the new program. Furthermore, the new program will not reduce the effectiveness or quality of existing programs at the institution.

   _____ _____

   Chief Executive Officer Date

2. Board of Regents Approval – A member of the Board of Regents or designee shall sign the following statement:

   On behalf of the Board of Regents, I certify that the Board of Regents has approved the program.

   _____ _____

   Board of Regents (Designee) Date of Approval

3. Board of Regents Certification of Criteria for Commissioner or Assistant Commissioner Approval – For a program to be approved by the Commissioner or the Assistant Commissioner for Academic Affairs and Research, the Board of Regents or designee must certify that the new program meets the criteria under Texas Administrative Code (TAC) Section 5.50 (b) and (c). The criteria are:

   TAC §5.50(b):

   (1) be within the institution's current Table of Programs;
   (2) have a curriculum, faculty, resources, support services, and other components of a degree program that are comparable to those of high quality programs in the same or similar disciplines at other institutions;
   (3) have sufficient clinical or in-service sites, if applicable, to support the program;
   (4) be consistent with the standards of the Commission of Colleges of the Southern Association of Colleges and Schools and, if applicable, with the standards or discipline-specific accrediting agencies and licensing agencies;
   (5) attract students on a long-term basis and produce graduates who would have opportunities for employment; or the program is appropriate for the development of a well-rounded array of basic baccalaureate degree programs at the institution;
   (6) not unnecessarily duplicate existing programs at other institutions;
   (7) not be dependent on future Special Item funding;
   (8) have new five-year costs that would not exceed $2 million.

   TAC §5.50 (c)

   (1-2) be in a closely related discipline to an already existing doctoral program(s) which is productive and of high quality;
   (3) have core faculty that are already active and productive in an existing doctoral program;
   (4) have received no objections from other institutions during the 30-day comment period; and
   (5) have a strong link with workforce needs or the economic development of the state.

   On behalf of the Board of Regents, I certify that the new program meets the criteria specified under TAC Section 5.50 (a and b).

Board of Regents (Designee) Date

COSTS TO THE INSTITUTION OF THE PROGRAM/ADMINISTRATIVE CHANGE

Note: Use this chart to indicate the dollar costs to the institution that are anticipated from the change requested.

Cost Category	Cost Sub-Category	1st Year	2nd Year	3rd Year	4th Year	5th Year	TOTALS
Faculty Salaries	**(New)**			**$99,000**	$101,970	$105,029	$305,999
	(Reallocated)	**$169,518**	**$174,604**	**$179,842**	$185,237	$190,794	$899,995
Program Administration	**(New)**						
	(Reassignments)	**$30,360**	**$31,271**	**$32,210**	$33,175	$34,170	$161,186
Graduate Assistants	**(New)**	**$60,000**	**$60,000**	**$80,000**	**$140,000**	**$140,000**	$480,000
	(Reallocated)	**$30,000**	**$60,000**	**$100,000**	**$100,000**	**$100,000**	$390,000
Clerical/Staff	**(New)**	**$16,500**	**$16,995**	**$17,505**	$18,030	$18,571	$87,601
	(Reallocated)	**$16,500**	**$16,995**	**$17,505**	$18,030	$18,571	$87,601
Supplies & Materials		**$2,280**	**$4,560**	**$6,840**	$9,000	$14,440	$37,620
Library & IT Resources*							
Equipment		**$300,000**	**$300,000**				$600,000
Facilities							
Other (Identify)		**$6,000**	**$6,000**	**$6,000**	**$7,000**	**$7,000**	$32,000
TOTALS		**$631,158**	**$670,425**	**$538,902**	$612,442	$618,575	$3,071,502

* IT = Instructional Technology

Explanations: Reallocated faculty salaries and reassignments for program and administration are the portion of core and support faculty and existing program administration that that will be dedicated to delivery of the doctoral program. The College of Criminal Justice will reallocate staff from the Criminal Justice Center to support the program as well as two research assistantships. Faculty, administration, and staff cost includes salaries and wages plus 32% fringe benefits and annual salary increases of 3%. Equipment items include DNA analyzers and related equipment. The "other" category includes six $1,000 scholarships awarded annually.

ANTICIPATED SOURCES OF FUNDING

Note: Use this chart to indicate the dollar amounts anticipated from various sources to cover any and all new costs to the institution as a result of the proposed doctoral program. Use the Non-Formula Sources of Funding form to specify as completely as possible each non-general revenue source.

Funding Category	1st Year	2nd Year	3rd Year	4th Year	5th Year	TOTALS
I. Formula Income*			$360,042	$552,517	$643,094	$1,555,653
II. Other State Funding	$75,000	$75,000	$50,000	$50,000	$50,000	$300,000
III. Reallocation of Existing Resources	$252,753	$269,470	$276,156	$283,042	$290,134	$1,371,555
IV. Federal Funding (In-hand only)						
V. Other Funding	$60,000	$60,000	$60,000	$60,000	$60,000	$300,000
TOTALS	$387,753	$404,470	$746,198	$945,559	$1,043,228	$3,527,208

*Please use the Formula Funding Calculation Tool on the Coordinating Board web site to estimate income from the State. See also the *Guidelines for Institutions Submitting Proposals for New Doctoral Programs* document found on the Coordinating Board web site for additional information.

NON-FORMULA SOURCES OF FUNDING

Note: Use this form to specify as completely as possible each of the non-formula funding sources for the dollar amounts listed on the Anticipated Sources of Funding form.

Funding Category	Non-Formula Funding Sources
II. Other State Funding*	**#1**The source of these funds will be the Higher Education Assistance Funds to be used for equipment purchases.
	#2
III. Reallocation of Existing Resources*	**#1** Reallocation of existing resources will involve reassigning faculty and staff time spent on existing programs to the doctoral program. The proportion reassigned reflects the level of effort required for the delivery of a quality program. Of the total full-time forensic science faculty resources currently available, about 50% would remain dedicated to the MSFS and 50% to the Ph.D. in forensic science. Staff resources will be reallocated from the Criminal Justice Center and the College of Criminal Justice. The CJC has staff resources and funding available for these reallocations/reassignments.
	#2 The College of Criminal Justice will reallocate five graduate research assistantships from the CJ Ph.D. program to the FS Ph.D. program.
IV. Federal Funding*	**#1**
	#2
V. Other Funding	**#1** Funds in this category will come from a variety of scholarship and endowment funds that are available to support students in the FS Ph.D.
	#2

Appendix A

Course Descriptions and Prescribed Sequence of Courses

Required Courses

FORENSIC INSTRUMENTAL ANALYSIS (FORS 5445)
This course is devoted to the analytical methodology, approaches, techniques and instrumentation for forensic instrumental applications. A wide variety of techniques that are used in a number of forensic disciplines are covered. Well established methods and novel approaches are discussed. Four-hour laboratory. Credit 4.

PATTERN AND PHYSICAL EVIDENCE CONCEPTS (FORS 5360)
This course introduces the concept of physical evidence, evidence collection, quality assurance, and chain custody procedures. Concepts, theories, and principles used in forensic analysis of material and pattern evidence will be reviewed. Recent developments in the techniques applied in forensic or material and pattern evidence will be discussed. Four-hour laboratory. Credit 3.

CONTROLLED SUBSTANCE ANALYSIS (FORS 5117)
This course will introduce the concepts, theories, and principles used in forensic analysis of controlled substances. Methods of forensic analysis of drugs, including pill identification, microscopic examination, color tests, microcrystalline tests, thin layer chromatography (TLC), Fourier transform infrared spectroscopy (FTIR) and gas chromatography-mass spectrometry (GC-MS) will be explored. The source, origin, chemical properties and clandestine manufacture of controlled substances will also be discussed. Students will gain a fundamental understanding of controlled substance analysis in accordance with the standard of practice in an accredited crime laboratory. Credit 1.

FORENSIC BIOLOGY (FORS 5440)
This course will cover the DNA analysis of biological evidence. Different DNA extraction methods will be discussed as well as techniques for quantification of minimal amounts of DNA and strategies for the analysis of PCR products (STRs, Y-STRs, and mitochondrial DNA). General knowledge of population genetics will be provided to generate the final report. Four-hour laboratory. Credit 4.

TRACE EVIDENCE AND MICROSCOPIC ANALYSIS (FORS 5335)
This course will review the classifications and characteristics of trace evidence and provide hands-on experience in trace evidence and microscopic examination techniques encountered in a crime laboratory. A wide variety of chromatographic, spectroscopic, and microscopic techniques used for the analysis of fibers, hair, gun shot residue (GSR), ink, paints, explosives, and narcotics will be investigated. Prerequisite: FORS 5445. Four-hour laboratory. Credit 3.

FORENSIC TOXICOLOGY (FORS 5446)
This course will provide information on the origins, history, forms, physico-chemical characteristics, and effects of drugs and poisons of forensic interest. The course also includes the qualitative and quantitative analysis of compounds from biological and non-biological matrices and provides hands-on experience with chromatographic and spectroscopic techniques that are widely accepted in forensic laboratories. Prerequisite: FORS 5445. Four-hour laboratory. Credit 4.

INTERNSHIP IN FORENSIC SCIENCE (FORS 6371)
This is a ten week full-time internship in an approved forensic science laboratory. This opportunity allows graduate students to apply their theoretical knowledge and practical skills and abilities in a forensic science setting. Credit 3.

SEMINAR IN FORENSIC SCIENCE (FORS 5116)
This graduate seminar exposes students to a wide variety of original research and emerging topics in forensic science. Students develop both oral and written communication skills and a wider scientific awareness. Credit 1.

QUALITY ASSURANCE AND ETHICS IN FORENSIC SCIENCE (FORS 6224)
This course will introduce the concepts and procedures associated with quality assurance and ethical conduct in forensic science. Credit 2.

LAW AND FORENSIC SCIENCES (FORS 5226)
This course will provide an overview of the law-forensic science interface. This includes legal concepts of admissibility of evidence and proof, rules of evidence, structure and hierarchy of criminal courts, and expert testimony. The course also includes direct and cross examination of students in a moot court setting. Credit 2.

FORENSIC SCIENCE CAPSTONE COURSE (FORS 6114/ FORS 6394)
The capstone experience allows students to formally apply their acquired knowledge and skills in forensic science. This course consists of an independent research project which culminates in a formal written report or manuscript. Additionally, students are required to present their findings orally in a public forum. Credit 1.

RESEARCH METHODS (FORS 7331)
This course offers an overview of research design and methods. This course will provide students the opportunity to discover, structure, and formulate research questions. Through this process students will come to understand the many ways in which researchers can acquire knowledge and insights using a wide variety of research methods. Credit 3.

SCIENTIFIC COMMUNICATIONS (FORS 7332)
In this course students will apply fundamentals of research, design and methods to grant writing and scientific communication. In fulfillment of the course requirements, students must write and defend an NIJ or NIH grant proposal in addition to reviewing and editing proposals and scientific communications. Students must demonstrate competence orally and in writing. Credit 3.

FORENSIC LABORATORY MANAGEMENT (FORS 7390)
This course will help prepare students for administrative and leadership roles in public or private sector forensic science laboratories. Key issues include the quality management system, organizational efficiency, fiscal, personnel and resource management, regulation, certification and accreditation. Credit 3.

DISSERTATION (FORS 8099)

Electives

FORENSIC ANTHROPOLOGY (FORS 5333)
This course equips students with the methodologies and applications of forensic anthropology. It includes extensive hands-on training of the human skeletal system. Students learn and apply the methods used in building a human biological profile, which includes the determination of sex, age, and race based on skeletal features. The identification of skeletal pathologies and trauma will also be introduced. Three-hour laboratory. Credit 3.

FORENSIC ENTOMOLOGY (BIOL 5305)
The methods and materials necessary for use of insects as forensic evidence in legal investigation will be discussed. Laboratory included. Prerequisite: Introductory Entomology course and graduate standing. Credit 3.

ADVANCED FORENSIC DNA (FORS 5361)
This course will cover the practical DNA analysis of extremely degraded biological evidence including hair shafts, nails, teeth and bones. Different extraction methods will be discussed and practically applied as well as techniques for quantification of minimal amounts of DNA, alternative strategies for DNA analysis (Low Copy Number, SNPs, Y-STRs) and DNA sequencing (mtDNA), interpretation of results, biostatistics, and standard operation procedures. Prerequisite: FORS 5440. Four-hour laboratory. Credit 3.

STATISTICAL GENETICS (FORS 5215)
This course will focus the understanding of the mechanisms (genetic variation, genetic drift, natural selection, two-locus dynamics, nonrandom mating and quantitative genetics) in the movement of genetic material through the space-time frame and concepts related to evolution. Students will analyze and interpret the results from human microsatellite population databases through genetic software. Prerequisite: FORS 5440. Credit 2.

ADVANCED FORENSIC TOXICOLOGY (FORS 6346)
This course will focus on advanced principles and practice in forensic toxicology, in particular advanced analytical, methodological and interpretive issues. Students will apply their knowledge of basic forensic toxicology principles to a variety of analytical and interpretive topics relevant to behavioral and postmortem toxicology including but not limited to impaired driving, sexual assault and death investigation. Prerequisite: FORS 5446. Credit 3.

ADVANCED FORENSIC CHEMISTRY (FORS 6335)
This course will cover novel scientific techniques in crime scene chemistry and crime lab chemistry. Non-destructive optical methods developed for sensing or identifying physical evidence is particularly emphasized in this course. New development in chromatographic, spectroscopic and microscopic techniques for the analysis of fibers, hair, gunshot residue, ink, paints, glass, explosives and narcotics will also be introduced. Prerequisite: FORS 5335, FORS 5445. Credit 3.

FIREARMS AND TOOLMARKS (FORS 5114)
This course provides a broad overview of firearm and toolmark identification for forensic purposes. Terminology, function testing and ammunition will be discussed, together with class and individual characteristics, identification criteria and instrumentation. Determination of caliber/gauge, trajectory and distance determination will also be covered. Basic toolmark nomenclature, class and individual characteristics, fracture matching and serial number restoration will also be addressed. Credit 1

STATISTICS FOR CRIMINAL JUSTICE RESEARCH (CRIJ 6385)
Review of descriptive and graphical techniques; probability and sampling theory; the normal curve and statistical inference; Central Limit Theorem; Chi-square, T and F distributions; analysis of variance and linear regression.

TECHNIQUES FOR CRIME SCENE INVESTIGATION (FORS 5231)
This course provides a comprehensive review of contemporary techniques for the identification, collection, preservation, and evaluation of evidence found at the crime scene. Crime scene reconstruction and the application of CSI theory and research in applied scenarios are discussed. Four-hour laboratory. Credit 2.

ANALYTICAL SPECTROSCOPY (CHEM 5368)
Theory and application of selected areas of spectroscopy commonly used in qualitative and quantitative analysis are covered. Topics include atomic and molecular spectroscopy, mass spectrometry, laser analytical methods, fluorescence, phosphorescence, and chemiluminescence and their application to environmental, atmospheric, and bioanalytical problems. Prerequisite: CHM 440. Credit 3.

ADVANCED BIOCHEMISTRY I (**CHEM 5372)**
The chemical structure and the biological functions and controls of proteins are reviewed. Proteins to be considered include enzymes, transport proteins, and structural proteins. Protein biosynthesis and recombinant DNA technology are also discussed. Credit 3.

ELECTRON MICROSCOPY (BIOL 5340)
This course is designed to teach students the methods of preparing specimens for electron microscope analysis and to use the electron microscope as a tool to conduct research. Students will become competent in using the electron microscope for visual analysis or chemical elemental analysis. Prerequisites: 12 hours advanced biology. Credit 3.

ADVANCED GENETICS (BIOL 5391)
This is an advanced study of the principles of heredity and the nature and function of the gene. Emphasis will be on molecular genetics with special attention to recent advances in DNA technologies. Laboratory studies include restriction enzyme analyses by electrophoresis, gene cloning, mutagenesis and chromosome banding. Three-hour laboratory. Prerequisite: Introductory Genetics with grade of C or better and organic chemistry. Credit 3.

NEUROPSYCHOPHARMACOLOGY (PSYC 5361)
This course examines the field of behavioral pharmacology: the systematic study of the effects of drugs on behavior and the way in which behavioral principles can help in understanding how drugs work. The focus is on the neurophysiological mechanisms of action of various psychoactive drugs and on the various neurotransmitter systems within the nervous system. Credit 3.

BEHAVIORAL GENETICS (FORS 6333)
This course is intended to provide students with an understanding of behavior genetics and the influence of genes and the environment on emotion, personality and behavior in humans and animals. Credit 3.

PRACTICUM (FORS 7389)
The doctoral practicum in forensic science is undertaken during the final year of study. This experience is designed to bridge the gap between academic research and industry. This practicum affords the doctoral student the opportunity to apply the research in a practical setting, adapt technologies for maximal use, appreciate the steps necessary for the implementation of new technology within an accredited environment, and observe the technical and non-technical processes involved. During the practicum students must complete the equivalent of a ten week full-time placement (400 hours) in an approved forensic science laboratory or facility. Prerequisite FORS 6371. Credit 3.

EXPLOSIVE ANALYSIS AND DETECTION (CHEM 7381)
This course will survey the broad field of explosive engineering and detection to include the safety and transportation classifications. Chemical and physical properties, explosive reagents and byproducts and detection techniques will be addressed. It will also include military and improvised devices, post-blast evidence and constitutional aspects of interdiction. Prerequisite: CHEM 4440 or FORS 5445. Credit 3.

SOCIAL SCIENCE OF FORENSICS (FORS 7334)
This course addresses the nexus between social science research on the organization and performance of forensic science. Topics addressed include: 1) the organization of the forensic enterprise, including the structure and functioning of forensic crime labs, 2) performance assessment of forensic systems, organizations and practitioners, 3) sociological, social-psychological, and psychological factors affecting the performance forensic practitioners, and 4) management theory and forensic workplaces and workers.

WARFARE AGENTS (CHEM 7389)
This course will evaluate chemical, biological and radiological warfare agents. These agents will be discussed from a chemical and biochemical standpoint including structure, function, mechanism of action, injury, clinical therapy and recovery. Prerequisite: A minimum of three credit hours of biochemistry or toxicology at the undergraduate or graduate level. Credit 3.

Course Sequence

The prescribed course sequence for required courses is shown below. Examples of full course sequences including core and electives are shown for three distinct areas of specialization.

FORS 5445	Forensic Instrumental Analysis
FORS 5360	Pattern and Physical Evidence Concepts
FORS 5117	Controlled Substances
FORS 5440	Forensic Biology
FORS 5335	Trace Evidence And Microscopic Analysis
FORS 5446	Forensic Toxicology
FORS 5116	Seminar In Forensic Science
FORS 6371	Internship
FORS 6394	Forensic Science Capstone Course (Research)
FORS 5226	Law And Forensic Science
FORS 6224	Quality Assurance And Ethics In Forensic Science
FORS 7330	Research Methods
FORS 7332	Scientific Communications
FORS 7390	Forensic Laboratory Management
FORS 8099	Dissertation

Appendix B

Curricula Vitae for Core Faculty

Dr. Sarah Kerrigan Professor & Chair Department of Forensic Science College of Criminal Justice	PhD Chemistry, University of British Columbia, Canada
Dr. David Gangitano Assistant Professor Department of Forensic Science College of Criminal Justice	PhD Forensic Medicine & Toxicology, University of Buenos Aires, Argentina
Dr. Jorn (Chi-Chung) Yu Associate Professor Department of Forensic Science College of Criminal Justice	PhD Chemistry, Carleton University, Canada
Dr. Sheree Hughes-Stamm Clinical Assistant Professor Department of Forensic Science College of Criminal Justice	PhD Biology, Bond University, Australia
Dr. Joan Bytheway Associate Professor Department of Forensic Science College of Criminal Justice	PhD Physical Anthropology, University of Pittsburgh
Dr. Jasmine Millican (Drake) Assistant Professor Department of Forensic Science College of Criminal Justice	PhD Chemistry, Louisiana State University

Sarah Kerrigan, Ph.D.
Professor and Chair, Forensic Science
College of Criminal Justice
Sam Houston State University

Degrees Earned

PH.D. in Chemistry, University of British Columbia, Vancouver, Canada, 1997

B.Sc. Hons. Chemistry with Analytical Chemistry and Toxicology. The University of Hull, England, 1992

Peer-Review Publications

Articles

Sarah Kerrigan, Monica Brady Mellon and Paige Hinners.
Detection of Phenazepam in Impaired Driving. Journal of Analytical Toxicology (Oct 2013). In press.

Barry K. Logan, Kayla J. Lowrie, Jennifer L. Turri, Jillian Yeakel, Jennifer F. Limoges, Amy Miles, Colleen E. Scarneo, Sarah Kerrigan, Laurel J. Farrell.
Recommendations for Toxicological Investigation of Drug Impaired Driving and Motor Vehicle Fatalities. Journal of Analytical Toxicology (Oct 2013). In press.

Sarah Kerrigan, Ashley Mullings, Breanna Jatzlau, Francisco Ortiz, Laura Perrella, Sarah Martin and Kelsie Bryand. Psychostimulants in Urine by Liquid Chromatography-Tandem Mass Spectrometry. Journal of Forensic Sciences, (2013). In press.

Sarah Kerrigan, Stephanie Banuelos, Laura Perrella and Brittany Hardy.
Simultaneous Detection of Ten Psychedelic Phenethylamines in Urine by Gas Chromatography-Mass Spectrometry. Journal of Analytical Toxicology, 35(7), 459-469 (2011).

Sarah Kerrigan, Monica Brady-Mellon, Stephanie Banuelos and Crystal Arndt.
Evaluation of Commercial Enzyme Linked Immunosorbent Assays to Identify Psychedelic Phenethylamines. Journal of Analytical Toxicology, 35(7), 444-451 (2011).

Sarah Kerrigan.
The Use of Alcohol to Facilitate Sexual Assault. Forensic Science Review 22(1), 16-32 (2010).

Phillip Stout, Kelsie Simons and Sarah Kerrigan.
Quantitative Analysis of Gamma-Hydroxybutyrate (GHB) at Endogenous Concentrations in Hair using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS). Journal of Forensic Sciences, 55 (2), 531-537 (2010).

Delisa Downey and Sarah Kerrigan. Quantitative Analysis of Carisoprodol and Meprobamate in Whole Blood Using Benzylcarbamate and Deuterated Meprobamate as Internal Standards. Journal of Analytical Toxicology, 33(5), 278-282 (2009).

Jessica Ayala, Kelsie Simons and Sarah Kerrigan. Quantitative Determination of Caffeine and Alcohol in Energy Drinks and the Potential to Produce Positive Transdermal Alcohol Concentrations in Human Subjects. Journal of Analytical Toxicology 33 (1), 27-33 (2009).

Laurel Farrell, Sarah Kerrigan and Barry Logan. Recommendations for Toxicological Investigation of Drug Impaired Driving, Journal of Forensic Sciences 52(5), 1-5 (2007).

Cameron Crandall, Sarah Kerrigan, Roberto L. Agüero Blau, Jonathan LaValley, Ross Zumwalt and Pat McKinney. The Influence of Site of Collection on Postmortem Morphine Concentrations in Heroin Overdose Victims, Journal of Forensic Sciences 51(2), 413-420 (2006).

Cameron Crandall, Sarah Kerrigan, Roberto L. Agüero Blau, Jonathan LaValley and Pat McKinney. The Influence of Site of Collection and Collection Methods on Postmortem Morphine Concentrations in a Porcine Model, Journal of Analytical Toxicology, 30(9), 651-658 (2006).

Sarah Kerrigan and Tania Lindsey. Fatal Caffeine Overdose: Two Case Reports, Forensic Science International: 153(1), 67-69 (2005).

Gerasimos Razatos, Ruth Luthi and Sarah Kerrigan. Evaluation of a Portable Evidential Breath Alcohol Analyzer, Forensic Science International: 153(1), 17-21 (2005).

Susan Mazarr-Proo and Sarah Kerrigan. Distribution of GHB in Tissues and Fluids Following a Fatal Overdose, Journal of Analytical Toxicology: 29(5), 985-400 (2005).

Donna Honey, Curtis Caylor, Ruth Luthi and Sarah Kerrigan. Comparative Alcohol Concentrations in Blood and Vitreous Fluid With Illustrative Case Studies, Journal of Analytical Toxicology: 29(5), 365-369 (2005).

Sarah Kerrigan, Donna Honey and Ginger Baker. Postmortem Morphine Concentrations Following Use of a Continuous Infusion Pump, Journal of Analytical Toxicology: 28(6), 529-532 (2004).

Tania Lindsey, Joseph O'Hara, Rebecca Irvine and Sarah Kerrigan. Strychnine Overdose Following Ingestion of Gopher Bait, Journal of Analytical Toxicology: 28(2), 135-137 (2004).

J Yazzie, SC Kelly, RE Zumwalt and S Kerrigan. Fatal Bupivacaine Intoxication Following Unusual Erotic Practices, Journal of Forensic Sciences: 49(2), 1-3 (2004).

Sarah Kerrigan. In Vitro Production of Gamma-Hydroxybutyrate in Antemortem Urine Samples, Journal of Analytical Toxicology: 26 (8), 571-574 (2002).

Sarah Kerrigan and William H. Phillips, Jr. Comparison of ELISAs for Opiates, Methamphetamine, Cocaine Metabolite, Benzodiazepines, Phencyclidine and Cannabinoids in Whole Blood and Urine, Clin Chem: 47, 540-547 (2001).

Sarah Kerrigan and Donald E. Brooks. Immunochemical Extraction and Detection of LSD in Whole Blood, Journal of Immunological Methods: 224, 11-18 (1999).

Sarah Kerrigan and Donald E. Brooks. Optimization and Immunological Characterization of a Photochemically Coupled Lysergic Acid Diethylamide (LSD) Immunogen, Bioconjugate Chemistry: 9, 596-603 (1998).

Sarah Kerrigan and Donald. E. Brooks. Indirect Enzyme-Linked Immunosorbent Assay for the Quantitative Estimation of Lysergic Acid Diethylamide in Urine. Clinical Chemistry: 44, (5) 985-990 (1998).

Book Chapters

Sampling, Storage and Stability in Clarke's Analytical Forensic Toxicology, 2nd Ed. Pharmaceutical Press, London, UK. Eds. A. Negrusz and G Cooper (2013).

Sarah Kerrigan. Sampling, Storage and Stability in Clarke's Analysis of Drugs and Poisons, 4th Ed. Pharmaceutical Press, London, UK. Eds. A.C. Moffat, M.D. Osselton and B. Widdop (2011).

Sarah Kerrigan and Bruce A. Goldberger. Forensic Toxicology in Forensic Nursing, Second Ed. Elsevier Mosby, St. Louis, MO. Eds. V. Lynch and J Barber Duval, (2010).

Sarah Kerrigan and Bruce A. Goldberger. Opioids in Principles of Forensic Toxicology, 3rd Ed., AACC Press, Washington, D.C., Ed. B. Levine (2010).

Sarah Kerrigan and Bruce A. Goldberger. Specimens of Maternal Origin in Drug Testing in Alternate Biological Specimens, Humana Press, Totowa, NJ. Ed. A.J. Jenkins (2008).

Sarah Kerrigan. Drug Impaired Driving Fundamentals in Medical-Legal Aspects of Abused Substances: Old and New – Licit and Illicit. Lawyers and Judges Publishing Company Inc. Tucson, AZ. Eds. M. Burns and T.E. Page (2005).

Sarah Kerrigan and Bruce A. Goldberger. Substance Misuse – Body Fluid Analysis in Encyclopedia of Forensic and Legal Medicine. Elsevier and Academic Press, Burlington, MA. Eds. J Payne-James, R. Byard, T. Corey and C. Henderson. Elsevier Science (2005).

Sarah Kerrigan and Bruce A. Goldberger. Forensic Toxicology in Forensic Nursing. Elsevier Mosby, St. Louis, MO. Ed. V. Lynch, (2005).

Sarah Kerrigan and Bruce A. Goldberger. Opioids in Principles of Forensic Toxicology, 2nd Ed., AACC Press, Washington, D.C., Ed. B. Levine (2003).

Daniel J. Cobaugh and Sarah Kerrigan. Gamma-Hydroxybutyrate in Contemporary Practice in Clinical Toxicology, AACC Press, Washington DC, Ed. L. Shaw (2001).

Sarah Kerrigan and Bruce A. Goldberger. Drugs of Abuse: Body Fluids in Encyclopedia of Forensic Science, Academic Press, London, UK, Ed. J. Siegel (2000).

Sarah Kerrigan and Bruce A. Goldberger. Opioids in Principles of Forensic Toxicology, AACC Press, Washington, D.C., Ed. B. Levine (2000).

Proceedings

Paige Hinners, Monica Brady Mellon and Sarah Kerrigan.
Phenazepam Impairment: A Case Report. Proceedings of the American Academy of Forensic Sciences 2013, Washington, DC.

Sarah Martin and Sarah Kerrigan.
Analysis of Psychedelic Phenethylamines in Blood by LC/MS/MS. Proceedings of the Society of Forensic Toxicologists, Boston, MA, July 2012.

MacKenzie Willis and Sarah Kerrigan.
Determination of Endogenous Concentrations of GHB in Human Hair by LCMSMS. Proceedings of the Society of Forensic Toxicologists, Boston, MA, July 2012.

Kayla Ellefsen and Sarah Kerrigan.
Detection of Beta-Keto Amphetamines in Urine by GC/MS. Proceedings of the Society of Forensic Toxicologists, Boston, MA, July 2012.

Lyndsi J. Ayers and Sarah Kerrigan.
Quantitative Analysis of Salvinorin A (Salvia) in Blood. Proceedings of the American Academy of Forensic Sciences 2011, Chicago, IL.

Francisco Ortiz, Breanna Jatzlau, Ashley Mullings, Kelsie Bryand and, Sarah Kerrigan.
Simultaneous Detection of Psychedelic Amphetamines in Urine By LC/MS/MS. Proceedings of the American Academy of Forensic Sciences 2011, Chicago, IL.

Sarah Kerrigan.
Memory and Alcohol Induced Blackouts, Proceedings of the Society of Forensic Toxicologists, Richmond, VA, October, 2010.

Sarah Kerrigan. Designer Amphetamines, Proceedings of the Society of Forensic Toxicologists, Richmond, VA, October, 2010.

Sarah Kerrigan.
Designer Amphetamines: Drug Use, Forensics and Law Enforcement – Detection of Psychedelic Amphetamines in Biological Samples. NIJ Conference 2009, Arlington, VA, June 2009.

Preston J. Wong, Sarah Kerrigan, Jon J. Smith, Ellen Moffatt, Ann Marie Gordon and Nikolas P. Lemos. Muscle: An Alternative Post-Mortem Specimen for Drug Screening by Enzyme Linked Immunosorbent Assay, Proceedings of the Society of Forensic Toxicologists, Phoenix, AZ, October 2008.

Ayodele Collins, Joseph Monforte, Ying Cheng, Ronald Backer and Sarah Kerrigan. A Stability Study on Ritalinic Acid in Urine, Proceedings of the American Academy of Forensic Sciences, Washington DC, February 2008.

Sarah Kerrigan. Overview of Drug-Facilitated Sexual Assault, Proceedings of the Society of Forensic Toxicologists, Rayleigh/Durham, NC, October 2007.

Sarah Kerrigan. Immunoassay Validation – A Practical Approach to DUID Testing, Proceedings of the Society of Forensic Toxicologists, Rayleigh/Durham, NC, October 2007.

Laurel Farrell, Sarah Kerrigan and Barry Logan. Recommendations for Toxicological Investigation of Drug Impaired Driving. T2007: International Council on Alcohol, Drugs, and Traffic Safety, The International Association of Forensic Toxicologists, and the 8th Ignition Interlock Symposium (IIS), Seattle, WA, August 2007.

Rachael Malfer, Anna Leggett, Sharla McCloskey and Sarah Kerrigan. Cocaine Impaired Driving: Evaluation of Toxicology, Driving Behavior and Impairment Symptoms in Arrested Drivers. Proceedings of the American Academy of Forensic Sciences, San Antonio, TX, February 2007.

Anna Leggett, Sharla McCloskey, Rachael Malfer and Sarah Kerrigan. Driving Behavior and Impairment Symptoms in Cannabinoid Positive Subjects Arrested for Driving Under the Influence of Drugs (DUID). Proceedings of the American Academy of Forensic Sciences, San Antonio, TX, February 2007.

Sharla McCloskey, Anna Leggett, Rachael Malfer, and Sarah Kerrigan. Driving Under the Influence of Methamphetamine: Comparison of Driving Behavior and Impairment Symptoms in Subjects Arrested for Driving While Intoxicated (DWI). Proceedings of the American Academy of Forensic Sciences, San Antonio, TX, February 2007.

Sarah Kerrigan. Standardized Field Sobriety Tests and Drug Impaired Driving, Proceedings of the Society of Forensic Toxicologists, Austin, TX, October 2006.

Sarah Kerrigan. Challenges in Drug-Facilitated Sexual Assault: The Toxicologists's Perspective, Proceedings of the Society of Forensic Toxicologists, Austin, TX, October 2006.

Sarah Kerrigan. The Role of The Toxicologist in Drug Impaired Driving, Lifesavers Conference, National Conference on Highway Safety Priorities, Austin, TX, April 2006.

Sarah Kerrigan. Driving Under the Influence of Drugs – Interpretive Strategies: Case Study Illustrations, Southwestern Association of Toxicologists, Houston, TX, March 2006.

Sarah Kerrigan. Multiple Drug Intoxication in Impaired Drivers: Polypharmacy Challenges. Proceedings of the American Academy of Forensic Sciences, Seattle, WA, February 2006.

Susan Mazarr-Proo and Sarah Kerrigan. Fatal GHB Intoxication following Recreational Use, FBI Symposium, Proceedings of the Society of Forensic Toxicologists and International Association of Forensic Toxicologists, Washington DC, September 2004.

Ginger Baker, Janice Yazzie and Sarah Kerrigan. Unusual Tramadol Concentrations in an Accidental Death Involving Poly Drug Use, FBI Symposium, Proceedings of the Society of

Forensic Toxicologists and International Association of Forensic Toxicologists, Washington DC, September 2004.

Sarah Kerrigan and Tania Lindsey. Caffeine Intoxication: More Than Just Cream and Sugar, FBI Symposium, Proceedings of the Society of Forensic Toxicologists and International Association of Forensic Toxicologists, Washington DC, September 2004.

Janice Yazzie, Ruth Luthi and Sarah Kerrigan. Effect of Sodium Chloride on Headspace Blood Alcohol Analysis by GC-FID, FBI Symposium, Proceedings of the Society of Forensic Toxicologists and International Association of Forensic Toxicologists, Washington DC, September 2004.

Gerasimos Razatos, Ruth Luthi and Sarah Kerrigan. Evaluation of a Portable Evidential Breath Alcohol Analyzer, FBI Symposium, Proceedings of the Society of Forensic Toxicologists and International Association of Forensic Toxicologists, Washington DC, September 2004.

Sarah Kerrigan. Strychnine Overdose: A Case Report, Proceedings of the California Association of Toxicologists, Oakland, CA, March 2004.

Gerasimos Razatos, Curtis Caylor, Ruth Luthi and Sarah Kerrigan. Validation of Volatile Analysis Using Dual Column GC, Proceedings of the American Academy of Forensic Sciences, Dallas, TX, February 2004.

Sarah Kerrigan. Bupivacaine Overdose Following Genital Injection. Proceedings of the California Association of Toxicologists, Culver City, CA, November 2003.

Janice Yazzie, Susan Mazarr-Proo and Sarah Kerrigan. Analysis of Keto Opiates Using Solid Phase Extraction and Gas Chromatography Mass Spectrometry, Proceedings of the Society of Forensic Toxicologists, Portland, OR, October 2003.

Donna Honey, Susan Mazarr-Proo and Sarah Kerrigan. Distribution of Cocaine and Benzoylecgonine in Postmortem Casework, Proceedings of the Society of Forensic Toxicologists, Portland, OR, October 2003.

Ginger Baker, Nancy Drez, Patricia McFeeley, Sean Kelly and Sarah Kerrigan. Unusual Distribution of Methamphetamine in a Fatality, Proceedings of the Society of Forensic Toxicologists, Portland, OR, October 2003.

Sarah Kerrigan and Ginger Baker. Gabapentin, A Novel Adjunctive Agent: Case Review of Twenty Postmortem Toxicology Investigations Involving Gabapentin. Proceedings of the American Academy of Forensic Sciences, Chicago, IL, February 2003.

Steven Martinez, Philip Enriquez and Sarah Kerrigan. Drug-Impaired Driving in New Mexico: A Six-Year Retrospective Study, Proceedings of the Society of Forensic Toxicologists, Dearborn, MI, October 2002.

Donna Honey, Ginger Salazar, Susan Mazarr-Proo and Sarah Kerrigan. Validation of Automated Microplate Immunoassays for Eight Drugs-of-Abuse using Postmortem and Antemortem Fluids and Tissues, Proceedings of the Society of Forensic Toxicologists, Dearborn, MI, October 2002.

Sarah Kerrigan. Understanding Drug-facilitated Rape, Preventing Sexual Violence: A Cross-Sectional View of Prevention, August 2002, Albuquerque, NM.

Sarah Kerrigan. Drug-Impaired Driving, Law Enforcement Collaborative Symposium, Angel Fire, NM, July 29-30.

Sarah Kerrigan. Drug-Facilitated Rape, Prosecuting Sexual Crimes II, State Bar of New Mexico, Albuquerque, June 27-28, 2002.

Sarah Kerrigan. Effects of Alcohol and Drugs on Driving: Recognition of the Drug-Impaired Driver, Municipal Judges' Conference, Ruidoso, NM, June 12, 2002.

K. Gomez, D. Lovato, J. Robb and S. Kerrigan. Evaluation of Four Breath Alcohol Analyzers. International Association of Chemical Testing Annual Meeting, TX (2002).

Sarah Kerrigan, Gary W. Davis, and Kenji Ota. Simultaneous Determination of Opiates, Cocaine and Benzoylecgonine in Whole Blood and Urine Samples Using Polymeric Solid Phase Extraction and Gas Chromatography/Mass Spectrometry. Proceedings of the Society of Forensic Toxicologists, New Orleans, (2001).

Sarah Kerrigan. Drug-Facilitated Sexual Assault, Law Enforcement Response to Sexual and Domestic Violence, Albuquerque, September 20-21 (2001).

Sarah Kerrigan. Gamma-hydroxybutyrate: Toxicology, Interpretation and Postmortem Challenges, 28th Medicolegal Investigation of Death Forensic Science Seminar, Albuquerque, September 4-7 (2001).

Sarah Kerrigan and W. H. Phillips, Jr. Determination of Gamma-Hydroxybutyrate in Blood and Urine Using Chemical Ionization Gas Chromatography/Mass Spectrometry, Proceedings of the American Academy of Forensic Sciences (2001), Seattle, WA.

Sarah Kerrigan. Immunoassay Cutoffs: Consensus or Variable, Proceedings of the California Association of Toxicologists, South San Francisco, February (2001).

Sarah Kerrigan. Overview of GHB, Congress of Criminalists on GHB, California Criminalistics Institute, California Department of Justice, Division of Law Enforcement HQ, Sacramento, CA (2000).

Sarah Kerrigan. Analysis of GHB, Related Analogs and Precursors, Congress of Criminalists on GHB, California Criminalistics Institute, California Department of Justice, Division of Law Enforcement HQ, Sacramento, CA (2000).

Sarah Kerrigan and William H. Phillips, Jr. Side by Side Comparison of Microplate Enzyme Immunoassays for Opiates, Methamphetamine, Benzodiazepines, Benzoylecgonine (BE), Phencyclidine (PCP) and Marijuana in Blood and Urine, Proceedings of the Society of Forensic Toxicologists, Milwaukee, WI (2000).

Sarah Kerrigan, Joshua S. Spatola, Timothy A. Appel and William H. Phillips, Jr. Validation of Fully Automated Microplate Enzyme Immunoassays for Opiates, Methamphetamine, Benzodiazepines, Benzoylecgonine (BE), Phencyclidine (PCP) and Marijuana in Blood and Urine, Proceedings of the Society of Forensic Toxicologists, Milwaukee, WI (2000).

Sarah Kerrigan and D. E. Brooks. Rapid Immunoaffinity Extraction of Lysergic Acid Diethylamide (LSD) from Blood and Urine, Proceedings of the Society of Forensic Toxicologists, Puerto Rico, USA (1999).

Sarah Kerrigan. Drugged Driving Update: New Publications Provide Updates on Drugged Driving, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, December 2004.

Sarah Kerrigan. Detection of Drug-Impaired Driving Can be Difficult, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, March 2002.

Sarah Kerrigan and J. Valentine. Club Drugs or Rave Drugs Offer Challenges to Laboratories, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, September 2001.

Sarah Kerrigan. GHB & Precursors: Use, Effects & Pharmacology, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, March 2001.

Sarah Kerrigan. GHB and Precursors: Management and Analysis, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, June 2001.

Sarah Kerrigan. Drug-Facilitated Sexual Assault: Fact or Fiction, Clinical and Forensic Toxicology News, American Association for Clinical Chemistry, Washington DC, September 2000.

Sarah Kerrigan. LSD: A Mysterious and Challenging Drug, Clinical and Forensic Toxicology News, American Association for Clinical Chemistry, Washington DC, March 2000.

Artistic Performances
N/A.

Artistic Exhibitions
N/A.

Research Monographs and Technical Reports

Sarah Kerrigan. Designer Amphetamines in Forensic Toxicology Casework. U.S. Department of Justice Technical Report, 2008-DN-BX-K126 (2012).

Sarah Kerrigan. Drug Toxicology for Prosecutors, American Prosecutors Research Institute, Alexandria, VA, October 2004.

Sarah Kerrigan. Drugged Driving Update: New Publications Provide Updates on Drugged Driving, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, December 2004.

Sarah Kerrigan. Detection of Drug-Impaired Driving Can be Difficult, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, March 2002.

Sarah Kerrigan and J. Valentine. Club Drugs or Rave Drugs Offer Challenges to Laboratories, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, September 2001.

Sarah Kerrigan. GHB & Precursors: Use, Effects & Pharmacology, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, March 2001.

Sarah Kerrigan. GHB and Precursors: Management and Analysis, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington DC, June 2001.

Sarah Kerrigan. Drug-Facilitated Sexual Assault: Fact or Fiction, Clinical and Forensic Toxicology News, American Association for Clinical Chemistry, Washington DC, September 2000.

Sarah Kerrigan. LSD: A Mysterious and Challenging Drug, Clinical and Forensic Toxicology News, American Association for Clinical Chemistry, Washington DC, March 2000.

Funded External Grants

Improved Detection of Synthetic Cathinones ("Bath Salts") in Forensic Toxicology Samples. National Institute of Justice, 2012/2012, $190,227. Principal Investigator: Sarah Kerrigan, Ph.D. (Sam Houston State University).

Designer Amphetamines in Forensic Toxicology Casework: Analysis and Prevalence. Funded by the National Institute of Justice, 2008/9 – 2009/10. Grant #:2008-DN-BX-K126. $ 466,492.00. Principal Investigator: Sarah Kerrigan, Ph.D. (Sam Houston State University).

Detection of Beta-Keto Amphetamines in Biological Samples. Funded by the National Institute of Justice (NIJ)/Forensic Sciences Foundation (FSF), 2011-2012, $6,900. Student Research Grant (Sponsor/Advisor).

Detection of Synthetic Cannabinoids in Biological Samples. Funded by the National Institute of Justice (NIJ)/Forensic Sciences Foundation (FSF), 2010-2011, $6,900. Student Research Grant (Sponsor/Advisor).

Quantitative Analysis of Salvinorin A (Salvia) in Biological Samples. Funded by the National Institute of Justice (NIJ)/Forensic Sciences Foundation (FSF), 2009-2010, $6,900. Student Research Grant.

Work or Professional Experiences

Laboratory Director, SHSU Regional Crime Laboratory (2009-2012)
ASCLD/LAB-*International* accredited laboratory
Sam Houston State University, The Woodlands, TX.

Director, Forensic Science Program (2006-present)
College of Criminal Justice, Sam Houston State University, Huntsville, TX.

Professor (2009-present)
College of Criminal Justice, Sam Houston State University, Huntsville, TX.

Associate Professor (2006-2009)
College of Criminal Justice, Sam Houston State University, Huntsville, TX.

Bureau Chief, Toxicology (2001-2004).
New Mexico Department of Health, Scientific Laboratory Division, Albuquerque, NM.

Forensic Scientist – Toxicologist III/ Quality Manager (1998–2001).
California Department of Justice, Bureau Of Forensic Services, Toxicology Laboratory, Sacramento, CA.

Honors and awards
Outstanding DRE Program Innovation. Awarded by the International Association Of Chiefs Of Police (IACP)/Candid, Baltimore, MD (2003).

Irving Sunshine Toxicology Award. Awarded by the American Academy For Forensic Sciences in recognition of achievements (2002).

New Mexico Highway And Transportation Department, Traffic Safety Bureau Award. Awarded by the Traffic Safety Bureau for dedication, commitment and perseverance, Annual Traffic Safety Summit (2002).

Other Competencies

Texas Forensic Science Commission
Vice Chairman, 2012-present.

Forensic Science Education Program Accreditation Commission
Commissioner, 2009-2011.

Journal of Forensic Sciences
Editorial Advisory Board, 2009-present.

Forensic Toxicology Council.
Appointee, 2010-2011.

Scientific Working Group on Toxicology (SWGTOX)
Member/Appointee, 2009-present.

National Science and Technology Council Subcommittee (NSTC) on Forensic Science, Accreditation and Certification Interagency Working Group (IWG), 2010-present.

Texas Forensic Science Commission
Appointed to the Commission by the Texas Attorney General, 2007-present.

Institute for Behavior and Health
Drugged Driving Committee, 2011-present.

Society of Forensic Toxicologists
Executive Board, President, 2011.

Society of Forensic Toxicologists
Executive Board, Vice President, 2010.

Society of Forensic Toxicologists
Executive Board, Secretary, 2008-2009.

Society of Forensic Toxicologists
Board of Directors, 2006-2007.

Houston Police Department, Crime Laboratory
Stakeholder Committee, 2007-2009.

California Association of Toxicologists
Past President, 2005-2006.

California Association of Toxicologists
Chair, Bylaws, Records Review and Revision, 2005-present.

American Academy of Forensic Sciences
Steering Committee (Toxicology Section), 2005-present.

Society of Forensic Toxicologists/American Academy of Forensic Sciences
Chair, Drugs and Driving Committee, 2005-2008.

National Safety Council
Highway Traffic Safety Division, Committee on Alcohol and other Drugs (COAD), 2005-present.

American Academy of Forensic Sciences
Chair, Awards and Scholarship Committee (Toxicology Section), 2005-2006.

California Association of Toxicologists
President, 2004-2005.

Society of Forensic Toxicologists
Membership Committee, 2004-2005.

Society of Forensic Toxicologists/American Academy of Forensic Sciences
Drugs and Driving Committee, 2004-present.

California Association of Toxicologists
Vice President, 2003-2004.

American Academy of Forensic Sciences
Awards and Scholarship Committee (Toxicology Section), 2003-2004.

Journal of Analytical Toxicology
Editorial Advisory Board, 2003-present.

Society of Forensic Toxicologists
Chair, Education and Outreach Subcommittee, Drug-Facilitated Sexual Assault Committee, 2003-2005.

American Association for Clinical Chemistry
Chair, Clinical and Forensic Toxicology News, Editorial Advisory Board, American Academy for Clinical Chemistry, Washington, DC, 2001-2005.

American Association for Clinical Chemistry
Editorial Advisory Board, Clinical and Forensic Toxicology News, American Academy for Clinical Chemistry, Washington, DC, 1999-2000.

Society of Forensic Toxicologists
Continuing Education Committee, 1999-2002.

Society of Forensic Toxicologists
Drug-Facilitated Sexual Assault Committee, 2000-present.

California Association of Toxicologists
Member at Large – North, 2000-2001.

California Association of Toxicologists
Board of Directors, 2000-2001; 2003-2006.

David A. Gangitano
Associate Professor
College of Criminal Justice
Sam Houston State University

Degrees Earned

Ph.D. in Toxicology and Forensic Medicine. University of Buenos Aires, Argentina (2004)

B.Sc., Chemistry. University of Buenos Aires, Argentina (1992)

Professional Licensure and Certifications

Certified Biochemistry Analyst. Health Department. Buenos Aires City. Argentina. 1992.
Certified Chemist. Chemistry Professional Council. Buenos Aires. Argentina. 1991

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

1) Noseda PA, Kenline J, Manning M, and Gangitano DA. Population Data for DXS6800, DXS101, and DXS8377 Loci from Buenos Aires (Argentina). Journal of Forensic and Legal Medicine (in press)

2) Munoz A, Gangitano DA, Smith CP, Boone TB, Somogyi GT. Removal of urothelium affects bladder contractility and release of ATP but not release of NO in rat urinary bladder. BMC Urol. 2010 May 24;10:10.

3) Bucheli SR, Bytheway JA, Gangitano DA. Necrophagous Caterpillars Provide Human mtDNA Evidence. J Forensic Sci. 2010 Jul;55(4):1130-2.

4) Luce C, Montpetit S, Gangitano D, O'Donnell P. Validation of the AMPFlSTR MiniFiler PCR amplification kit for use in forensic casework. J Forensic Sci. 2009 Sep;54(5):1046-54.

5) Gangitano D, Salas R, Teng Y, Perez E, De Biasi M. Progesterone modulation of alpha5 nAChR subunits influences anxiety-related behavior during estrus cycle. Genes Brain Behav. 2009 Jun;8(4):398-406.

6) R. Salas, A. Main, D. A. Gangitano, H. Soreq, M. De Biasi. Chronic nicotine relieves anxiety-like behavior in transgenic mice carrying the human acetylcholinesterase-R gene. Mol Pharmacol. 2008 Dec;74(6):1641-8.

7) Smith CP, Gangitano DA, Munoz A, Salas NA, Boone TB, Aoki KR, Francis J, Somogyi GT. Botulinum toxin type A normalizes alterations in urothelial ATP and NO release induced by chronic spinal cord injury. Neurochem Int. 2008 May;52(6):1068-75.

8) R. Salas, A. Main, D. A. Gangitano, M. De Biasi. Decreased withdrawal symptoms but normal tolerance to nicotine in mice null for the alpha 7 nicotinic acetylcholine receptor subunit. Neuropharmacology. 2007 Dec;53(7):863-9.

9) N. Salas, G. T. Somogyi, J. N. Rocha, D. A. Gangitano, T. B. Boone, and C. P. Smith. Receptor activated bladder and spinal ATP release in neurally intact and chronic spinal cord injured rats. Neurochem Int. 2007 Jan;50(2):345-50.

10) M. Viaggi, M. A. Dagrosa, C. Belli, I. Larripa, D. A. Gangitano, R. Cabrini, M. A. Pisarev, G. J. Juvenal. A new animal model for human undifferentiated thyroid carcinoma. Thyroid. 2003; 13(6):529-36.

11) D. A. Gangitano, M. G. Garófalo, G. J. Juvenal, B. Budowle, R. A. Padula. Typing of the locus DYS19 from DNA derived from fingernail clippings using PCR Concert Rapid purification System. J. Forensic Sci. 2002; 47(1): 175-177.

Books
N/A

Chapters
N/A

Proceedings
1) "A Molecular Approach: Species composition of the maggot mass in human cadavers in the Pineywoods ecoregion of southeastern Texas". Sarah Bahlmann, BS Ashleigh M. Faris, MS, Sibyl R. Bucheli, PhD., David A. Gangitano, PhD. American Academy of Forensic Sciences meeting. Washington DC 2013.
2) Using Pinus STR Profiling to Discriminate Pollen Sources at the Regional Level: A Potential Tool for Forensic Investigations. Cassandra Campelli, B.S, Jennifer Sycalik, B.S., Christopher Randle, Ph.D., Craig Echt, Ph.D., Bruce Budowle, Ph.D., David Gangitano, Ph.D. American Academy of Forensic Sciences meeting. Washington DC 2013.
3) "Comparison of Genetic Markers and Developmental Validation of the Multicopy LINE-1 Marker for Use in a Sensitive Real-time Quantification Method". Jackie Kenline, and David Gangitano, PhD. American Academy of Forensic Sciences meeting, Atlanta, February 2012
4) "A molecular approach: Species composition of the maggot mass in human cadavers in the pineywoods ecoregion of southeastern Texas". Ashleigh Faris BS, Sibyl Bucheli, PhD, and David Gangitano, PhD. American Academy of Forensic Sciences meeting, Atlanta 2012
5) "Population Study for Three Closely Linked X-Chromosome STR Markers in an Argentinean Population". Brittney C. Gonzalez, BS, Pablo A. Noseda BS, and David A. Gangitano, PhD. American Academy of Forensic Sciences meeting, February 2011, Chicago.
6) "Collection of Touch DNA by a Handheld Vacuum Device". Shahida K. Flores, BS, and David A. Gangitano, PhD. American Academy of Forensic Sciences meeting, February 2011, Chicago.
7) "Application of a Vacuum-Filter Device for Differential Sperm Separation". Kristina A. Scott, BS; and David A. Gangitano, PhD. American Academy of Forensic Sciences meeting, February 2011, Chicago.
8) "Application of mini-STRs to Low-Copy Number DNA Samples". Nicole Paes, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
9) "Pollen DNA: A New Tool for Forensic Investigations". Jennifer Sycalik, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
10) "Comparative Study on Stability of DNA in Vitreous Humor, Cartilage, Tendons, and Nails for use as Alternative Sample Tissues in the Identification of Decomposed Cadavers". Mario Galioto, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
11) "Study on SNPs relating to ethnicity and hair/eye pigmentation in a population of Huntsville, TX". Breanna Mead, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
12) "Molecular Palynology Study in Central East Texas: A New Approach to Linking Crime Scenes". Jamie Jouett B.S. and David Gangitano Ph.D. American Academy of Forensic Sciences meeting. Denver. February 2009.
13) "Validation of the AMPFlSTR MiniFiler PCR amplification kit and its Application to Identify Human Remains From a 1992 Helicopter Crash at the San Diego Police Department Crime

Laboratory". Coral Luce B.S., Shawn Montpetit M.S. David Gangitano, Ph.D. and Patrick O'Donnell Ph.D. American Academy of Forensic Sciences meeting. Washington DC. February 2008.

Artistic Performances
N/A

Artistic Exhibitions
N/A

Research Monographs and Technical Reports

1) Noseda P, Gangitano D, Juvenal J. DNA Analysis and Forensic Genetics (Review). Ciencia e Investigacion (Argentina). 2011. 61 (1-3):59-68
2) M. G. Garofalo, D. A. Gangitano, G. J. Juvenal, B. Budowle, J. A. Lorente, R. A. Padula. Six Y-Chromosome STR Frequencies in a population from Argentina. J. Forensic Sci. 48(2). 2003
3) D. A. Gangitano, M. G. Garófalo, G. J. Juvenal, B. Budowle, J. A. Lorente, R. A. Padula. STR data for the PowerPlex 16 loci in Buenos Aires (Argentina). J. Forensic Sci. 47(2):418. 2002.
4) D. A. Gangitano, M. G. Garófalo, G. J. Juvenal, B. Budowle, R. A. Padula. Distribution of HumHPRTB and HumF13A01 Alleles in Buenos Aires Population (Argentina). J. Forensic Sci. 46(2):138. 2001.
5) D. A. Gangitano, G. J. Juvenal, J. A. Lorente, B. Budowle, R. A. Padula. Population Data on Eight STR loci in Buenos Aires (Argentina). J. Forensic Sci. 46:183. 2001
6) R.A. Padula, D. A. Gangitano, G. J. Juvenal, B. Budowle. Allele frequency in the population of Buenos Aires (Argentina) using PM-DQA1. J. Forensic Sci. 44:1320. 1999.

Funded External Grants

1) SHSU Enhancement Research Grant 2013-2014 ($15,000). "Discrimination of Pollen Sources Using Pinus STR Profiling"
2) Texas Education Agency Grant-2011-2012 ($300,000). Development of Forensic Science online training course for high school teachers.
3) NIJ/FSF Student Research Grant- 2011-2012. ($7000) "A molecular approach: Species composition of the maggot mass in human cadavers in the pineywoods ecoregion of southeastern Texas". Ashleigh Faris BS, Sibyl Bucheli, PhD, and David Gangitano, PhD.
4) NIJ/FSF Student Research Grant-2009-2010. ($3,700) "Pollen DNA: A New Tool for Forensic Investigations". Jennifer Sycalik, B.S.; David Gangitano, Ph.D.

Peer-Review Presentations/Posters

1) "A Molecular Approach: Species composition of the maggot mass in human cadavers in the Pineywoods ecoregion of southeastern Texas". Sarah Bahlmann, BS Ashleigh M. Faris, MS, Sibyl R. Bucheli, PhD., David A. Gangitano, PhD. American Academy of Forensic Sciences meeting. Washington DC 2013.
2) Using Pinus STR Profiling to Discriminate Pollen Sources at the Regional Level: A Potential Tool for Forensic Investigations. Cassandra Campelli, B.S, Jennifer Sycalik, B.S., Christopher Randle, Ph.D., Craig Echt, Ph.D., Bruce Budowle, Ph.D., David Gangitano, Ph.D. American Academy of Forensic Sciences meeting. Washington DC 2013.

3) “Comparison of Genetic Markers and Developmental Validation of the Multicopy LINE-1 Marker for Use in a Sensitive Real-time Quantification Method”. Jackie Kenline, and David Gangitano, PhD. American Academy of Forensic Sciences meeting, Atlanta, February 2012
4) “A molecular approach: Species composition of the maggot mass in human cadavers in the pineywoods ecoregion of southeastern Texas”. Ashleigh Faris BS, Sibyl Bucheli, PhD, and David Gangitano, PhD. American Academy of Forensic Sciences meeting, Atlanta 2012
5) “Population Study for Three Closely Linked X-Chromosome STR Markers in an Argentinean Population”. Brittney C. Gonzalez, BS, Pablo A. Noseda BS, and David A. Gangitano, PhD. American Academy of Forensic Sciences meeting, February 2011, Chicago.
6) “Collection of Touch DNA by a Handheld Vacuum Device”. Shahida K. Flores, BS, and David A. Gangitano, PhD. American Academy of Forensic Sciences meeting, February 2011, Chicago.
7) “Application of a Vacuum-Filter Device for Differential Sperm Separation”. Kristina A. Scott, BS; and David A. Gangitano, PhD. American Academy of Forensic Sciences meeting, February 2011, Chicago.
8) “SNPs as Predictors of Eye/Hair Color”. 21st International Symposium on Human Identification (Promega). October 11-14, 2010. San Antonio, TX. (oral presentation)
9) “Application of mini-STRs to Low-Copy Number DNA Samples”. Nicole Paes, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
10) “Pollen DNA: A New Tool for Forensic Investigations”. Jennifer Sycalik, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
11) “Comparative Study on Stability of DNA in Vitreous Humor, Cartilage, Tendons, and Nails for use as Alternative Sample Tissues in the Identification of Decomposed Cadavers”. Mario Galioto, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
12) “Study on SNPs relating to ethnicity and hair/eye pigmentation in a population of Huntsville, TX”. Breanna Mead, David Gangitano. American Academy of Forensic Sciences meeting. Seattle. February 2010.
13) “Molecular Palynology Study in Central East Texas: A New Approach to Linking Crime Scenes”. Jamie Jouett B.S. and David Gangitano Ph.D. American Academy of Forensic Sciences meeting. Denver. February 2009.
14) “Validation of the AMPFlSTR MiniFiler PCR amplification kit and its Application to Identify Human Remains From a 1992 Helicopter Crash at the San Diego Police Department Crime Laboratory”. Coral Luce B.S., Shawn Montpetit M.S. David Gangitano, Ph.D. and Patrick O’Donnell Ph.D. American Academy of Forensic Sciences meeting. Washington DC. February 2008.

Work or Professional Experiences

2013-present, Associate Professor, Forensic Science Department, College of Criminal Justice, Sam Houston State University, Huntsville, TX
2007 – 2013, Assistant Professor, Forensic Science Program, College of Criminal Justice, Sam Houston State University, Huntsville, TX
2008 – 2009, Adjunct Assistant Professor of Urology, Baylor College of Medicine-Houston, TX
2005 – 2007, Research Associate, Scott Department of Urology, Baylor College of Medicine-Houston, TX
2003 - 2005, Post-doctoral Associate, Department of Neuroscience, Baylor College of Medicine-Houston, TX
1993 - 2003, Forensic Scientist. Federal Police/Atomic Energy Commission-Buenos Aires, Argentin

Honors and Awards

N/A

Other Competencies

Ibero-American Working Group on DNA Analysis (GITAD), Founding member. 1998-2001
Journal of Forensic and Legal Medicine. Reviewer
American Academy of Forensic Sciences. Associate Member.

Chi Chung Yu (Jorn Yu)
Associate Professor
Department of Forensic Science
College of Criminal Justice
Sam Houston State University

Degree Earned

Ph.D. in Chemistry, Carleton University, Ottawa, ON, Canada, 2006

M.S. in Forensic Science, Central Police University, Taiwan, 2000

B.S. in Forensic Science, Central Police University, Taiwan, 1994

Professional Licensure and Certifications

Physical Significance of Bloodstain Evidence, Laboratory of Forensic Science, Corning, NY.

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

Contreras, P.A.; Houck, S.S.; Davis, W.M.; Yu, J.C.C. Pyrolysis products of linear alkylbenzenes – implications in fire debris analysis, *Journal of Forensic Science*. **2013**, 58(1), 210-216.

Yu, J.C.C.; Martin S.; Nasr J.; Stafford K.; Thompson D.; Petrikovics I. LC-MS/MS analysis of 2-aminothiazoline-4-carboxylic acid as a forensic biomarker for cyanide poisoning, *World J Methodol.* **2012**, 2(5): 33-41.

Stein, D.; Yu, J.C.C. The use of near-infrared photography to image fired bullets and cartridge cases, *Journal of Forensic Science*. Accepted May 05, **2012**.

Petrikovics, I.; Yu, J.C.C.; Thompson, D.; Jayanna, P.; Logue, B.; Nasr, J.; Bhandar, R.; Baskin, S.; Rockwood, G. Plasma Persistence of 2-Aminothiazoline-4-Carboxylic Acid in Rat System Determined by Liquid Chromatography Tandem Mass Spectrometry. *Journal of Chromatography B* **2012**, 891-892, 81–84.

Petrikovics, I.; Wales, M.; Budai, M.; Yu, J.C.C.; Szilasi, M. Nano-Intercalated Organophosphorus Hydrolyzing Enzymes in Organophosphorus Antagonis. *AAPS PharmSciTech* **2012**, 13(1), 112-117.

Petrikovics, I.; Thompson, D.E.; Rockwood, G.A.; Logue, B.A.; Martin, S.; Jayanna, P.; Yu, J.C.C. Organ-distribution of the metabolite 2-aminothiazoline-4-carboxylic acid in a rat model following cyanide exposure. *Biomarkers* **2011**, 16(8), 686-690.

Yu, J.C.C.; Lai, E.P.C. Review: Molecularly Imprinted Polymers for Ochratoxin A Extraction and Analysis. *Toxins* **2010**, *2(6)*, 1536-1553.

Jackson, R.; Petrikovics, I.; Lai, E.P.C.; Yu, J.C.C. Molecularly imprinted polymer stir bar sorption extraction and electrospray ionization tandem mass spectrometry for determination of 2-aminothiazoline-4-carboxylic acid as a marker for cyanide exposure in forensic urine analysis. *Analytical Methods* **2010**, *2*, 552-557.

Ehmann, R.; Yu, J.C.C. Determination of energization state of xenon high intensity discharge automobile headlights. *Forensic Science Journal* **2009**, *8*, 13-28

Burleson, G. L.; Gonzalez, B.; Simons, K.; Yu, J.C.C. Forensic analysis of a single particle of partially burnt gunpowder by solid phase micro-extraction – gas chromatography-nitrogen phosphorus detector. *Journal of Chromatography A* **2009**, *22*, 4679-4683.

Wei, Y.; Qiu, L.; Yu, J.C.C.; Lai, E.P.C. Molecularly imprinted solid phase extraction in a syringe needle packed with polypyrrole-encapsulated carbon nanotubes for determination of ochratoxin A in red wine. *Food Science and Technology International* **2007**, *13*, 375-380.

Yu, J.C.C.; Hrdina, A.; Mancini, C.; Lai, E.P.C. Molecularly imprinted polypyrrole encapsulated carbon nanotubes in stainless steel frit for micro solid phase extraction of estrogenic compounds. *Journal of Nanoscience and Nanotechnology* **2007**, *7*, 3095–3103.

Yu, J.C.C.; Lai, E.P.C. Determination of ochratoxin A in red wines by multiple pulsed elutions from molecularly imprinted polypyrrole. *Food Chemistry* **2007**, *105*, 301-310.

Lu, T.; Lai, E.P.C.; Yu, J.C.C. Hu, F. Analysis for flavonoids in bee pollens by capillary electrophoresis. *Food Science* (ISSN 1002-6630), **2006**, *27*, 582-587.

Lu, T.; Yu, J.C.C.; Li, Y.; Revesz, E.; Lai, E. P.C. Rapid Analysis for Flavonoids in Propolis by Capillary Electrophoresis, *Food Science* (ISSN 1002-6630), **2006**, *27*, 208-213.

Yu, J.C.C.; Lai, E.P.C. Molecularly imprinted polypyrrole modified carbon nanotubes on stainless steel frit for selective micro solid phase pre-concentration of ochratoxin A. *Reactive & Functional Polymers* **2006**, *66*, 702-711.

Yu, J.C.C.; Krushkova, S.; Lai, E.P.C.; Dabek-Zlotorzynsk, E. Molecularly imprinted polypyrrole modified stainless steel frits for selective solid phase pre-concentration of ochratoxin A. *Analytical Bioanalytical Chemistry* **2005**, *381*, 1534-1540.

Yu, J.C.C.; Lai, E.P.C. Interaction of ochratoxin A with molecularly imprinted polypyrrole film on surface plasmon resonance sensor, *Reactive & Functional Polymers* **2005**, *63*, 171–176.

Yu, J.C.C.; Lai, E.P.C. Polypyrrole modified stainless steel frits for on-line micro solid phase extraction of ochratoxin A. *Analytical Bioanalytical Chemstry* **2005**, *381*, 948–952.

Yu, J.C.C.; Lai, E.P.C.; Sadeghi, S. Surface plasmon resonance sensor for Hg(II) detection by binding interactions with polypyrrole and 2-mercaptobenzothiazole, *Sensors & Actuators B: Chemical* **2004**, *101*, 236-241.

Yu, J.C.C.; Lai, E.P.C. Polypyrrole film on miniaturized surface plasmon resonance sensor for ochratoxin A detection. *Synthetic Metals* **2004**, *143*, 253-258.

Chang, W.T.; Yu, J.C.C.; Wang, C.T.; Tsai, Y.Y. A critical evaluation of spectral library searching for the application of automotive paint database. *Forensic Science Journal* **2003**, *2*, 47-58.

Chang, W.T.; Chen, T.H.; Yu, J.C.C.; Kau, J.Y. Comparison of embedding methods used in examining cross-sections of automotive paints with micro - fourier transform infrared spectroscopy. *Forensic Science Journal* **2002**, *1*, 55-60.

Chang, W.T.; Yu, J.C.C. Analyses of naturally weathered automobile paints for the evaluation of spectral library searching by micro/FTIR. *Police Science Quarterly* **2001**, 32, 149-160.

Chang, W. T.; Giang, Y. S.; Yu, J.C.C. Forensic applications of scanning electron microscopy/ X-ray energy dispersive spectrum (SEM/EDX) on automobile headlight glasses. *Journal of Police Science* **1995**, *26*, 269-282.

Books

N/A

Chapters

Yu, J.C.C.; Lai, E.P.C. Molecularly imprinted polymer nanomaterials for mycotoxin extraction, in American Chemical Society - Mycotoxin Prevention and Control in Agriculture Symposium Series. **2009**, *1031*, Chapter 19, 277–292.

Proceedings

Petrikovics, I; Stafford, K; Thompson, D; Jayanna, P; Yu, J. Determining the biomarker cyanide metabolite 2-aminothiazoline-4-carboxylic acid in mice liver after cyanide exposure. *Toxicology Letters* **2010**;196:S295-S296. (Abstracts of the XII International Congress of Toxicology)

Artistic Performance

N/A

Artistic Exhibitions

N/A

Research Monographs and Technical Reports

N/A

Funded External Grants

Marijuana Profiling Using Headspace Solid Phase Microextraction Coupled with Gas Chromatography/Mass Spectrometry, NIJ/FSF (National Institute of Justice/Forensic Science Foundation) Forensic Science Student Research Grant, Student Investigator: Tiffany McCann, 2013. (Funded for 2012-2013) [Competitive, $6K]

The separation of chiral psychedelic amphetamine by molecularly imprinted monolithic polymers, NIJ/FSF (National Institute of Justice/Forensic Science Foundation) Forensic Science Student Research Grant, Student Investigator: Seongshin Gwak, 2010. (Funded for 2010-2011) [Competitive, $4K]

X-ray fluorescence analysis of human bone elements for the identification of origins, Innov-X Systems Academic & Research Relations Grant Award, co-PI, 2008 [Equipment loan].

Opening the black box of NIBIN: A process and outcome evaluation of the use of NIBIN and its effects on criminal investigations, forensics advisor, funded by NIJ (National Institute of Justice) for 2010-2012) [Competitive, $341K].

Develop on-line forensic science certification program for high school teachers, co-PI, TEA (Texas Education Agency) grant. (Funded for 2010-2011) [Non-competitive, $150K].

Peer-Review Presentations/Posters

Shih, W.-C.; Gao, Y.; Ji, Q.; Yu, J. Detection of Organic Gunshot Residues by Surface-Enhanced Raman Scattering Spectroscopy, Explosive Sensing: From Homeland Security to Military Applications session, Pittcon conference March 13, 2012, Orlando, FL.

Gao Y.; Gwak S.; Yu J.C.C. Preparation of molecularly imprinted monolithic polymers as the stationary phase for liquid chromatography. The 64rd American Academy of Forensic Science Annual Scientific Meeting, Feb 20-25, 2012, Atlanta, GA.

Harre N.M.; Pipkin, A.J.; Yu, J.C.C.; Anderson, C.C. Extraction of methamphetamine from postmortem blood samples by molecularly imprinted polymers for selective solid phase extraction. The 64rd American Academy of Forensic Science Annual Scientific Meeting, Feb 20-25, 2012, Atlanta, GA.

Dela Cruz D.A.; Heartsill, C. Yu, J.C.C. A comparison of alprazolam levels in blood and urine. The 64rd American Academy of Forensic Science Annual Scientific Meeting, Feb 20-25, 2012, Atlanta, GA.

Foster, M.; Yu, J.C.C; Stein, D. The use of infrared imaging to facilitate fired cartridge case and bullet comparisons, The 63rd American Academy of Forensic Science Annual Scientific Meeting, Feb 21-26, 2011, Chicago, IL.

Martin, S.; Nasr, J.; Yu, J.C.C.; Petrikovics, I. Study of 2-aminothiazoline-4-carboxylic acid as a biomarker for cyanide exposure by LC-MS/MS analysis. The 63rd American Academy of Forensic Science Annual Scientific Meeting, Feb 21-26, 2011, Chicago, IL.

Loeffler, P.A. (presenter); Williams, D.L.; Yu, J.C.C. Forensics chemistry: Its impact on the education of recent generations of undergraduate students, CWCS Forensic Science Symposium 2010, Fall National American Chemistry Society (ACS) Meeting, Aug 22-26, 2010, Boston, MA.

Yu, J.C.C.; Petrickovics, I.; Jackson, R.; Stafford, K. Analytical method development for determining the biomarker cyanide metabolite 2-aminothiazoline-4-carboxylic acid in mice liver after cyanide exposure. The Society of Toxicology Annual Meeting, March 7–11, 2010, Salt Lake City, UT.

Stafford, K.; Jackson, R.; Simons, K.; Yu, J.C.C.; Petrickovics, I. Analytical method development for determining the biomarker, 2-aminothiazoline-4-carboxylic acid (ATCA), in mice liver after cyanide exposure, The 62nd American Academy of Forensic Science Annual Scientific Meeting, Feb 22-27, 2010, Seattle, WA.

Kelly, J.D.; Yu, J.C.C. Analysis of non-toxic ammunition by double shot pyrolysis gas chromatography/mass spectroscopy (DY-PY GC/MS), The 62nd American Academy of Forensic Science Annual Scientific Meeting, Feb 22-27, 2010, Seattle, WA.

Stafford, K.; Jackson, R.; Yu, J.C.C. Petrikovics, I. Analytical method development for determining the biomarker, 2-aminothiazoline-4-carboxylic acid (ATCA), in mice liver after cyanide exposure. The 65th Southwest Regional Meeting of the American Chemical Society, Nov. 5, 2009.

Jackson, R.; Petrickovics, I. Yu, J.C.C. Molecular imprinted polymer stir bar sorption extraction and electrospray ionization tandem mass spectrometry for the analysis of 2-aminothiazoline-4-carboxylic acid, The 2009 Society of Toxicology Annual Meeting, Baltimore, Maryland, March 15–19, 2009

Yu, J.C.C.; Gonzalez, B. Detection of molecular markers for the identification of gunshot Residues by solid phase micro extraction - gas chromatography/nitrogen phosphorous detector (SPME-GC/NPD), The 61st Anniversary Meeting, American Academy of Forensic Science, Feb 22-27, 2009.

Gonzalez, B.; Yu, J.C.C. Optimization of solid phase micro extraction – gas chromatography/nitrogen phosphorous detector for the detection of methyl centralite and ethyl centralite from gun shot residues. The 61st Anniversary Meeting, American Academy of Forensic Science, Feb 22-27, 2009.

Winslett, S. Yu, J.C.C. A hollow fiber assisted ionic liquid surface for stir bar sorptive extraction. The 64th Southwest Regional Meeting of the American Chemical Society, Oct. 1-4, 2008.

Reyna, R.; Gonzalez, B.; Yu, J.C.C. Discovery of molecular markers for gunshot residues by solid phase micro extraction- gas chromatography/nitrogen phosphorous detector (SPME-GC/NPD), The 64th Southwest Regional Meeting of the American Chemical Society, Oct. 1-4, 2008.

Spurlin J.; Chapela P.; Petrikovics, I. Yu, J.C.C. Encapsulation efficiency of organophosphorous hydrolase in lecithin liposomes as determined by capillary electrophoresis. The 64th Southwest Regional Meeting of the American Chemical Society, Oct. 1-4, 2008.

Burleson, G.; Yu, J.C.C. Forensic analysis of single gun powder particle by SPME-GC/NPD (solid phase micro-extraction – gas chromatography/nitrogen phosphorus detector), 235th ACS National Meeting and Exposition, April 6-10, 2008

Yu, J.C.C.; Gross, S. A novel capillary electrophoresis immunoassay for ochratoxin detection using molecular probe of quantum dot bioconjugate, The 63rd Southwest Regional Meeting of the American Chemical Society, November 7, 2007

Gross, S.; Yu, J.C.C. Carbodiimide-mediated reaction with self-assembly nano-structured quantum dots for latent fingerprint development. The 63rd Southwest Regional Meeting of the American Chemical Society, November 5, 2007.

Lloyd, S.; Gross, S.; Yu, J.C.C. Latent fingerprint development using funcational quantum dots. The 92nd International Association of Identification Annual Meeting, San Diego, July 24, 2007.

Yu, J.C.C.; Krushkova, S.; Lai, E.P.C.; Dabek-Zlotorzynsk, E. Molecularly imprinted polypyrrole modified stainless steel frits for selective micro solid phase preconcentration, 28th International Symposium on Capillary Chromatography and Electrophoresis, Las Vegas, USA, 22-25, May, 2005.

Work or Professional Experience

2012-present, Associate Professor of Forensic Science, College of Criminal Justice, Sam Houston State University

2008-2012, Assistant Professor of Forensic Science, College of Criminal Justice, Sam Houston State University

2006-2008, Assistant Professor of Chemistry, College of Arts and Science, Sam Houston State University

2006/02-2006/07, Postdoctoral Research Fellow, Health Canada

1999–2002, Forensic scientist, Forensic Science Center, Taipei, Taiwan
1994–1999, Forensic technician, Forensic Science Center, Taipei, Taiwan

Honors and Awards

N/A

Other Competencies

N/A

Sheree Hughes-Stamm, Ph.D.
Assistant Professor of Forensic Science
College of Criminal Justice
Sam Houston State University

Degrees Earned

PhD. in Forensic Genetics, Bond University, Gold Coast, Australia, 2012

B.Sc. Hons. eq. Human Anatomy and Physiology, The University of Queensland, Brisbane, Australia 1997

Peer-Review Publications

S.R. Hughes-Stamm, K.A. Ashton, A. van Daal. (2011) Assessment of DNA Degradation and the Genotyping Success of Highly Degraded Samples. International Journal of Legal Medicine. 125(3):341-8

M.K. Jones , **S.R. Hughes-Stamm**, T.H. Cribb. (2000) Ultrastructure of the digestive tract of *Gyliauchen nahaensis* (Platyhelminthes, Digenea), an inhabitant of the hind-gut of herbivorous fishes. Journal of Morphology 246 (3):198-211

S.R. Hughes-Stamm, T.H. Cribb & M.K. Jones. 1999. Structure of the tegument of *Gyliauchennahaensis* (Digenea: Gyliauchenidae), with observations on tegument-associated microorganisms. Journal of Parasitology 85:1047-1052

Wen Yang, Malcolm Jones, Jinjiang Fan, **Sheree Hughes-Stamm**, Donald McManus. 1999. Characterisation of a family of *Schistosoma japonicum* proteins related to dynein light chains. Biochimica et Biophysica Acta 1432: 13-26

Articles
N/A

Book Chapters
N/A

Proceedings

S.R. Hughes-Stamm 2012. The 200 year-old HMS Pandora shipwreck: Combined Forensic Anthropology and Genetic Analysis of the Skeletal Remains Recovered
Australian and New Zealand Forensic Science Society (ANZFSS) Symposium. Hobart, AUSTRALIA

Sheree Hughes-Stamm, Kevin Ashton, Angela van Daal. 2011. STR Genotyping of Environmentally Challenged Skeletal Samples. The 22nd International Symposium on Human Identification, Washington DC, USA

Mark Barash, Wenji Liu, **Sheree Hughes-Stamm**, Angela van Daal. 2011 Identification of Single Nucleotide Polymorphisms (SNPs) Involved in the Determination of Physical Appearance.
The 22nd International Symposium on Human Identification, Washington DC, USA

S.R. Hughes-Stamm 2010. Bridging Forensic Anthropology and DNA. Australian and New Zealand Forensic Science Society (ANZFSS) Symposium. Sydney, AUSTRALIA

Sheree Hughes-Stamm, Kevin Ashton, Angela van Daal . 2010. Assessment of DNA Degradation and the Predictive Genotyping Success of Highly Degraded Samples.
The 21st International Symposium on Human Identification, San Antonio, TX, USA

S.R. Hughes-Stamm, K.A. Ashton, A. van Daal. 2009. Assessment of DNA Degradation and the Genotyping Success of Highly Degraded Samples.

6th International Society of Applied Biological Sciences (ISABS) Conference Human Genome Project Based Applications in Forensic Science, Anthropology and Individualized Medicine. Split, CROATIA.

S.R. Hughes-Stamm, K.A. Ashton, A. van Daal. 2008. Measures of DNA Degradation and the Presumptive Genotyping Success of Highly Degraded Samples. Australian and New Zealand Forensic Science Society (ANZFSS) Symposium. Poster Presentation. Melbourne, AUSTRALIA

Pantaleon M., **Hughes-Stamm S.R**., Kaye P.L. 1999. Glucose is essential for GLUT3 expression and blastocyst formation in the mouse.
Australian Society for Biochemistry and Molecular Biology Incorporated (ASBMB)
Australian and New Zealand Society for Cell & Developmental Biology Incorporated Combined Conference Abstracts. Sym-35-05

M. Pantaleon**, S.R. Hughes-Stamm**, P.L.Kaye. 1998. A role for glucose in cleavage stage mouse development. Australian Society for Reproductive Biology.

Artistic Performances
N/A.

Artistic Exhibitions
N/A.

Research Monographs and Technical Reports
N/A.

Funded External Grants

Bond University Faculty of Health Science & Medicine Research Grants (2 in 2008)

Bond University Research and Consultancy Services (BURCS/BUGSR) Student Support Scheme Grants (2009 -2011)

Work or Professional Experiences

Assistant Professor, Forensic Science Program (2012-current)
College of Criminal Justice, Sam Houston State University, Huntsville, TX.

Senior Teaching Fellow (2006-2012)
Faculty of Health Sciences and Medicine, Bond University, Gold Coast, Australia

Teaching Fellow (2002-2006)
School of Physiotherapy and Exercise Science, Griffith University, Gold Coast, Australia

Postgraduate Tutor (2000-2001)
Department of Anatomical Sciences, University of QLD, Brisbane, Australia

Research Assistant (1999)
Department of Anatomical Sciences, University of QLD, Brisbane, Australia

Laboratory Technician (1998)
Science Department, University of the Sunshine Coast, Australia

Research Assistant (1997-1998)
Department of Physiology and Pharmacology, University of QLD, Brisbane, Australia
Center for Microscopy and Microanalysis, University of QLD, Brisbane, Australia

Anatomy Tutor (1996)
Department of Anatomical Sciences, University of QLD, Brisbane, Australia

Honors and awards

Australian and New Zealand Forensic Science Society (ANZFSS) National Award, 2012

Bond University Alumni Student Opportunity Award, 2011

Bond University Open Day Graduate Poster Prize, 2009

Australian and New Zealand Forensic Science Society (ANZFSS) Allan Hodda Memorial Award, 2009

Australian Postgraduate Award (APA), 2008

Australian Federation of University Women Fellowship Award, 2001

Australian Society of Reproductive Biology Serono Junior Scientist Award, 1997

Science Faculty Commendation for High Achievement, UQ (GPA>6.0), 1996 & 1997

Golden Key National Honour Society Member For outstanding scholastic achievement (UQ)

Other Competencies

Australian & New Zealand Forensic Science Society (QLD Branch, Steering Committee Member) 2008-2012

American Academy of Forensic Sciences, Trainee Affiliate (2012- current)

American Academy of Forensic Sciences, Student Affiliate (2011- 2012)

Bond University Women's Network (Steering Committee) (2009-2012)

Australian Federation of University Women (1997-2000)

Advanced Pathology Training Course (1997)

Curriculum Vitae

Joan A. Bytheway, Ph.D.
Associate Professor
Sam Houston State University
Director
Southeast Texas Applied Forensic Science Facility
Sam Houston State University
College of Criminal Justice
Huntsville, Texas 77341
936-294-2310 Office
936-294-2311 Fax
bytheway@shsu.edu

EDUCATION: B.A., 1995 Physical Anthropology, Summa Cum Laude, University of Pittsburgh
Ph.D. 2003 Physical Anthropology, Summa Cum Laude, University of Pittsburgh
"Sex Determination of the Adult Human Fragmented Pelvis Utilizing Euclidean Distance Matrix Analysis"

MAJOR AREA OF ACADEMIC SPECIALIZATION: Forensic Anthropology/ Human Osteology
MINOR AREA OF ACADEMIC SPECIALIZATION: Taphonomy

COURSES TAUGHT:

Introduction to Physical Anthropology
Forensic Anthropology
Human Osteology
Human Anatomy and Physiology
Introduction to Anthropology
Introduction to Forensic Science
Introduction to Physical Anthropology: an Overview
Ethics and Quality Assurance in Forensic Science
Proseminar in Forensic Science

ADDITIONAL EDUCATION:

2012 Advanced Techniques in Forensic Anthropology, University of Tennessee, Knoxville, Tennessee
2012 Use of Radiographic Images in Identification and Trauma Analysis, Syracuse University, Syracuse, New York
2011 Advances in Forensic Anthropology Technology Transition Workshop, North Carolina State University, Raleigh, North Carolina
2010 Current Trends in Forensic Science, Fort Worth, Texas
2010 Trauma I, Syracuse University, Syracuse, New York
2008 New Directions in Forensic Taphonomy – Life after Death, IAFS Triennial Meeting, New Orleans, Louisiana
2007 Transition Analysis: A New Approach to Skeletal Age Estimation for Anthropologists, AAFS 60th Annual Scientific Meeting, Washington D.C.
2001 Human Remains: Search, Recovery and Identification, University of New Orleans

2000 Practical Applications in Forensic Anthropology, University of New Orleans
1996 Internship, Allegheny County Coroner's Office, Pittsburgh, Pennsylvania
1996 Laboratory Methods in Forensic Anthropology, Mercyhurst College, Pennsylvania
1996 Workshop in Forensic Anthropology, University of Southern California

PROFESSIONAL AFFILIATIONS:

- Member, American Academy of Forensic Sciences
- Texas Professional Forensic Anthropologists

GRANTS

2012 CTE Forensic Science Program, Texas Education Agency
2008 Bureau of Justice Travel Scholarship
2008 InnovX-systems X-ray Fluorescence Academic and Research Relations
2008 Southeast Texas Applied Forensic Science Human Decomposition Facility
2008 Enhancement Grant for Research, Sam Houston State University
2008 Research Facility Development Grant, Sam Houston State University
1996 Summer grant, University of Pittsburgh

RESEARCH INTERESTS:

Taphonomy
Geometric Morphometrics in Sex Determination
Trauma

EMPLOYMENT HISTORY:

2008 to present Director, Southeast Texas Applied Forensic Science Facility, Sam Houston State University, Huntsville, Texas
2006 to present Associate Professor, College of Criminal Justice, Forensic Science Department, Sam Houston State University, Huntsville, Texas
2006-2007 Adjunct Professor, Department of Anthropology, University of Houston, Houston, Texas
2005 Forensic Anthropologist/Lab Analyst, Mass Graves, Baghdad, Iraq
2004 Adjunct Faculty, Department of Anthropology, California University of Pennsylvania, Pennsylvania
2002-2004 Research Associate. Primate Research Center, University of Pittsburgh, Pittsburgh
1997- 2004 Adjunct Faculty, Department of Anthropology, University of Pittsburgh, Greensburg

FIELD/LAB EXPERIENCE:

2012 to present Forensic Anthropologist, Texas Rangers, Texas
2011 to present Forensic Anthropologist, Fort Bend County Sheriff's Office, Texas
2009 to present Forensic Anthropologist, Valley Forensics, Hidalgo County, Texas
2007 to present Forensic Anthropologist, Montgomery County Sheriff's Office, Texas
March 2006 to present Forensic Anthropologist. Galveston County Medical Examiner's Office, Texas
January - July 2005 Forensic Anthropologist. Reconstruction and analysis of skeletal remains

	of individuals of the Iraqi population found in mass graves. Baghdad, Iraq
July 2005	Co-designer. Mass Graves Proposal presented to the United States Department of Justice, Washington, D.C.
April 2005	Author. Power point presentation presented to all visitors at the Iraqi Mass Graves Laboratory. Baghdad, Iraq
April 2005	Forensic Anthropologist Lab Analyst participant in *Discovery Times* documentary "A Case Against Saddam" airing June 2005.
March 2001-2004	Project Osteologist. Exhumation, reconstruction and analysis (including research, cataloguing and record keeping) of Monongahelan Indian skeletal remains dating 1300 BP. Coordinated through Carnegie Museum and Westmoreland County Archeological Society, Irwin, Pa.
May 2001-July 2001	Project Manager. Preparation and burial of human skeletal remains, Greensburg, Pa.
June 2000	Forensic Anthropologist. Search for missing person and analysis of faunal skeletal remains. Westmoreland County Sheriff's Department, Washington, Pa.

PUBLICATIONS

Peer-Reviewed Journals

Joan A. Bytheway, Nicole C. Larison, Ann H. Ross "Comparison of Atypical and Normal Burn Patterns of Human Remains and Recognition of Pre-Cremation Blunt Force Trauma" For Sci Int submitted Apr 2013

Jeffrey R. Wozniak, Monte L. Thies, Joan A. Bytheway, William I. Lutterschmidt "A Hydrologic Retention System and Water Quality Monitoring Program for a Human Decomposition Research Facility: Concept and Design" J Forensic Sci submitted March 2013

Bytheway, JA and SM Pustilnik "Glycoproteinous adhesion deposits by *Balanus improvisus* on human skeletal and dental remains: A case report" J Forensic Sci Jan 2013

JA Aitkenhead-Peterson, CG Owings, MB Alexander, N Larison, JA Bytheway "Mapping the extent of human cadaver decomposition islands with soil chemistry" For Sci Int October 2011 online

Rippley A, NC Larison, KE Moss, JD Kelly, JA Bytheway, "Scavenging Behavior of *Lynx rufus* on Human Remains during the Winter Months of Southeast Texas" J Forensic Sci. March 2012

Rhyu IJ, JA Bytheway, SJ Kohler, H Lange, KJ Lee, J Boklweski, K McCormick, NI Williams, GB Stanton, WT Greenough, JL Cameron, "Effects of Aerobic Exercise Training on Cognitive Function and Cortical Vascularity in Monkeys" Neuroscience June 2010 Vol 167 (4) pp 1239-1248

Lindgren NK, J Kelly, AD Archambeault, S Bucheli, JA Bytheway "Exclusion of forensically important flies due to burying behavior by the red imported fire ant (*Solenopsis invicta*) in southeast Texas" For Sci Int. June 2010 online.

Bucheli S, D Gangitano, JA Bytheway "Necrophagous caterpillars provide human mtDNA evidence," J Forensic Sci. July 2010 Vol 55 (4) pp 1130-1132

Bytheway JA, AH Ross "A Geometric Morphometric Approach to Sex Determination of the Adult Human Os Coxa" J Forensic Sci. July 2010 Vol 55 (4) pp 859-864

Bucheli S, JA Bytheway, J Florence, "Insect successional pattern of a corpse in cooler months of subtropical southeastern Texas: A case report" J Forensic Sci. March 2009 Vol 54 (2) pp 452-455

Bytheway JA Book Review: Forensic Anthropology and Medicine: Complementary Sciences from recovery to cause of death J Forensic Sci. May 2007 Vol 52 (3) pp 746-747

Thesis

"Sex Determination of the Adult Human Fragmented Pelvis Using Euclidean Distance Matrix Analysis" Doctoral Thesis, University of Pittsburgh 2003

Course Book

"Introduction to Physical Anthropology: An Overview" External Studies Course Book, University of Pittsburgh 1997

ABSTRACTS

ESTIMATION OF THE POSTMORTEM INTERVAL OF HUMAN REMAINS IN A SUBTROPICAL, HUMID ENVIRONMENT USING ACCUMULATED DEGREE-DAYS AND TOTAL BODY SCORING. Steve A. Noser[1], BS, Kevin Derr[1], Ashleigh Gallaway[2], BS, Angela Rippley[1], Joan A. Bytheway[1], PhD. College of Criminal Justice, Sam Houston State University, 2. Montgomery County Sheriff's Office, Montgomery County, Texas

STAGES OF DECOMPOSITION OF HUMAN REMAINS IN A SUBTROPICAL HUMID ENVIRONMENT. Ashleigh Gallaway[1],BS, Joan A. Bytheway[2], PhD. Montgomery County Sheriff's Office, Montgomery County, Texas[1], College of Criminal Justice[2], Sam Houston State University, Huntsville Texas

AN ATYPICAL BURN PATTERN ASSOCIATED WITH FORENSICALLY SIGNIFICANT HUMAN REMAINS, Joan A. Bytheway[1], Nicole C. Larison[2]. College of Criminal Justice[1], Sam Houston State University, Department of Biological Sciences[2], Sam Houston State University.

THE EFFECTS OF AVIAN AND TERRESTRIAL SCAVENGER ACTIVITY ON HUMAN REMAINS IN THE PINEY WOODS OF SOUTHEAST TEXAS. Kathryn E. Moss[1], Angela D. Rippley[2], Joan A. Bytheway[2]. University of Houston, Anthropology Department[1], College of Criminal Justice, Sam Houston State Unversity[2].

TAPHONOMIC CHANGES OBSERVED ON SKELETAL REMAINS IN SOUTHEAST TEXAS. Charity Owings[1], Nicole C. Larison[2], Joan A. Bytheway[3]. Entomology Department, Texas A & M University[1], Department of Biological Sciences, Sam Houston State University[2], College of

Criminal Justice, Sam Houston State Unversity[3].

INSECT SUCCESSION MODEL FOR SOUTHEAST TEXAS IN EARLY SPRING Jeffrey Kelly[1], Natalie K. Lindgren[2], Alan D. Archambeault[2], Sybil R. Bucheli, Ph.D.[2], and Joan A. Bytheway[1], Sam Houston State University, College of Criminal Justice[1], Department of Biological Sciences[2].

SOUTHEAST TEXAS APPLIED FORENSIC SCIENCE FACILITY (STAFS) AT SAM HOUSTON STATE UNIVERSITY: A NEW FORENSIC ANTHROPOLOGY HUMAN DECOMPOSITION FACILITY Joan A. Bytheway, Ph.D.*, College of Criminal Justice, Sam Houston State University, Huntsville, Texas, 77341-2525

PRECISION OF COORDINATE LANDMARK DATA ACQUIRED FROM THE OS COXA Joan A. Bytheway, Ph.D.*, College of Criminal Justice, Forensic Science, Sam Houston State University, Huntsville, Texas, 77341-2525; Ann H. Ross, Ph.D., Department of Sociology and Anthropology, NC State University, CB 8107, Raleigh, NC 27695-8107

POSTMORTEM INTERVAL OF SURFACE REMAINS IN SPRING SEASON IN SOUTHEAST TEXAS Katelyn Stafford[1]; Nicole Larison[2], Angela D. Rippley[3], Natalie Lindren[2], Joan Bytheway[3], Sam Houston State University, Chemistry Department[1], College of Criminal Justice[3], Department of Biological Sciences[2], Sam Houston State University.

EXCLUSION OF FORENSICALLY IMPORTANT FLIES BY THE RED IMPORTED FIRE ANT (*SOLENOPSIS INVICTO* BUREN) IN SOUTHEASTERN TEXAS Natalie K. Lindgren[2], Jeffrey Kelly[1], Alan D. Archambeault[2], Sibyl R. Bucheli, Ph.D.[2], Joan A. Bytheway Ph.D.[1], Sam Houston State University, College of Criminal Justice[1], Department of Biological Sciences[2].

WHAT LIES BENEATH: RE-EXAMINING A COLD CASE HOMICIDE FROM A FORENSIC ANTHROPOLOGICAL PERSPECTIVE: A CASE REPORT Joan A. Bytheway[1], Kathryn Moss[2], Stephen M. Pustilnik[3], Sam Houston State University, College of Criminal Justice[1], University of Houston, Anthropology Department[2], Galveston County Medical Examiner's Office[3].

SKELETAL REMAINS IN A FLUVIAL ENVIRONMENT: MICROSCOPIC EVIDENCE OF GLYCOPROTEINOUS ADHESIVE OF *BALANUS IMPROVISUS* ON THE OCCLUSAL SURFACE OF MANDIBULAR TEETH Amanda Johnson[1], Joan A. Bytheway[2], Stephen M. Pustilnik[3,] Sam Houston State University, College of Criminal Justice[1,2], Galveston County Medical Examiner's Office[3].

FORENSIC LOGISTIC LABORATORY PROCESS OF THE MASS FATALITY UTILIZING SUPPLY-CHAIN OPERATIONS REFERENCE MODEL, J.A. Bytheway[1], R.D. Bytheway[2]. Criminal Justice, Sam Houston State University[1], Satellite Logistics Group, Houston, Texas[2].

3-D LANDMARK COORDINATE DATA SEX DETERMINATION OF THE ADULT HUMAN FRAGMENTED OS COXA AND THE POTENTIALITY OF EUCLIDEAN DISTANCE MATRIX ANALYSIS. Joan Bytheway, Anthropology, University of Pittsburgh.

SEX DETERMINATION OF THE ADULT HUMAN FRAGMENTED PELVIS USING EUCLIDEAN DISTANCE MATRIX ANALYSIS J.A. Bytheway, Anthropology, University of Pittsburgh.

TRAUMA, PATHOLOGY, AND NON-METRIC VARIANTS IN A MONONGAHELAN INDIAN

POPULATION J.A. Bytheway, Anthropology, University of Pittsburgh

EXERCISE TRAINING LEADS TO INCREASED PARTICIPATION IN COGNITIVE TESTING IN FEMALE CYNOMOLGUS MONKEYS. J.A. Bytheway*[1,2], H.Lange[3], J. Lamb[3], K. McCormick[3], N.I. Williams[4], W.T. Greenough[5], and J.L. Cameron[1]. Depts. Psychiatry[1], Anthropology[2], Neuroscience[3], Univ. Pittsburgh, Pittsburgh, PA 15213; Pennsylvania State Univ.[4], and Univ. Illinois at Champaign-Urbana[5].

TECHNICAL REPORTS

Forensic Anthropology Reports 2009 to present	Valley Forensics P.L.L.C., McAllen, Texas
Forensic Anthropology Reports 2009 to present	Montgomery County Sheriff's Office, Conroe, Texas
Forensic Anthropology Reports 2006 to present	Galveston County Medical Examiner's Office, Texas City, Texas
Forensic Anthropology Report	Osteological Analysis of skeletal remains from the mass grave site 2005 Ninawa0002, near Al Hatra, Iraq. Submitted to the United States Army Corps of Engineers, St. Louis, Missouri, United States Department of Justice, Washington D.C. and the Iraqi Special Tribunal, Baghdad, Iraq.
Forensic Anthropology Report	Osteological Analysis of skeletal remains from the mass grave site, 2005 Province of Maysan, Iraq. Submitted to the United States Army Corp of Engineers, St. Louis, Missouri, United States Department of Justice, Washington D.C. and the Iraqi Special Tribunal, Baghdad, Iraq.
Forensic Anthropology Report	Osteological analysis of skeletal remains from the mass grave site, 2005 Muthana Province, Iraq. Submitted to the United States Army Corp of Engineers, St. Louis, Missouri, United States Department of Justice, Washington D.C. and the Iraqi Special Tribunal, Baghdad, Iraq.

PRESENTATIONS

May 2013	Advanced Crime Scene Investigation for Law Enforcement, STAFS, Sam Houston State University
June 2013	Advanced Crime Scene Investigation for Forensic Science High School Teachers, STAFS, Sam Houston State University
June 2012	Advanced Crime Scene Investigation for Forensic Science High School Teachers, STAFS, Sam Houston State University, Huntsville, Texas
March 2012	Guest Speaker, College of Humanities, Sam Houston State University, Huntsville,Texas
March 2012	Klein-Collins High School Forensic Anthropology, Spring Texas
February 2012	An Atypical Burn Pattern Associated With Forensically Significant Human Remains, Oral Presentation, American Academy of Forensic Sciences

	Annual Meeting, Atlanta, Georgia
June 2011	Crime Scene Investigation for Forensic Science High School Teachers, Sam Houston State University, Huntsville, Texas
March 2010	Advanced Techniques in Crime Scene Investigation, Short Course, Sam Houston State University, Huntsville, Texas
September 2009	Advanced Techniques in Crime Scene Investigation, Short Course, Sam Houston State University, Huntsville, Texas
June 2009	Skeletal Remains Recovery Training, Texas Division of the International Association for Identification, Fort Worth, Texas
June 2007	"Forensic Science" Criminal Justice Summer Camp, Sam Houston State University, Huntsville, Texas
September 2006	"Forensic Anthropology" Sam Houston State University, Huntsville, Texas
January 2006	"Voices out of the Desert: Victims of Saddam Hussein Finally Speak", University of Pittsburgh, Greensburg
January 2006	"Forensic Anthropology, Mass Graves in Iraq" Greensburg Rotary Club, Greensburg, Pennsylvania
December 2005	"Mass Graves in Iraq" Hohnsberger Live, Television broadcast
December 2004	"The Gift of So Many: Bioarchaeology at the Consol Site"
July 2004	"Forensic Art: Facial Reconstruction", California University of Pennsylvania

SERVICES

May 2013	Master's Thesis Committee Member, Department of Anthropology, University of Houston, Houston, Texas
May 2012	Master's Thesis Committee Member, Department of Anthropology, University of Houston, Houston, Texas
February 2012	Moderator, Physical Anthropology Section, American Academy of Forensic Sciences Annual Meeting, Atlanta, Georgia
September 2012	Mass Fatality Management Committee Member, Montgomery County, Texas
Aug 2011-May 2012	Curriculum Committee, Member, College of Criminal Justice, Sam Houston State University
Aug 2011-May 2012	Women's Advisory Committee, Member, Sam Houston State University
Feb 2011- present	Peer Reviewer, Journal of Forensic Sciences
Feb 2011	Defensor Pacem Committee Member, College of Criminal Justice, Sam Houston State Unversity
Dec 2010	Tarrant County Medical Examiner's office "Current Trends in Forensic Science Annual Conference" Fort Worth, Texas.
Oct 2010	Texas A&M guest speaker, Forensic Soil Science.
Oct 2010	High School Criminal Justice Instructor Training, College of Criminal Justice, Sam Houston State University
Sept 2010	Curriculum Committee Member, College of Criminal Justice
April 2010	The Academy of Science – Conroe High School guest speaker
Jan 2010-2011	Board of Directors, Secretary, Society of Forensic Anthropology, national organization.
August 2009, 2010	American Academy of Forensic Sciences Forensic Sciences Education Conference,Sam Houston State University

Sept 2008-2009	Student Recruitment and Development Committee, Chair, Sam Houston State University
Sept 2008	Women's Advisory Committee, Member, Sam Houston State University Forensic Anthropology Laboratory Accreditation Committee, Member, Society of Forensic Anthropology
July 2008-present	Southeast Texas Applied Forensic Science Facility Operations Committee, Chair
June 2008	International Association for Identification, Texas Division, Keynote Speaker, Houston, Texas
March 2008	"Let's Talk!" A Night of Conversation "Voices Out of the Desert: Mass Grave Victims of Saddam Hussein's Regime Tell the Details of their Death Through Skeletal Remains", Sam Houston State University
2008	Scholarship Committee, Sam Houston State University
2008	"Crack the Case in CSI: The Experience", Consultant, Houston Museum of Natural Science, Houston, Texas
2007 to present	Academic Advisor, Phi Sigma Pi, Sam Houston State University
2007 to 2010	Student Disciplinary Hearing Committee, Sam Houston State University
2006 to present	Forensic Science Committee, Sam Houston State University
2006 to present	Student Recruitment and Development Committee, Sam Houston State University
2007	Forensic Anthropology analysis of cases, Montgomery County Sheriff's Office
2006 to present	Forensic Anthropology analysis of forensic cases, Galveston County Medical Examiner's Office
2005	Peer Reviewer of 131 forensic cases
2005	Author, Standard Operating Procedures for DNA collection procedures in Mass Graves.
2005	Co-author, Standard Operating Procedures for Forensic Anthropology analysis of Mass Graves
2004	Reviewer, American Journal Physical Anthropology
2004	Judge, Student's Scholarship and Creative Poster Presentations, California University of Pennsylvania

Jasmine M. Drake, Ph.D.
Assistant Professor, Forensic Science
College of Criminal Justice
Sam Houston State University

Degrees Earned

Ph.D. in Chemistry, Louisiana State University and A & M College, Baton Rouge, LA, 2007

BS in Chemistry, Honors, Southern University and A & M College, Baton Rouge, LA, 2002

Peer-Review Publications

Articles

Millican, Jasmine N.; Fronczek, Frank R.; Watkins, Steve F.; "4-Nitro-1-[(trimethylsilyl)ethynyl]benzene: low-temperature polymorph at 100K" Acta Crystallographica Section E 68, **2012.**

Millican, J. N.; Phelan, D.; Thomas, E. L.; Leao, Juscelino; Carpenter, E. "Pressure-induced Effects on the Structure of the FeSe Superconductor", Solid State Communications **2009,** 149 707-710.

Phelan, D.; Millican, J.N.; Thomas, E.L.; Leao, J. B.; Qiu, Y. and Paul, R. "Neutron Scattering Measurements of the Phonon Density of States of FeSe1-x Superconductors", PHYSICAL REVIEW B 79, **2009,** 0145191-145196.

Thomas, E. L.; Wong-Ng, W.; Phelan, D.; Millican, J.N. "Thermopower of Co-doped FeSe" JOURNAL OF APPLIED PHYSICS 105, **2009** 0739061-0739065.

Cho, J.Y.; Millican J. N.; Moldovan, M.; Young, D. P.; Sokolov, D.; Aronson, M.C.; Chan, J. Y., "Synthesis, structure, and physical properties of Ln_2MGa_{12} (Ln = La, Ce; M = Ni, Cu)", *Chem. Mater.* **2008**, 20, 6116-6123.

Millican, J.N.; Macaluso, R.T.; Nakatsuji, S.; Machida, Yo; Maeno, Y; Chan, J.Y. "Crystal Growth and Structure of $R_2Ir_2O_7$ (R = Pr, Eu) Using KF molten flux", *Mater. Res. Bull.*, **2007**, 42, 928–934.

Thomas, E.L.; Okudzeto, E.; Millican, J.N.; Chan, J.Y. "Crystal Growth and the Search for Heavy Fermion Intermetallics", *Comments Inorg. Chem. (Review Article)*, **2006**, 27, 1-39.

Nakatsuji, S.; Machida, Y.; Maeno, Y.; Tayama, T.; Sakakibara, T.; Duijn, J.v.; Balicas, L.; Millican, J.N.; Macaluso, R.T.; Chan, J.Y. "Metallic spin-liquid behavior of the geometrically frustrated Kondo lattice $Pr_2Ir_2O_7$", *Phys. Rev. Lett.*, **2006**, 96, 087204.

Kim, M.S.; Bennett, M.; Sokolov, D.A.; Aronson, M.; Millican, J.N.; Chan, J.Y.; Huang, Q.; Chen, Y.; Lynn, J. "Synthesis and study of the ferromagnetic heavy-fermion compound Yb_5Pt_9", *Phys. Rev. B*, **2006**, 74, 224431.

Macaluso, R. T.; Millican, J. N.; Lee, H.-O.; Nakatsuji, S.; Carter, B.; Moreno, N.; Fisk, Z.; Chan, J. Y. "A comparison of the structure and localized magnetism in Ce_2PdGa_{12} with the heavy fermion $CePdGa_6$", *J. Solid State Chem.*, **2005**, 178, 3547-3553.

Millican, J.N.; Macaluso, R. T.; Young, D. P.; Moldovan, M.; and Chan, J. Y., "Synthesis, Structure, and Physical Properties of Ce_2PdGa_{10}", *J. Solid State Chem.* **2004,** 177, 4695- 4700.

Artistic Performances
N/A.

Artistic Exhibitions
N/A.

Research Monographs and Technical Reports
N/A

Funded External Grants
N/A

Work or Professional Experiences

Adjunct Faculty: (Introductory Chemistry) (8/2012 – Present)
Cedar Valley Community College - Lancaster, TX
Dallas Community College Campus

Teacher: Forensic Science and Chemistry (8/2012 – Present)
Nimitz High School Irving, TX
Irving Independent School District

Forensic Chemist (11/2009 – June/2012)
Drug Enforcement Administration (DEA) Dallas, TX
South Central Laboratory

NRC Postdoctoral Research Chemist (8/2007 – 11/2009)
NIST Center for Neutron Research - Gaithersburg, MD

Graduate Research/ Teaching Assistant (8/2002- 6/2007)
Louisiana State University And A&M College - Baton Rouge, LA

Honors and awards
Outstanding Research Award, Louisiana State University, April 2007
CBM^2 Colloquium Poster Competition -3rd Place, 2006

Other Competencies
N/A

PROFESSIONAL AFFILIATIONS/HONORS:
American Chemical Society Member
American Physical Society Member
American Crystallographic Association Member
NRC Postdoctoral Fellow at the NIST Center for Neutron Research (NCNR), August 2007

SERVICE
Forensic CSI Training Workshops for K-12 (approximately 10 in the DFW region), 2011-2012
Cast (Teaching for the Teachers) Forensic Training, DEA Laboratory, 2011
Goals for Girls Mentoring Program, Gaithersburg Middle School, 2008-2009
LSU Chemistry Department Demonstrations, LSU, 2002-2007

Appendix C

Curricula Vitae for Support Faculty

Dr. Todd Armstrong Associate Professor College of Criminal Justice	PhD Criminology and Criminal Justice, University of Maryland
Dr. Danielle Boisvert Assistant Professor College of Criminal Justice	PhD Criminal Justice, Penn State Harrisburg
Dr. Brian Boutwell Assistant Professor College of Criminal Justice	PhD Criminology, Florida State University
Dr. Sibyl Bucheli Assistant Professor Department of Biological Science College of Sciences	PhD Entomology, Ohio State University
Dr. Madhusudan Choudhary Assistant Professor Department of Biological Science College of Sciences	PhD Genetics, McMaster University, Canada
Dr. Jerry Dowling Professor College of Criminal Justice	J.D., College of Law, The University of Tennessee
Dr. Donovan Haines Assistant Professor Department of Chemistry College of Sciences	PhD Chemistry, Wichita State University
Dr. William King Associate Professor Associate Dean of Research and Program Development College of Criminal Justice	PhD Criminal Justice, University of Cincinnati
Dr. Ilona Petrikovics Associate Professor Department of Chemistry College of Sciences	PhD Medicinal Biology, University Medical School, Debrecen, Hungary; PhD Organic Chemistry, University of Arts and Sciences, Debrecen, Hungary
Dr. Chris Randle Assistant Professor Department of Biological Science College of Sciences	PhD Evolution, Ecology and Organismal Biology, Ohio State University

Dr. Justin Williams Associate Professor Department of Biological Science College of Sciences	PhD Botany, University of Texas
Dr. Darren Williams Associate Professor Department of Chemistry College of Sciences	PhD Chemistry, Oregon State University
Dr. Christopher Wilson Professor and Chair Department of Psychology College of Humanities and Social Sciences	PhD Psychology, Texas Christian University

Todd Armstrong
Associate Professor
College of Criminal Justice
Sam Houston State University

Degrees Earned

1999 Ph.D., Criminology and Criminal Justice, University of Maryland, College Park, MD
1996 M. A., Criminology and Criminal Justice, University of Maryland, College Park, MD
1992 B. A., Government and Politics, University of Maryland, College Park, MD

Professional Licensure and Certifications
N/A

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

Armstrong, T. A., and Armstrong, G. S. (accepted for publication) Multivariate Analysis of the Socio-demographic Predictors of Methamphetamine Production and Use, *Crime and Delinquency*.

Armstrong, T. A. and Katz C. (accepted for publication) Further Evidence on the Discriminant Validity of Perceptual Incivilities Measures. *Justice Quarterly*

Armstrong, T. A., Katz, C., and Webb, V. (accepted for publication) Understanding the Impact of Sex Offender Registration on Offense Type and the Predictors of Recidivism Among Registered Sex Offenders, *Justice Research and Policy*.

Armstrong, T. A., Keller, S. W., Franklin, T., and MacMillan, S. (2009). Low Resting Heart Rate and Antisocial Behavior: A Brief Review of Evidence and Preliminary Results from A New Test. *Criminal Justice and Behavior,* 36, 1115-1130.

Armstrong, T. A., Lee, D., and Armstrong, G. S. (2009) An Assessment of Scales Measuring Constructs in Tests of Criminological Theory Based on NYS Data. *Journal of Research in Crime and Delinquency*, 29, 73-105.

Armstrong, T. A. (2008). Exploring the Impact of Changes in Group Composition on Trends in Specialization. *Crime and Delinquency*, 366-389.

Armstrong, T. A. (2008). Are Trends in Specialization Across Arrests Explained by Changes in Specialization Occurring with Age?. *Justice Quarterly,* 25: 201-222.

Armstrong, T. A. and Webb V. (2006). The School Based Violence Prevention Planning Program: A Pilot Test, *Journal of School Violence*, 5, 79-93.

Armstrong, T. A. (2005). Evaluating the Competing Assumptions of Gottfredson and Hirschi's (1990) *A General Theory of Crime* and Psychological Explanations of Aggression. *Western Criminology Review,* 6, 12-21.

Armstrong, T. A. and Britt, C. L. (2004). The Effect of Offender Characteristics on Offense Specialization and Escalation. *Justice Quarterly*, 21, 843-876.

Armstrong, T. A. and Armstrong, G. S. (2004). Determining the Organizational, Community, and Programmatic Characteristics of Effective After-School Program Implementation. *Journal of School Violence*, 3, 93-109.

Armstrong, T. A. (2003). The Effect of Moral Reconation Therapy on the Recidivism of Youthful Offenders: A Randomized Experiment. *Criminal Justice and Behavior*, 30:668-687.

Katz, C. M., Webb, V. J., and Armstrong, T. A. (2003). Fear of Gangs: A Test of Alternative Theoretical Models. *Justice Quarterly*, 20:95-130.

Armstrong, T. A. (2002). The Effect of Environment on the Behavior of Youthful Offenders: A Randomized Experiment. *Journal of Criminal Justice*, 30:19-28.

Kassing, J. W. and Armstrong, T. A. (2001). Examining the Association of Job Tenure, Employment History, and Organizational Status with Employee Dissent. *Communication Research Reports*, 18:264-273.

Kassing, J. W. and Armstrong, T. A. (2001). Someone's Going to Hear about This: Examining the Association between Dissent-triggering Events and Employees' Dissent Expression. *Management Communication Quarterly*, 16:39-65.

Rosay, A. B., Gottfredson, D. C., Armstrong, T. A., and Harmon, M. A. (2000). Invariance of Measures of Prevention Program Effectiveness: A Replication. *Journal of Quantitative Criminology*, 16:341-367.

Books
N/A

Chapters

Armstrong, T. A. (2003). The Effect of Learning on Crime: Contrasting A General Theory of Crime and Social Learning Theory. In Chester L. Britt and Michael R. Gottfredson (eds.). *Control Theories of Crime and Delinquency. Advances in Criminological Theory, Volume 12.* New Brunswick, NJ: Transaction Publishers.

Proceedings
NA

Artistic Performances
N/A

Artistic Exhibitions
N/A

Research Monographs and Technical Reports

Katz, C. M., Webb, V., & Armstrong, T. (2006) *Where Do We Go From Here? A Report on Sex offenders and Sex offender Housing in Phoenix, Arizona*. Prepared for the Phoenix Police Department and the Phoenix City Council.

Armstrong, G., Armstrong, T., & Webb, V. (2006) *An Evaluation of Redeploy Illinois – St. Clair and Peoria County Sites*. Final report submitted to the Illinois Criminal Justice Information Authority.

Armstrong, T. A. and Armstrong, G. S. (2002) *Determining the Organizational Characteristics of Effective After-School Program Implementation*. Final Report submitted to the Arizona Supreme Court, Phoenix, AZ.

Armstrong, T. A. and Armstrong, G. S. (2002) *Factbook on Violence*. Report submitted to the Partnership for Community Development, ASU West.

Armstrong, T. A. and Britt C. L. (2001). *An Exploration of the Correlates of Specialization and Escalation: Final Report*. Submitted to the National Institute of Justice

Armstrong, T. A., Armstrong, G. S., and Pastore, A. M. (2001). *Violence: We've Drawn the Line a Community Commitment*. Conference White Papers written in partnership with the Violence Prevention Initiative.

Armstrong, T. A. (1999). *A Test of the Generality of the Cognitive Determinants of Criminal and Delinquent behavior*. College Park: University of Maryland, Department of Criminology and Criminal Justice. Unpublished Dissertation.

Armstrong, T. A. (July, 1998). *The Effect of Residence in the Youthful Offender Unit: A Replication Using Negative Binomial, Poisson and Probit models*. Report submitted to the Montgomery County Detention Center.

Armstrong, T. A. (April, 1998). *The Effect of Residence in the Youthful Offender Unit: An Exploration of Time in Residence Necessary for an Effect*. Report submitted to the Montgomery County Detention Center.

Armstrong, T. A. (January, 1998). *The Effect of Residence in the Youthful Offender Unit: An Extension*. Report submitted to the Montgomery County Detention Center.

Armstrong, T. A. (September, 1997). *The Effect of Residence in the Youthful Offender Unit on Disciplinary Violations*. Report submitted to the Montgomery County Detention Center.

Armstrong, T. A. (April, 1996). *The Effect of the Social Problem Solving Program Intervention on Problem Behavior*. College Park: University of Maryland, Department of Criminology and Criminal Justice. Unpublished Thesis.

Funded External Grants

Co- Principal Investigator with G. Armstrong, A randomized evaluation of the Texas Department of Criminal Justice National Institute of Justice Prisoner Reentry Initiative, 2007. $100,000.

Principal Investigator with G. Armstrong, and V. Webb, Evaluation of Redeploy Illinois. Grant awarded by the Illinois Criminal Justice Information Authority, 2006. $66,127

Principal Investigator with G. Armstrong, The Relationship between Methamphetamine and Domestic Violence: Analysis of ICJIA In-House Datasets. Grant awarded by the Illinois Criminal Justice Information Authority, 2005. $6,261.

Principal Investigator, "Online Training Resources for Local Educational Agencies Applying for Title VI (Safe and Drug Free Schools and Communities Program) and State Chemical Abuse Funding." Developed online training designed to help schools conduct a needs assessment, select proven prevention strategies and evaluate the implementation and outcomes of those strategies. Contract awarded by the Arizona Department of Education, 2005 $24,000.

Principal Investigator, "Violence Prevention Academy." Grant awarded by the Arizona Supreme Court, Juvenile Crime Reduction Fund, 2004. $13,000.

Principal Investigator, "Offering AJS 304 – Criminology on 'the Net': Expanding our Distance Learning Capacity." Grant awarded by ASU West Instructional Development and Support Grant program, 2002. $4,287.

Principal Investigator, "Race, Social Ties and the Perceived Costs and Benefits of Offending: Are There Significant Differences across Groups?" Grant awarded by ASU West Scholarship, Research and Creative Activities Grant program, 2002. $5,000.

Principal Investigator with Chester L. Britt, "An Exploration of the Correlates of Specialization and Escalation." Grant awarded by the National Institute of Justice, Data Resources Program: Funding for the Analysis of Existing Data, 2001. $30,814.

Principal Investigator with Gaylene Armstrong, "Process Evaluation for Effective Implementation of Violence Prevention Programs." Grant awarded by the Arizona Supreme Court, Juvenile Crime Reduction Fund, 2001. $10,000.

Principal Investigator with Gaylene Armstrong, "Proposal for Seed Money in Support of White Papers for 'Violence, We've Drawn the Line: A Community Commitment' Conference and Forum". Grant awarded by the Motorola Great Communities Initiative, 2000. $3,198.

Work or Professional Experiences

Associate Professor, Sam Houston State University. Fall 2007 – Present

Assistant Professor, Southern Illinois University Carbondale. Fall 2005 – Spring 2007

Assistant Professor, Arizona State University West. Fall 1999 – Spring 2005

Director, Violence Prevention Academy. Developed the School Based Violence Prevention Planning Program (SBV3P) and online resources (http://www.west.asu.edu/vpa). The SBV3P is a curriculum for school based violence prevention practitioners designed to assist school personnel in identifying and effectively implementing evidence based violence prevention strategies. The curriculum emphasizes organizational planning and best practices, while building the capacity of schools to prevention violence. The SBV3P was been pilot tested and the revised curriculum implemented in six schools from the Glendale Elementary School District. Fall 2002 – Spring 2005

Program Evaluation Consultant, Montgomery County Department of Corrections. Used a randomized research design to evaluate the Moral Reconation Therapy program (MRT). Evaluation efforts included data collection, data base development, and statistical analysis. June 1997 - June 1999

Honors and Awards

Academy of Experimental Criminology Young Experimental Scholar Award (Awarded at the American Society of Criminology meeting in Atlanta, GA, 2007)

Academy of Criminal Justice Sciences Anderson Paper Award for "Fear of Gangs: Implications for Victimization, Disorder, Community Concern and Subcultural Diversity Models." (March 2003)

ASU West Partnership for Community Development Faculty Fellowship (fall 2001 - spring 2002)

Other Competencies
N/A

CURRICULUM VITAE

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PERSONAL

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CURRENT POSITION

2012-present	Assistant Professor, College of Criminal Justice, Sam Houston State University.
2009-2012	Assistant Professor, Department of Criminal Justice, School of Public Affairs, Penn State Harrisburg.

EDUCATION

2009	Ph.D., Division of Criminal Justice, University of Cincinnati, Cincinnati, Ohio, USA. Dissertation: *Rethinking Gottfredson and Hirschi's General Theory of Crime: A Behavioral Genetic Approach*. Chair: Dr. John Paul Wright
2002	Master of Forensic Sciences, The George Washington University, Washington, D.C., USA.
2001	Honors Bachelor of Sciences in Biology, University of Western Ontario, London, Ontario, Canada.

ARTICLES/CHAPTERS

Boisvert, D., Stadler, W., Vaske, J., Wright, J. P., & Nelson, M. (2012). The interconnection between intellectual achievement and self-control. *Criminal Justice and Behavior*.

Vaske, J., Ward, J., Boisvert, D., & Wright, J. P. (2012). The stability of self-control from adolescence to young adulthood. *Journal of Criminal Justice, 40*(4), 313-322.

Taylor, J., Boisvert, D., Sims, B., & Garver, C. (forthcoming). An Examination of Gender and Age in Media Accounts of Child Abductions. *Journal of Criminal Justice Studies*.

Vaske, J., Boisvert, D., & Wright, J. P. (forthcoming). Genetic and environmental contributions to the relationship between violent victimization and criminal behavior. *Journal of Interpersonal Violence*.

Boisvert, D., Vaske, J., Wright, J. P., & Knopik, V. (2012). Sex differences in criminal behavior: A genetic analysis. *Journal of Contemporary Criminal Justice Issues, 28*(3), 293-313.

Boisvert, D., Wright, J. P., Knopik, V., & Vaske, J. (2012). A twin study of sex differences in self-control. *Justice Quarterly*.

Boisvert, D., Wright, J. P, Knopik, V., & Vaske, J. (2012). Genetic and environmental overlap between low self-control and delinquency. *Journal of Quantitative Criminology, 28*(3), 477-507.

Taylor, J., Boisvert, D., Sims, B., & Garver, C. (forthcoming). An examination of media accounts of child abductions in the United States. *Justice Policy Journal*.

Boisvert, D., Vaske, J., Taylor, J., & Wright, J. P. (forthcoming). The effects of differential parenting on sibling differences in self-control among brother-sister pairs. *Criminal Justice Review*, 37(1), 5-23.

Gabbidon, D., & Boisvert, D. (2012). Public opinion on crime causation: An exploratory study of Philadelphia area residents. *Journal of Criminal Justice, 40*, 50-59.

Nelson, M., & Boisvert, D. (2011). Testing the effects of delinquent peers and self-control on disruptive behaviors in college classrooms. *Criminal Justice Studies, 24*(2), 165-181.

Boisvert, D., & Vaske, J. (2011). Genes, twin studies, and antisocial behaviors. In A. Somit & S. Peterson (Eds.), *Biology and politics: The cutting edge*. United Kingdom: Emerald Group Publishing Limited.

Vaske, J., Wright, J. P., Boisvert, D., & Beaver, K. M. (2011). Gender, genetic risk, and criminal behavior. *Psychiatry Research, 185*(3), 376-381.

Vaske, J., Beaver, K. M., Wright, J. P., Boisvert, D., & Makarios, M. (2009). Moderating effects of DRD2 on depression. *Stress and Health, 25*(5), 453-462.

Wright, J. P., & Boisvert, D. (2009). What biosocial criminology offers criminology. *Criminal Justice and Behavior*, *36*(11), 1228-1240.

Reprint: Wright, J. P., & Boisvert, D. (2011). What biosocial criminology offers criminology. In C. R. Bartol & A. M. Bartol (Eds.), *Current perspectives in forensic psychology and criminal behavior* (pp. 117-126). Thousand Oaks, CA: Sage Publications.

Wright, J. P., Boisvert, D., & Vaske, J. (2009). Blood lead levels in early childhood predict adult psychopathy. *Youth Violence and Juvenile Justice, 7*(3), 208-222.

Vaske, J., Beaver, K. M., Wright, J. P., Boisvert, D., & Schnupp, R. (2009). An interaction between DAT1 and having an alcoholic father predicts serious alcohol problems in a sample of males. *Drug and Alcohol Dependence, 104*, 17-22.

Vaske, J., Makarios, M., Boisvert, D., Beaver, K. M., Wright, J. P. (2009). The interaction of DRD2 and violent victimization on depression: An analysis by gender and race. *Journal of Affective Disorders, 112*(1), 120-125.

Wright, J. P., & Boisvert, D. (2009). Intelligence and crime. In J. M. Miller (Ed.), *21st century criminology: A reference handbook* (pp. 93-99). Thousand Oaks, CA: Sage Publications.

Wright, J., Boisvert, D., Dietrich, K., & Ris, D. (2008). The ghost in the machine and criminal behavior: Criminology for the 21st century. In A. Walsh & K. M. Beaver (Eds.), *Contemporary Biosocial Criminology* (pp. 73-89). London: Routledge Press.

Wright, J. P., Beaver, K. M., DeLisi, M., Vaughn, M. G., Boisvert, D., & Vaske, J. (2008). Lombroso's legacy: The miseducation of criminologists. *Journal of Criminal Justice Education*, *19*(3), 325-338.

Boisvert, D., & Wright, J. P. (2008). Nonshared environmental influences and sibling differences in externalizing behavior. *Criminal Justice and Behavior*, *35*(7), 863-878.

Beaver, K. M., Wright, J. P., DeLisi, M., Walsh, A., Vaughn, M. G., Boisvert, D., & Vaske, J. (2007). A gene x gene interaction between DRD2 and DRD4 is associated with conduct disorder and antisocial behaviour in males. *Behavioral and Brain Functions*, *3*:30.

ENCYCLOPEDIA ENTRIES

Boisvert, D. (forthcoming). Twin and adoption studies. *The Encyclopedia of Theoretical Criminology*.

Boisvert, D. (forthcoming). Intelligence and Crime. *The Encyclopedia of Theoretical Criminology*.

Boisvert, D. (forthcoming). Evolutionary theories of criminal behavior. *Encyclopedia of Criminology and Criminal Justice*.

Boisvert, D. (forthcoming). Genetic theories of criminal behavior. *Encyclopedia of Criminology and Criminal Justice*.

Boisvert, D. (forthcoming). Biosocial theories of criminal behavior. *Encyclopedia of Criminology and Criminal Justice*.

Boisvert, D. (2010). Ellis, Lee: Evolutionary neuroandrogenic theory. In F. T. Cullen & P. Wilcox (Eds.), *Encyclopedia of criminological theory* (pp. 540-542). Thousand Oaks, CA: Sage Publications.

Boisvert, D. (2010). Lahey, Benjamin B., and Irvin D. Waldman: Developmental propensity model of conduct problems. In F. T. Cullen & P. Wilcox (Eds.), *Encyclopedia of criminological theory* (pp. 292-295). Thousand Oaks, CA: Sage Publications.

PAPERS UNDER REVIEW

Vaske, J., Newsome, J., & Boisvert, D. The mediating effects of intelligence on the relationship between birth complications and antisocial behaviors. Under review at *Infant and Child Development*.

Vaske, J., Boisvert, D., Wright, J. P., & Beaver, K. M. A longitudinal analysis of the effects of DRD4 on marijuana use. Under review at *Developmental Psychology*.

RESEARCH IN PROGRESS

Boisvert, D., Sumner, J., & Sims, B. High-risk families: A cost-benefit analysis of incarceration and treatment.

Boisvert, D., Newsome, J., & Wright, J. P. The initiation, progression, and desistance of criminal behaviors from adolescence to adulthood: A genetic analysis.

Miller, B., Boisvert, D., & Vaske, J. The effect of family stressors on child well-being and antisocial behaviors.

Nelson, M., Gabbidon, S., & Boisvert, D. Philadelphia area residents' views on the disproportionate representation of Blacks and Hispanics in the criminal justice system.

Newsome, J., Boisvert, D., & Wright, J. P. Genetic and environmental influences on the co-occurrence of cognitive ability and externalizing behavior in childhood.

Newsome, J., Boisvert, D., & Wright, J. P. Self-control and the initiation and progression of externalizing behaviors: A genetic analysis.

Randa, R. & Boisvert, D. Fear, risk and behavior: A new theoretical direction.

Schnupp, R., Wright, J. P., Vaske, J., & Boisvert, D. Child behavioral outcomes in the context of General Strain Theory.

Schnupp, R., Wright, J. P., & Boisvert, D. Child behavioral outcomes in the context of Sampson and Laub's Age-Graded Theory of Informal Social Control.

Vaske, J., Makarios, M., Boisvert, D., Beaver, K. M., & Wright, J. P. Gender & bio-psycho-sociology: Integrating genetic and psychological factors into the feminist pathway model.

FUNDED RESEARCH

Boisvert, D., & Sumner, J. (2010). High risk families: A cost/benefit analysis of county incarceration and treatment. Research Council Grant. Funded for $7,500.

Sumner, J., & Boisvert, D. (2010). Changing role of woman in the military: The effects on child development. The Social Science Research Institute. Funded for $5,000.

Gabbidon, S., & Boisvert, D. (2009). Public opinion on crime causation and remediation in Philadelphia. The Africana Research Center. Funded for $7,500.

Wright, J. P., & Boisvert, D. (2008). Juvenile comprehensive strategic plan for Lyon and Chase counties in the state of Kansas. The Fifth Judicial District Department of Community Corrections. Funded for $14,700.

INVITED PRESENTATIONS

University of Texas, San Antonio, Alpha Phi Sigma Guest Lecture Series (February 18, 2011). Presented research titled *Genetic and Environmental Overlap between Low Self-Control and Delinquency*.

Penn State Harrisburg Advisory Board Meeting (June 3, 2010). Co-presented research with Dr. Barbara Sims, Dr. Jennifer Sumner, and Dr. Chiara Sabina titled *Relevance of Research in Solving Societal Problems*.

Penn State Harrisburg, Office of Research and Graduate Studies' Seminar Series (March 24, 2010). Presented research titled *Self-Control and Delinquency among Brother-Sister Pairs: Effects of Differential Parenting on Sibling Differences*.

Dauphin County Criminal Justice Advisory Board (December 17, 2009). Co-presented research with Dr. Jennifer Sumner titled *High Risk Families: A Cost/Benefit Analysis of County Incarceration and Treatment*.

CONFERENCE PRESENTATIONS

Boisvert, D. (2012). Marriage, employment, and criminal behavior: A behavioral genetic analysis. Paper to be presented at the annual meeting of the American Society of Criminology, Chicago, IL.

Smith, J., Boisvert, D., & Sumner, J. (2012). Intergenerational offending: An analysis of high-risk families in jail. Paper presented at the annual meeting of the Academy of Criminal Justice Science, New York, NY.

Price, T., Boisvert, D., & Randa, R. (2012). An examination of cyber-bullying among youth. Poster presented at the annual meeting of the Academy of Criminal Justice Science, New York, NY.

Boisvert, D., Newsome, J., & Wright, J. P. (2011). *The initiation, progression, and desistance of criminal behaviors from adolescence to adulthood: A genetic analysis*. Paper presented at the annual meeting of the American Society of Criminology, Washington, DC.

Newsome, J., Boisvert, D., & Wright, J. P. (2011). *Self-control and the initiation and progression of externalizing behaviors: A genetic analysis*. Paper presented at the annual meeting of the American Society of Criminology, Washington, DC.

Sims, B., & Boisvert, D. (2011). *Examining self-control, parental monitoring, and delinquency among juvenile probationers*. Paper presented at the annual meeting of The Academy of Criminal Justice Science, Toronto, CA.

Boisvert, D., Wright, J. P., & Vaske, J. (2010). *A twin study of sex differences in self-control*. Paper presented at the annual meeting of The American Society of Criminology, San Francisco, CA.

Vaske, J., Boisvert, D., Ward, J. T., & Wright, J. P. (2010). *Stability of self-control in young adults*. Paper presented at the annual meeting of The American Society of Criminology, San Francisco, CA.

Vaske, J., Newsome, J., & Boisvert, D. (2010). *The mediating effects of verbal skills in the relationship between low birth weight and antisocial behavior*. Paper presented at the annual meeting of The American Society of Criminology, San Francisco, CA.

Boisvert, D., Vaske, J., Taylor, J., & Wright, J. P. (2010). *Self-control and delinquency among brother-sister pairs: Effects of differential parenting on sibling differences.* Paper presented at the annual meeting of The Academy of Criminal Justice Science, San Diego, CA.

Nodeland Miller, B., & Boisvert, D. (2010). *The effects of disrupted families on juvenile delinquency.* Paper presented at the annual meeting of The Academy of Criminal Justice Science, San Diego, CA.

Boisvert, D., Wright, J. P., & Knopik, V. (2009). *Genetic and environmental overlap between low self-control and delinquency.* Paper presented at the annual meeting of The American Society of Criminology, Philadelphia, PA.

Vaske, J., Wright, J. P., Boisvert, D., & Beaver, K. M. (2009). *Gender, genetic risk, and offending.* Paper presented at the annual meeting of The American Society of Criminology, Philadelphia, PA.

Stadler, W., Vaske, J., Galyean, K., Boisvert, D., Estes, A., Stadler, W., & Wright, J. P. (2009). *The mediating effects of IQ on the relationship between blood lead levels and arrest.* Paper presented at the annual meeting of The Academy of Criminal Justice Sciences, Boston, MA.

Boisvert, D., Wright, J. P., Beaver, K. M., & Vaske, J. (2008). *Genetic growth curve analyses on self-control.* Paper presented at the annual meeting of The American Society of Criminology, St. Louis, MO.

Schnupp, R., Wright, J. P., & Boisvert, D. (2008). *Child behavioral outcomes in the context of Sampson and Laub's Age-Graded Theory of Informal Social Control.* Paper presented at the annual meeting of The American Society of Criminology, St. Louis, Missouri.

Arnold, C., & Boisvert, D. (2008). *Examination of factors contributing to the institutionalization of youth*. Paper presented at the annual meeting of The American Society of Criminology, St. Louis, MO.

Boisvert, D., & Wright, J. P. (2007). *Intellectual functioning and low self-control.* Paper presented at the annual meeting of The American Society of Criminology, Atlanta, GA.

Vaske, J., Makarios, M., Boisvert, D., Beaver, K. M., & Wright, J. P. (2007). *A re-test of the feminist pathway hypothesis to include genetic effects.* Paper presented at the annual meeting of The American Society of Criminology, Atlanta, GA.

Arnold, C., & Boisvert, D. (2007). *Effects of incarceration on recidivism across offence types*. Paper presented at the annual meeting of The American Society of Criminology, Atlanta, GA.

Boisvert, D., & Wright, J. P. (2006). *Nonshared environmental influences and sibling differences in externalizing behavior*. Paper presented at the annual meeting of The American Society of Criminology, Los Angeles, CA.

Boisvert, D., & Wright, J. P. (2006). *Genetic contributions to marijuana use.* Paper presented at the annual meeting of The American Society of Criminology, Los Angeles, California.

TEACHING EXPERIENCE

Undergraduate Courses (residential)
Statistics
Juvenile Justice Systems
Life Course Criminology
Research Methods

Undergraduate Courses (online)
Statistics
Research Methods
Introduction to Corrections
Introduction to Criminology

Graduate Courses
Advanced Criminological Theory
Quantitative Research Methods
Life Course Criminology
Behavioral Genetic Modeling (co-taught)

Graduate Distance Learning Courses (facilitator), University of Cincinnati.
Administrative of Justice
Applied Research Methods
Applied Statistics
Basic Research Methods
Community Corrections Correctional Rehabilitation
Crime and the Life Course
Criminal Justice Management
Criminal Justice Policy Analysis
Juvenile Justice Systems
Law and Social Control
Police Effectiveness
Theory and Philosophy of Corrections
Theory and Philosophy of Law Enforcement
White Collar Crime

WORK EXPERIENCE

2004	Program Coordinator, Biotechnology Program at the Richard Ivey School of Business, University of Western Ontario; curriculum development, marketing of program, and student placement.
2001	Intern, Bode Technology Group; World Trade Center DNA Identification Project.

SCHOLARSHIPS AND AWARDS

2007 - 2009	Research Assistant, University of Cincinnati, Division of Criminal Justice.
2006 - 2007	Teaching Assistant, University of Cincinnati, Division of Criminal Justice.
2004 - 2009	University Graduate Scholarship, University of Cincinnati, Division of Criminal Justice.
2004 - 2009	Graduate Assistantship, University of Cincinnati, Division of Criminal Justice.
2001	Special recognition award from Bode Technology for the World Trade Center DNA Identification Project.
1997	University Scholarship, University of Western Ontario.

1997	Dana Corporation Scholarship.
1997	University Women Scholarship.

CERTIFICATES

2012	The 25th International Workshop on Methodology of Twin and Family Studies, The Institute of Behavioral Genetics, University of Colorado at Boulder
2010	The 23rd International Workshop on Methodology of Twin and Family Studies, The Institute of Behavioral Genetics, University of Colorado at Boulder
2010	CITI Course in the Protection of Human Research Subjects
2009	Health Insurance Portability and Accountability Act (HIPAA): The Impact on Research Training, Penn State Harrisburg
2009	Institutional Review Board (IRB) Basic Training on the Protection of Human Participants, Penn State Harrisburg
2009	NIH Basic Training on the Protection of Human Participants
2008	Stata Training Course, University of Cincinnati
2008	The 21st International Workshop on Methodology of Twin and Family Studies, The Institute of Behavioral Genetics, University of Colorado at Boulder
2004	SPSS Syntax Course, University of Cincinnati

PROFESSIONAL AFFILIATIONS

Behavioral Genetics Association
Academy of Criminal Justices Sciences
American Society of Criminology

PROFESSIONAL ACTIVITIES

Member (2013-2016). The Academy of Criminal Justice Sciences Ethics Committee.

Member. (2011-2012). The Academy of Criminal Justice Sciences Awards Committee.

Session Chair. (2011). *Genetic effects on crime, delinquency, and conduct disorder*. The

American Society of Criminology, Annual Meeting, Washington, DC.

Session Chair. (2010). *Testing life-course theories*. The American Society of Criminology, Annual Meeting, San Francisco, CA.

Session Chair. (2010). *Genetic and environmental influences on self-control and criminal behavior*. The American Society of Criminology, Annual Meeting, San Francisco, CA.

Session Chair. (2010). *Psychopathy and self-regulation*. The Academy of Criminal Justice Sciences, Annual Meeting, San Diego, CA.

Session Chair. (2009). *Psychopathy and self-regulation*. The American Society of Criminology, Annual Meeting, Philadelphia, PA.

UNIVERSITY SERVICE

2012-present	Member, Criminal Justice Faculty search committee, Sam Houston State University
2012-present	Member, Awards and Beto Chair Committee, Sam Houston State University
2011-2012	Member, Faculty Affairs Committee, Penn State Harrisburg
2011-2012	Member, Diversity and Educational Equity Committee, Penn State Harrisburg
2011-2012	Member, Criminal Justice Faculty search committee, Penn State Harrisburg
2011-2012	Member, Honors Advisory Council, Penn State Harrisburg
2011	Member, Administrative Support Assistant search committee, Penn State Harrisburg
2010-2012	Member, MACJ Admissions Committee, Penn State Harrisburg
2010-2012	Member, MACJ Student Funding Committee, Penn State Harrisburg
2009-2012	Member, School of Public Affairs Web Management Committee, Penn State Harrisburg
2009-2011	Member, Student Affairs Committee, Penn State Harrisburg

REVIEWER

Criminal Justice and Behavior
Criminology
International Journal of Comparative and Applied Criminal Justice
Journal of Adolescence
Journal of Criminal Justice
Journal of Health and Human Services Administration
Journal of Research in Crime and Delinquency
Justice Quarterly
Wiley-Blackwell Publishing

REFERENCES

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Assistant Professor
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Sam Houston State University

Degrees Earned
Ph.D., Criminology, 2010

Florida State University

M.S., Criminology, 2007

Florida State University

B.S., Criminology and Psychology, 2006

Florida State University

Professional Licensure and Certifications
N/A

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

Boutwell, Brian B. and Kevin M. Beaver
2010 "The Role of Broken Homes in the Development of Self-Control: A Propensity Score Matching Approach." Journal of Criminal Justice 38: 489-495.

Boutwell, Brian B. and Kevin M. Beaver
2010 "Maternal Cigarette Smoking During Pregnancy and Offspring Externalizing Behavioral Problems: A Propensity Score Matching Analysis." International Journal of Environmental and Public Health Research 7 (January):146-163.

Boutwell, Brian B. and Kevin M. Beaver
2010 "The Intergenerational Transmission of Low Self-Control." Journal of Research in Crime and Delinquency. 47 (May): 174-209.

Beaver, Kevin M., Brian B. Boutwell, J.C. Barnes, and Jonathon A. Cooper
2009 "The Biosocial Underpinnings to Adolescent Victimization: Results from a Longitudinal Sample of Twins." Youth Violence and Juvenile Justice 7 (July):223-238.

Beaver, Kevin M., J. Eagle Shutt, Brian B. Boutwell, Marie Ratchford, Kathleen Roberts, and J.C. Barnes

2009 "Genetic and Environmental Influences on Levels of Self-Control and Delinquent Peer Affiliation." Criminal Justice and Behavior 36 (January):41-60.

Vaske, Jamie, Jamie Newsome, Matthew Makarios, John Paul Wright, Brian B. Boutwell, and Kevin M. Beaver
2009 "Interaction of 5HTTLPR and Marijuana Use on Property Offending." Biodemography and Social Biology 55 (January):93-102.

Beaver, Kevin M., Matt DeLisi, Michael G. Vaughn, John Paul Wright, and Brian B. Boutwell
2008 "The Relationship between Self-Control and Language: Evidence of a Shared Etiological Pathway." Criminology 46 (November):939-970.

Boutwell, Brian B. and Kevin M. Beaver
2008 "A Biosocial Explanation of Delinquency Abstention." Criminal Behaviour and Mental Health 18 (February):59-74.

Books
N/A

Chapters
Beaver, Kevin M., J.C. Barnes, Brian B. Boutwell, and Jonathon A. Cooper
2009 "The Biosocial Foundations to Antisocial Behavior." In Ozan Sahin and Joseph Maier (eds.), Delinquency: Causes, Reduction, and Prevention. New York, NY: Nova Science Publishers.

Proceedings
N/A

Artistic Performances
N/A

Artistic Exhibitions
N/A

Research Monographs and Technical Reports
N/A

Funded External Grants
N/A

Peer-Review Presentations/Posters
Boutwell, Brian B. and Kevin M. Beaver
2009 "More Alike than Different: Assortative Mating and Antisocial Behavior in Adulthood." Paper to be presented at the annual meeting of the American Society of Criminology in Philadelphia, PA.

Boutwell, Brian B. and Kevin M. Beaver

2009 "The Development of Externalizing Behavioral Problems and Self-Control in a Nationally Representative Sample of Children." Paper presented at the annual meeting of the Academy of Criminal Justice Sciences in Boston, MA.

Beaver, Kevin M., Matt DeLisi, Michael Vaughn, John Paul Wright, and Brian Boutwell

2008 "The Relationship between Self-Control and Language: Evidence of a Shared Etiological Pathway." Paper presented at the annual meeting of the American Society of Criminology in St. Louis, MO.

Boutwell, Brian B. and Kevin M. Beaver

2008 "Adolescent Delinquents and Their Early Adulthood Outcomes." Paper presented at the annual meeting of the American Society of Criminology in St. Louis, MO.

Boutwell, Brian B. and Kevin M. Beaver

2008 "The Role of Fathers in the Development of Self-Control." Paper presented at the annual meeting of the American Society of Criminology in St. Louis, MO.

Boutwell, Brian B., Kevin M. Beaver, and Chris Gibson

2008 "Maternal Smoking and Low Self-Control: A Propensity Score Matching Approach." Paper presented at the annual meeting of the American Society of Criminology in St. Louis, MO.

Beaver, Kevin M. and Brian B. Boutwell

2008 "The Intergenerational Transmission of Low Self-Control." Paper presented at the annual meeting of the Academy of Criminal Justice Sciences in Cincinnati, OH.

Boutwell, Brian and Kevin M. Beaver

2007 "A Biosocial Explanation to Delinquency Abstention." Paper presented at the annual meeting of the American Society of Criminology in Atlanta, GA.

Work or Professional Experiences

N/A

Honors and Awards

Recipient of the Dissertation Research Grant, awarded each fall and spring semester by The Florida State University, 2009.

Other Competencies

N/A

SIBYL RAE BUCHELI

ASSISTANT PROFESSOR

Sam Houston State University
1900 Ave I Lee Drain Building #300
Huntsville, TX 77340
936.294.1550; bucheli@shsu.edu

Major Research Interests

Molecular and Morphological Evolution of Lepidoptera, Coleoptera, and Diptera.

Use of Ecological and Behavioral Data in Phylogenetic Studies.

Evolution of Insect Genitalia and their Utility as Phylogenetic Characters.

Insect Succession on Carrion in Southwestern, Subtropical Texas.

Academic Employment

2008-Present	Assistant Professor, Sam Houston State University (Graduate Advisor since Fall 2010).
2007-2008	Visiting Assistant Professor, Sam Houston State University.
2005-2007	Post-doctoral Researcher, The Ohio State University, Dr. John Wenzel. Evolution of the Lepidopteran superfamily Gelechioidea.

Education

2005	The Ohio State University, Department of Entomology, Doctor of Philosophy, Advisor: John W. Wenzel.
1999	The Ohio State University, Department of Entomology, Master of Science, Advisor: John W. Wenzel .
1996	Hiram College, Department of Biology, Bachelor of Arts.

Publications

1. **BUCHELI, S.R.**, J.-F. LANDRY, AND J.W. WENZEL. 2002. Cladistic Analysis of Larval Case Architecture and Implications of Host-Plant Associations for North American *Coleophora* (LEPIDOPTERA: COLEOPHORIDAE), *Cladistics* 18, 71-93.

2. **BUCHELI, S.R.** AND J.W. WENZEL. 2005. Gelechioidea (Insecta: Lepidoptera) systematics: A reexamination analysis using combined morphology and mitochondrial DNA data, *Molecular Phylogenetics and Evolution* 35, 380-394.

3. **BUCHELI, S.R.**, D. HORN, AND J.W. WENZEL. 2006. Biodiversity of Gelechioidea (microlepidoptera): An assessment of a re-established Appalachian forest in southern Ohio, *Biodiversity and Conservation* 15 (1), 503 – 516. *Themed Issue: Looking after the Woof and Weft of Life: Arthropod Diversity and its Conservation.*

4. **BUCHELI, S.R.**, J.A. BYTHEWAY, S.M. PUSTILNIK, AND J. FLORENCE. 2009. Insect successional pattern of a corpse in cooler months of subtropical southeastern Texas: A case report. *Journal of Forensic Sciences* 54 (2), 452 – 455.

5. **BUCHELI, S.R.** 2009. Annotated review and discussion of phylogenetically important characters for families and subfamilies of Gelechioidea (Insecta: Lepidoptera). *Zootaxa* 26(1), 23 – 35.

6. SONG, H. AND **S.R. BUCHELI.** 2010. The utility of insect genitalia in morphological analyses. *Cladistics* 26(1), 23-35. Published Online: Aug 25 2009 5:18AM.

7. **BUCHELI, S.R.**, J. FLORENCE, D. GANGITANO AND J.A. BYTHEWAY. 2010. Necrophagous caterpillars provide human mtDNA evidence. *Journal of Forensic Science*. 55(4):1130-1132.

8. LINDGREN, N.K., **S.R. BUCHELI,** A.D. ARCHAMBEAULT, AND J.A. BYTHEWAY. Exclusion of forensically important flies due to burying behavior by the red imported fire ant (*Solenopsis invicta*) in southeast Texas. *Journal of Forensic Science International*. 204(1-3):e1-e3.

9. **BUCHELI, S.R.**, S.C. PASSOA AND J.W. WENZEL. 2010. A Phylogenetic Test of Ehrlich and Raven's Theory of Escape and Radiation in Insects that Feed on Toxic Plants, Based on Nearctic Depressaria Moths (Gelechioidea: Elachistidae: Depressariinae), with Discussion of the Evolution of Genitalia. *Entomologica Americana*. 116(3&4):1–24.

10. VAN NIEUKERKEN, E.J., KAILA, L., KITCHING, I.J., KRISTENSEN, N.P., LEES, D.C., MINET, J., MITTER, C., MUTANEN, M., REGIER, J.C., SIMONSEN, T.J., WAHLBERG, N., YEN, S.-H., ZAHIRI, R., ADAMSKI, D., BAIXERAS, J., BARTSCH, D., BENGTSSON, B.Å., BROWN, J.W. , **BUCHELI, S.R.,** DAVIS, D.R., DE PRINS, J., DE PRINS, W., EPSTEIN, M.E., GENTILI-POOLE, P., GIELIS, C., HÄTTENSCHWILER, P., HAUSMANN, A., HOLLOWAY, J.D., KALLIES, A., KARSHOLT, O., KAWAHARA, A. KOSTER, S.(J.C.), KOZLOV, M., LAFONTAINE, J.D., LAMAS, G., LANDRY, J.-F., LEE, S., NUSS, M., PENZ, C., ROTA, J., SCHMIDT, B.C., SCHINTLMEISTER, A., SOHN, J.C., SOLIS, M.A., TARMANN, G.M., WARREN, A.D., WELLER, S., YAKOVLEV, R., ZOLOTUHIN, V., ZWICK, A. Zootaxa Animal Classification - Lepidoptera. In review, *Zootaxa*.

11. RAGHAVENDRA R., C.P. RANDLE , AND **S.R. BUCHELI** 2011. Identification of a deathscene maggot using standardized molecular methods: *Sarcophaga bullata* Parker 1916 (Sarcophagidae) Out-

numbers Blowflies (Calliphoridae) on an Urban Cadaver in Southeastern Texas. Journal Forensic Research 2:135.

12. LEWIS, M.L., **S.R. BUCHELI**, AND A.M. LYNNE, 2011. Use of Microthemes to Increase Writing Content for Introductory Science Laboratory. Journal of Microbiology and Biology Education. In Press.

13. LANDRY, J.-F. AND S.R. **BUCHELI.** New species of *Scythris* Hübner (Xyloryctidae; Scythridinae) of the Galapagos Islands. In prep.

Grants

2011	**CoPI.** Enhancement Research Grant, Microbial Metagenomic Analysis of Human Decomposition. SHSU Enhancement Research Grant. $15,000. Funded. May 2011 – April 2012; $15,000.
2010	**PI.** Enhancement Research Grant, Investigation of Calliphoridae across the 10 ecoregions of Texas; $12,558.
2009	**PI.** Faculty Research Grant, Systematics and Diversity of Gelechioidea (Lepidoptera); $5,000.
2008	**CoPI.** Beckman-Coulter Inc. Genomics Educational Grant, Prepared jointly with Dr. Christopher Randle, Dr. Raelynn Deaton, Dr. Anne Gaillard, and Dr. Todd Primm; $100,000.
2004	**Author.** National Science Foundation #0415061 Grant "Collaborative Research: A Global Framework for the Phylogeny of Gelechioid Moths, a Megadiverse Radiation of Herbivores," Prepared jointly with Dr. John W. Wenzel and Dr. Richard Brown; $150,000.
2004	**Awardee**. Alumni Grants for Graduate Research and Scholarship, The Ohio State University.
2001	**Awardee**. DeWind Award for Lepidoptera Research and Conservation, Xerces Society; $2,000.
2000	**Awardee**. Theodore Roosevelt Memorial Fund, American Museum of Natural History; $2,000.

Presentations

Invited Presentations and Workshops:

2011	Southwestern Association of Forensic Scientists 2011 Conference, Houston Texas.
2009, 2010, 2011	Forensic Science Educational Conference, Sam Houston State University in conjunction with The American Academy of Forensic Science and STAFS
2007	The Field Museum, Chicago, Illinois.
2006	University of California, Riverside, California.
2006	Sam Houston State University, Huntsville, Texas.
2006	Entomological Society of America, Indianapolis, Indiana.

2005 Entomological Society of America, Ft. Lauderdale, Florida.

Submitted Oral Presentations:

2011 Sam Houston State University Biological Sciences Research Symposium, Huntsville Texas, Spring Semester

2011 Annual North American Forensic Entomology Meeting, College Station, Texas, 20-23 July (2 titles).

2011 The Annual Meeting of the Entomological Society of America Annual Meeting, Reno, Nevada, 13 – 16 November (2 titles).

2010 Entomological Society of America Annual Meeting, San Diego CA, 12-15 December.

2010 North American Forensic Entomology Annual Meeting, Windsor, Ontario 7-9 July.

2009 National Entomological Society of America Annual Meeting, Indianapolis, Indiana (3 titles).

2009 North American Association of Forensic Entomologists, Miami, Florida.

2008 National Entomological Society of America Annual Meeting, Reno, NV.

2008 The Lepidopterists Society Annual Meeting, Starkville, Mississippi.

2007 The Willi Hennig Society Meetings, XXV, New Orleans, Louisiana.

2006 The Lepidopterists Society Annual Meeting, Gainesville, Florida.

2006 The Willi Hennig International Meetings, XXIV, Oaxaca, Mexico.

2005 Presented in partial fulfillment of the Doctor of Philosophy at The Ohio State University

2005 *Symposium presentation,* National Entomological Society of America Annual Meeting, Fort Lauderdale, Florida.

2004 *Harry Clench Award*, The Lepidopterists' Society Annual Meeting, College Park, Maryland.

2004 National Entomological Society of America Annual Meeting, Salt Lake City, Utah.

2003 National Entomological Society of America Annual Meeting, Cincinnati, Ohio.

2002 The Lepidopterists Society Annual Meeting, Charleston North Carolina.

2000 Evolution Annual Meeting, Bloomington, Indiana.

2000 National Entomological Society of America Annual Meeting, Montreal, Quebec.

1999 Presented in partial fulfillment of the Degree of Masters of Science at The Ohio State University.

Submitted Poster Presentations:

2011 Texas Academy of Sciences Annual Meeting, St. Edward's University in Austin, Texas, 3 - 5 March.

2011 Sam Houston State University Biological Sciences Research Symposium, Huntsville Texas, Spring Semester (2 titles).

2011 Annual North American Forensic Entomology Meeting, College Station, Texas, 20-23 July (5 titles).

2011 The Annual Meeting of the Entomological Society of America Annual Meeting, Reno, Nevada, 13 – 16 November (7 titles).

2010 Entomological Society of America Annual Meeting, San Diego, CA 12-15 December.

2010 North American Forensic Entomology Annual Meeting, Windsor, Ontario 7-9 July.

2010 Microbial Genomics and Metagenomics Workshop. Walnut Creek, CA. October.

2009 National Entomological Society of America Annual Meeting, Indianapolis, Indiana (2 titles).

2009	North American Association of Forensic Entomologists, Miami, Florida (3 tittles).
2008	National Entomological Society of America Annual Meeting, Reno, NV (2 titles).
2008	The Lepidopterists Society Annual Meeting, Starkville, Mississippi.
2005	The Lepidopterists Society Annual Meeting, Sierra Vista, Arizona.
2004	The Lepidopterists Society Annual Meeting, College Park, Maryland.
2002	The Willi Hennig International Meetings, XXI, Helsinki, Finland.
2001	National Entomological Society of America Annual Meeting, San Diego, California.
1998	National Entomological Society of America Annual Meeting, Las Vegas, Nevada.
1999	*President's Prize Award Winner*, National Entomological Society of America Annual Meeting, Atlanta Georgia.
1996	The Ohio Academy of Sciences, Undergraduate Thesis.

Awards

2011	Sam Houston State University Mentoring Award
2004	Dean's Award for Excellence as Graduate Teaching Assistant.
2004	Edward J. Ray Travel Award for Scholarship and Service.
2004	Graduate Teaching Associate Graduate Assistant Teaching Award.
2004	Harry Clench Award for Best Student Talk. Lepidopterists Society of America, College Park, Maryland.
2003	DeLong Research Award, Ohio State University, Department of Entomology.
2002	Fred W. Hink Research Award, Ohio State University, Department of Entomology.
2002	Professional Development Fund, Ohio State University, Graduate Committee.
2002	Clive Edwards Travel Fund, Ohio State University, Department of Entomology.
2002, 2004	Knull Fund, Ohio State University, Department of Entomology, Insect Collection.
1999	Introductory Biology Program Student Teaching Award.
1999	President's Prize for Best Student Poster, First Place; Entomological Society of America, Atlanta, Georgia.

Symposia Organized

2005	"Issues of Homology", First Annual Student Symposium, The Lepidopterist's Society of America, with Jennifer Zaspel.
2005	"The Phallic Cult", Program Symposium and Section Symposium, National Entomological Society of America, with Hojun Song.

Teaching Experience

Lecturer 2007 – Present. Sam Houston State University. Contemporary Biology BIO134; Economic Entomology BIO364; Forensic Entomology BIO530, General Entomology BIO431; Invertebrate Zoology BIO471; Introduction to Evolutionary Biology BIO461; Insect Evolution BIO571; Scientific Illustration BIO595.

Graduate Teaching Assistant 1999 – 2004. The Ohio State University. General Biology for Nonmajors BIO101; Nonmajors Plant Biology BIO101; Nonmajors Entomology ENT101; Human Biology BIO102, Head Graduate Teaching Associate; General Biology for Majors BIO114, Head Graduate Teaching Associate; Evolution BIO440; Entomology for Science Teachers ENT520; Advanced Economic Entomology ENT620; Insect Systematics ENT621; Insect Morphology ENT632; Insect Ecology ENT641; Medical Entomology ENT680.

Seminars Designed 1999 – 2005. The Ohio State University. Trends in Insect Evolution ENT795 (2004); Model-based Phylogenetics ENT795 (2006); Modern Techniques of Entomological Illustration (part of Insect Morphology ENT632).

Student Advising

Graduate Research

Natalie Lindgren, Major Advisor, Sam Houston State University.

Alan Archambeault, Major Advisor, Sam Houston State University.

Brent Rahlwes, Major Advisor, Sam Houston State University.

Michelle Lewis, Advisor, Sam Houston State University.

Melissa Sisson, Advisor, Sam Houston State University.

Robert De Moya, Advisor, Sam Houston State University.

Juan Garcia, Major Advisor, Sam Houston State University.

Janalynn West, Graduate Committee Member, Sam Houston State University.

Jovanne Cole, Graduate Committee Member, Sam Houston State University.

Stacy Stoops, Graduate Committee Member, Sam Houston State University.

Ashley Morgan, Committee Member, Sam Houston State University.

Katey Estill, Committee Member, Sam Houston State University.

Mallory Mardock, Committee Member, Sam Houston State University.

Amber Bartelt, Committee Member, Sam Houston State University.

Jassica Sanchez, Committee Member, Sam Houston State University.

Undergraduate Research

Chelsea Hernandez, BIO495 (Spring 2012) Ability of phorid flies to access tight-sealing containers.

James Willet, BIO495 (Fall 2011 – Spring 2012) Identification of a phorid fly on human remains.

Araceli Rosillo, McNair Scholar, BIO495 (Spring 2012) Biodiversity of Carrion Beetles in Southeast Texas.

Beth Ferguson, Honors Scholar, BIO495 (Spring 2012) Effects of Neen Oil on White Flies

Melissa Sisson, BIO495 (Fall 2009), Sam Houston State University.

Eric Mikolajchak, BIO495 (Summer 2009), Sam Houston State University.

Orry Martin, BIO495 (Spring 2009), Sam Houston State University. An investigation of the free-living lifestyle of Planaria with special attention paid to personal observations.

Alan Archambeault, BIO495 (Fall 2008), Sam Houston State University. Molecular characterization of filth flies in Texas.

Savannah Witt, BIO495 (Fall 2008), Sam Houston State University. A survey of current techniques used in insects collection.

Natalie Lindgren, Independent Research (2008), Sam Houston State University. “The Thicket of Life” All Taxon Bioinventory (ATBI).

Alan Archambeault, Independent Research (2008), Sam Houston State University. “The Thicket of Life” All Taxon Bioinventory (ATBI).

Juan Garcia, McNair Scholar (2008), Sam Houston State University. Molecular and morphological evolution of Gelechioidea (Lepidoptera).

Olinda Cardenas, BIO495 (Fall 2007), Sam Houston State University. Postmortem Interval determination of a carcass using insect developmental rate models and insect successional models.

Phillip Torres, Research Experience for Undergraduates (Summer 2007), Sam Houston State University. Diversity of Lepidoptera at the Center for Biological Field Studies, Sam Houston State University.

Professional Society Memberships, past and current.

Entomological Society of America, current.
North American Association of Forensic Entomologists.
Lepidopterists' Society of America.
Willi Hennig Society.
Society for the Study of Evolution.

Committees Served

2009	Forensic Science Educational Conference Steering Committee, Sam Houston State University in conjunction with The American Academy of Forensic Science.
2009 – Present	HAVEN a GLTBQ safe zone program, Sam Houston State University Student-run Committee.
2009 – Present	Master of Science Forensic Science Committee, Sam Houston State University.
2008 – Present	Scientific Advisory Committee, The Big Thicket National Preserve.
2008 – 2010	Curriculum Committee, Sam Houston State University.
2008 – 2010	Field Station Committee, Sam Houston State University.
2007 – Present	Graduate Committee, Sam Houston State University, CHAIR.
2007 – Present	Student Research Award Committee, Sam Houston State University.
2004 – Present	Awards Committee, The Lepidopterist's Society of America.
2002 – 2005	Graduate Studies Committee Graduate Student Representative, Voting Member.
1998 – 2000	Entomology Graduate Student Association: Secretary, President.

Manuscript Reviewing

The Washington Entomological Society; The Journal of the Lepidopterists' Society; Annals of the Entomological Society of America; Invertebrate Systematics; Biological Journal of the Linnaean Society; Cladistics.

Grant Reviewing

Encyclopedia of Life and Panel Reviewer.
Encyclopedia of Life and External Reviewer.
National Science Foundation External Reviewer.
National Science Foundation Panel Reviewer.
Texas Academy of Science Student Research Award.
Women in Science Student Research Award.

Curation

Sam Houston State University, Huntsville, Texas.
The Canadian National Collection, Ottawa, Canada.
The Ohio State University, Columbus, Ohio.

Major Collections Studied

The Canadian National Collection, Ottawa, Canada.
The Carnegie Museum, Pittsburgh, Pennsylvania.
The National Museum of Natural History, Smithsonian Institute, Washington, DC.
The Smithsonian Tropical Research Institution, Panama City, Panama.
The Missouri Botanical Gardens, St. Louis, Missouri.
The University of Arizona Herbarium and Insect Collection.
Kirshtenbosch Botanical Gardens, Cape Town, South Africa.
Museum National d'Histoire Naturelle, Paris, France.
The Finnish Museum of Natural History, Helsinki, Finland.

Field Experience

Texas and surrounding states (permit holder).
Ohio and surrounding states.
Ontario, Canada.
Sonoran Desert, Arizona (permit holder).
Chihuahuan Desert, Arizona and New Mexico (permit holder).
Chiricuan Mountains, Arizona (permit holder).
Western Cape, South Africa (permit holder).
All Taxon Bio-Inventory of the Great Smoky Mountain National; Park, Lepidoptera branch, Twig Leader (permit holder).
All Taxon Bio-Inventory of local Columbus Parks, Columbus, OH.
All Taxon Bio-Inventory of Hocking Hills area, Hocking County, OH.
Arthropods of Le Salva All Taxon Bio-Inventory, Costa Rica (permit holder).
Big Bend National Park, Texas (permit holder).
“Thicket of Life” All Taxon Bio-Inventory of The Big Thicket National Preserve, TX (PI).

Internet Resources

Bucheli, S.R. 2006. http://www.shsu.edu/~cpr003/. Information website designed to summarize current systematic and taxonomic information for the Lepidopteran superfamily Gelechioidea. Maintained in conjunction with The Mississippi State University Entomological Museum and supported by NSF grant # 0415061.

Featured in Popular Media

Science News Web Edition: Tuesday, November 18th, 2008 "Forensics' next tool: Hair-collecting caterpillars", Susan Milius.

Science News Print Edition: December 20th, 2008 "Clothes moths offer forensic clues by building fuzzy, hair-flecked cases", Susan Milius.

Artistic Exhibitions

Entomology Display Cases for use by The C. A. Triplehorn Insect Collection, Ohio State University Department of Entomology.

Community Service

Exterminator Consultant, Huntsville, TX
Saturdays at Sam, Huntsville, TX
Science Saturday at Sam Huntsville, TX
Naturalist for Boy Scouts and Girl Scouts of America, Columbus, OH.
Insect Outreach Program with local grade schools, Columbus, OH.
Docent, Columbus Zoo, Annual Insect Fair, Columbus, OH.
Founding member of Graduate Women in Science, The Ohio State University, Columbus, OH.
Science Fair Judge Duties included judging science projects for area school, Columbus, OH.

BIOGRAPHICAL SKETCH

Madhusudan Choudhary
Department of Biological Sciences
Sam Houston State University
Huntsville, TX 77341-2116
Phone 936-294-4850, Email: mchoudhary@shsu.edu

A. Education:

Postdoctoral	1988-1990	Duke University, USA	Genetics & Molecular Evolution
Ph.D.	1988	McMaster University, Canada	Genetics and Molecular Evolution
M. Sc.	1977	Patna University, India	1st Class, Botany
B. Sc. (Hons)	1974	Patna University, India	1st Class (Biology)

B. Employment:

2008 to current	Assistant Professor	Sam Houston State University, USA
1993 to 2008	Research Assistant Professor	U.T. Medical School at Houston, USA
1990 - 1992	Huxley Fellow	Rice University, USA

C. Award and Scholarship:

2012	University Mentoring Award	Sam Houston State University
2012	ASM Biology Scholar	American Society of Microbiology
2012	Prof. R. P. Roy Memorial lecture	Patna University, India

D. Five most relevant publications (*undergraduate coauthor)

1. Peters, Anne, Anish Bavishi*, Hyuk Cho, and M. Choudhary (2012) Evolutionary Constraints and microarray analysis of duplicated genes in *Rhodobacter sphaeroides*. BMC Research Notes, 5: 192 (25 April, 2012): doi: 10.1186/1756-0500-5-192.
2. Bavishi, Anish*, Lin Lin, Kristen Schroeder*, Anne Peters, Hyuk Cho, and M. Choudhary (2010) Prevalence of gene duplications and their ancient origin in *Rhodobacter sphaeroides* 2.4.1. BMC Microbiology, 10: 331.
3. Bavishi, Anish*, Ankur Abhishek*, Lin Lin, and M. Choudhary (2010) Complex Prokaryotic Genome Structure: rapid Evolution of CII. Genome, 53: 675-687.
4. Choudhary, M., Zanhua, X., Fu, Y. X., and Kaplan, S. (2007) Genome analysis of three strains of *Rhodobacter sphaeroides*: Evidence of rapid evolution of CII. J. Bacteriology, 189: 1914-1921.
5. Choudhary, M., Fu, Y. X., Mackenzie, C., and Kaplan, S. (2004) DNA Sequence duplication in *Rhodobacter sphaeroides* genome: Evidence of an ancient partnership between chromosome I and II. J. Bacteriology, 186: 2019-2027.

E. Additional publications:

1. Mackenzie, C., Eraso, J., Choudhary, M., Roh, J., Zeng, X., Bruscella P., Puskas, A., and Kaplan, S. (2007) Post-Genomic Adventures with *Rhodobacter sphaeroides*. Annu. Rev. Microbiol. 61: 283-307.
2. Pappas, C., Stram, J., Pavel, I., Moskvin, O., Machanzie, C., Choudhary, M., Land, M., Larimer, Frank W., Kaplan, S., and Gomelsky, M. (2004) Construction and validation of the *Rhodobacter sphaeroides* 2.4.1 DNA microarray: transcriptome flexibility at diverse growth modes. J. Bacteriology, 186:4748-4758.
3. Zeng, X., Choudhary, M., and Kaplan, S. (2003) A second and unusual *pucBA* operon of *Rhodobacter sphaeroides*: Identification and characterization J. Bacteriology, 185: 6171-6184.

4. Mackenzie, C, Choudhary, M., Larimer, F. W., Predki, P. E., stilwagen, S., Armitage, J., Barber, R. D., Donohue, T. J., Hosler, J. P., Newman, J. E., Sphapleigh, J. P., Sockett, R. E., Zeilestra-Ryalls, J., and Kaplan, S. (2001) The home stretch, a first analysis of the nealy completed genome of *Rhodobacter sphaeroides* 2.4.1 Photosynthesis Research, 70:19-41.
5. Mouncey, N. J., Gak, E., Choudhary, M., Oh, J., and Kaplan, S. (2000) Respiratory pathways of *Rhodobacter sphaeroides* 2.4.1: Identification and characterization of genes encoding quinol oxidases. FEMS Microbiology Letters, 192:205-210.

F. SYNERGISTIC ACTIVITIES

1. Research Funding Support
   - Genome analysis of *Rhodobacter sphaeroides* genome (2009-2010) Sam Houston State University Competitive Intramural Enhancement Grant for Research (EGR)
   - Role of CtrA during cell cycle of *Rhodobacter sphaeroides* (2010-2011) Sam Houston State University Competitive Intramural Enhancement Research Grant (ERG)
   - ASPIRE: Biomedical research experience for undergraduates: Inter-disciplinary course curriculum. M. Choudhary (PI), and H. Cho (co-PI), KECK Foundation April 2011 (Not funded).

2. Professional Activities
   - Reviewer: Biochemical Genetics, African Journal of Biotechnology, Evolution
   - Membership: ASM, AAAS, and Sigma Xi
   - Secretary, Texas ASM Branch
   - Committees: University Research Council (2011-2014), Faculty Evaluation Committee (2011, 2012), Molecular Biologist Hiring Committee (2011), Seminar Committee (Chair, 2010-2011)

F. COLLABORATORS

1. Sam Houston State University: Hyuk Cho (Computer Science), Todd Primm, Diane Neudorf, and Aaron Lynne (Biological Sciences)
2. University of Texas Health Science Center-Houston: Dr. Samuel Kaplan (Department of Microbiology and Molecular Genetics)
3. Western Kentucky University: Nilesh Sharma and Kinchel Doerner (Department of Biology)

G. STUDENTS

Graduate students: Lin Lin (MS-2010, Attending Ph.D. program at Max Planck Institute, Germany); Anne Peters (MS- 2011, Attending Ph.D. program at Texas A& M University); Cheramie Trahan (MS-2012); Bat-Erdene Myagmarjav (Current)

Undergraduates: Anish Bavishi (attending Medical School at Baylor College of Medicine), Kristen Schroeder (attending Pharmacy school at Texas A&M University), Norma Ogbonna (attending Medical school at American University at Antigua), Jonathan Stone (attending Medical School at UT Health Science Center at Houston), Leah Severin (attending Physical Therapy Program at Texas Women's University, Houston, Texas), Phillip Price (attending Ph.D. Program at Emory University), Bat-Erdene Myagmarjav (Graduate School-Sam Houston State University)

Jerry L. Dowling
Professor
College of Criminal Justice
Sam Houston State University

Degrees Earned
J.D., College of Law, The University of Tennessee, 1968.
B.S. in History, The University of Tennessee, 1967.

Professional Licensure and Certifications
Admitted to the practice of law, State of Tennessee, 1969 - present (inactive status).

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

Dowling, J.L. and Bozeman, M. "Automobile Black Boxes: Is the Fourth Amendment a Crash Test Dummy?" *Criminal Law Bulletin*, February 2008.

Dowling, J.L., Hoover, L.T. and Blair, G.G., "Police Executive Development in the 21st Century: A National Comparison of Law Enforcement Executive Development Programs." *Law Enforcement Executive Forum*, November 2003.

Dowling, J.L. and Thompson, R.A., "Police Use of Force against Drug Suspects: Understanding the Legal Need for Policy Development," *American Journal of Criminal Justice*, Vol. 25 No. 2, Spring 2001.

Books

Dowling, J.L., editor, *The Lone Star – Penal Code and Ready Reference for Peace Officers*, Justex Systems, Huntsville, TX, 2010.

Dowling, J.L., *Texas Criminal Law: Principles and Practices*, Prentice-Hall, Englewood Cliffs, NJ, 2009.

Bender, L.G., Dowling, J.L., Jurkanin, T.J., and Sergevnin, V.A., *Critical Issues in Police Discipline*, Charles C. Thomas Publisher, Springfield, IL, 2005.

Hoover, L.T., Dowling, J.L, and Ahmad, J.H., *Enduring, Surviving and Thriving as a Law Enforcement Executive*, Charles C. Thomas Publisher, Springfield, IL, 2001.

Dowling, J.L., *Criminal Investigation*, Harcourt, Brace, Jovanovich, Inc., New York, NY, 1979.

Dowling, J.L., *Teaching Materials on Criminal Procedure*, West Publishing Company, Saint Paul, Minnesota, 1976.

Chapters

Dowling, J.L., "Supreme Court Decisions," in *The Encyclopedia of Police Science*, Third Edition, 2 vols., Edited by Jack R. Greene, Routledge, New York, NY, 2007.

Dowling, J.L., "Personnel Issues and Cases in Law Enforcement: The National Perspective," in *Critical Issues in Police Discipline*, Charles C. Thomas Publisher, Springfield, IL, 2005.

Peer-Review Presentations/Posters

"An Examination of Follow-up Investigative Effort Expended on Selected Criminal Offenses in a Mid-size American City," paper presented to the 46th Annual Meeting of the Academy of Criminal Justice Sciences, Boston, Massachusetts, March 2009.

"Phishing, Pharming, and Internet Luring: Drawing the Line on the Law of Criminal Attempt in the Digital Age," paper presented to the 44th Annual Meeting of the Academy of Criminal Justice Sciences, Seattle, Washington, March 2007.

"Analysis of Detective Staffing Patterns in Law Enforcement Agencies," paper presented to 41st Annual Meeting of the Academy of Criminal Justice Sciences, Las Vegas, Nevada, March 2004.

"Becoming Chief of Police: Career Advancement Among Texas Police Chiefs," paper presented to the 38th Annual Meeting of the Academy of Criminal Justice Sciences, Washington, D.C., March 2001.

Work or Professional Experiences

1981 – Present, Professor of Criminal Justice, Sam Houston State University

1974 - 1981 – Associate Professor of Criminal Justice, Sam Houston State University

1972 – 1974 - Assistant Professor of Criminal Justice, Sam Houston State University

1980 – 1984 - Assistant Director for Professional Programs, Criminal Justice Center, Sam Houston State University

1969 – 1972 – Special Agent, Federal Bureau of Investigation

Honors and Awards

Excellence in Teaching Award, Sam Houston State University, 2001.

Other Competencies

Co-developer with L.T. Hoover and P. Cobb, *Allocation Model for Investigations*, 2008 - present. Computer software template based on Microsoft Excel. Template allows municipal law enforcement agencies to analyze investigative caseload and determine the number of detectives necessary to work cases.

Co-developer with L.T. Hoover, *Allocation Model for Police Patrol*, 2005 - present. Computer software template based on Microsoft Excel. Template allows municipal law enforcement agencies to determine the number of patrol officers necessary to deliver varying levels of police services.

Donovan C. Haines

Assistant Professor of Chemistry
Department of Chemistry
College of Arts and Sciences
Haines@SHSU.edu; PH: 936-294-1530

Degrees Earned

Ph.D., in Chemistry (Biological Track), Wichita State University, 1998
B.S.in Biochemistry, Wichita State University, 1993

Work or Professional Experiences

Assistant Professor of Chemistry: 2008 - current
Department of Chemistry, Sam Houston State University, Huntsville, TX
Manage/Direct Research Laboratory: Enzyme cloning, expression, and engineering; Toxicology; Synthetic Biology
Undergraduate Courses: Intro. To Organic and Biochemistry (incl. labs), Biochemistry, Organic Chemistry (incl. labs), Metabolism
Graduate Courses: Advanced Biochemistry I

Assistant Professor of Chemistry: 2001 - 2008
Department of Chemistry, The University of Texas at Dallas, Richardson, TX
Managed/Directed Research Laboratory: Enzyme cloning, expression, engineering, and spectroscopic and kinetic characterization, organic synthesis, natural product extraction and characterization, quorum sensing bioassay
Undergraduate Courses: Biochemistry, Organic Chemistry (incl. labs), Analytical Chemistry (incl. labs)
Graduate Courses: Physical Biochemistry, Chemistry Literature and Communications
Guest Lectures in: Physical Chemistry, Bionanotechnology

Postdoctoral Researcher: 1999 - 2001
Julian A. Peterson Laboratory, Department of Biochemistry, University of Texas Southwestern Medical Center at Dallas, Dallas, TX
Techniques: Site directed mutagenesis, stopped-flow kinetics, fluorescence spectroscopy, protein crystallography, enzyme cloning and expression, GC/MS, organic synthesis of acyl amino acid substrates, enzymatic eicosanoid synthesis on the 100 mg scale

Graduate Teaching Assistant: 1994 - 1998
Department of Chemistry, Wichita State University, Wichita, KS
Courses: General Chemistry, Biochemistry, Instrumental Methods, Computer Lab

Graduate Research Assistant: 1994 - 1998
Kandatege Wimalasena Laboratory, Department of Chemistry, Wichita State University, Wichita, KS
Tasks: Organic synthesis of thione containing enzyme inhibitors, enzyme kinetics, enzyme purification, spectroscopy of enzymes (UV-vis, EPR), mass spec, FPLC (size-exclusion, ion exchange, chromatofocusing) HPLC

Peer-Review Publications and Artistic Performances/Exhibitions

Articles (22 total peer-reviewed articles + 1 in review)

Aluminum-substituted heme domain of P450BM-3 (BMP): introducing a heme-derived fluorescent probe for the studies of substrate binding and protein-protein interactions in cytochromes P450, Davydov D.R., Ponomarev G.V., Bobrovnikova E., Jung C., Haines D.C., Peterson J.A. Under review, submitted to Biotechnology and Applied Biochemistry (Wiley) October 2012.

Peroxidase-like activity of uncoupled cytochrome P450: Studies with bilirubin and toxicological implications of uncoupling, De Matteis, F., Ballou, D.P., Estabrook, R.W., and Haines, D.C., Biochemical Pharmacology, 84, 3, 374-82. (2012)

Comparison of brain mitochondrial cytochrome c oxidase activity with cyanide LD(50) yields insight into the efficacy of prophylactics, Marziaz M.L., Frazier K., Guidry P.B., Ruiz R.A., Petrikovics I., Haines D.C., *Journal of Applied Toxicology*, doi:10.1002/jat.1709. (in press, published online July 13, 2011)

A single active-site mutation of P450BM-3 dramatically enhances substrate binding and rate of product formation., Haines D.C., Hegde A., Chen B., Zhao W., Bondlela M., Humphreys J.M., Mullin D.A., Tomchick D.R., Machius M., Peterson J.A., *Biochemistry*, 50, 39, 83333-41. (2011)

Dominant Paraoxonase 2 is downregulated by the *Pseudomonas aeruginosa* quorum sensing signal N-(3-oxododecanoyl)-L-homoserine lactone and attenuates oxidative stress induced by pyocyanin , Hörke S., Witte I., Altenhöfer S., Wilgenbus P., Goldeck M., Förstermann U., Xiao J., Kramer G.L., Haines D.C., Chowdhary P.K., Haley R.W., and Teiber J.F., *Biochemical Journal*, 426, 73-83 (2010)

A Single Mutation in P450BM-3 Enhances Acyl Homoserine Lactone : Acyl Homoserine Substrate Binding Selectivity Nearly 250-Fold, Chowdhary, P.K, Stewart, L., Lopez, C., and Haines, D.C., *Journal of Biotechnology*,135, 374-6 (2008)

Dominant Role of Paraoxonases in the Inactivation of the Pseudomonas aeruginosa Quorum Sensing Signal N-(3-Oxododecanoyl)-L-Homoserine Lactone, Teiber J.F., Horke S., Haines D.C., Chowdhary P.K., Xiao J., Kramer G.L., Haley R.W., Draganov D.I., *Infection and Immunity*, 76, 2512-9 (2008)

Crystal Structure of Inhibitor Bound P450BM-3 Reveals Open Conformation of Substrate Access Channel, Haines, D.C., Chen, B., Tomchick, D.R., Bondlela, M., Hegde, A., Machius, M., and Peterson, J.A., *Biochemistry* 47, 3662-3670 (2008)

Bacillus megaterium CYP102A1 Oxidation of Acyl Homoserine Lactones and Acyl Homoserines, Chowdhary, P.K., Keshavan, N., Nguyen, H., Peterson, J.A., González, J.E., and Haines, D.C., *Biochemistry*, 46, 14429-37 (2007)

Interactions of Substrates at the Surface of P450s Can Greatly Enhance Substrate Potency, Hegde, A., Haines, D.C., Bondlela, M., Chen, B., Schaffer, N., Tomchick, D.R., Machius, M., Nguyen, H., Chowdhary, P.K., Stewart, L., Lopez, C., and Peterson, J.A., *Biochemistry*, 46, 14010-7 (2007)

Cloning, Expression And Characterization Of A New Self-Sufficient P450: CYP102A5 From *Bacillus cereus,* Chowdhary, P.K, Alemseghed, M., and Haines, D.C., *Archives of Biochemistry and Biophysics*, 468, 1, 32-43 (2007)

Obligatory Intermolecular Electron-Transfer from FAD to FMN in Dimeric P450BM-3, Kitazume, T., Haines, D.C., Estabrook, R.W., Chen, B., and Peterson, J.A., *Biochemistry*, 46, 11892-901 (2007)

A Role for the Strained Phenylalanine Ring Rotation Induced by Substrate Binding to Cytochrome CYP102A1, Haines, D.C., *Protein and Peptide Letters*, 10, 977-80 (2006)

Modulation of Zinc- and Cobalt-Binding Affinities Through Changes in the Stability of the Zinc Ribbon Protein L36, Kou, W., Kolla, H.S., Ortiz-Acevedo, A., Haines, D.C., Junker, M., and Dieckmann, G.R., *Journal of Biological Inorganic Chemistry*, 10, 167 - 180 (2005)

L-Canavanine Made by Alfalfa Interferes with Quorum Sensing in *Sinorhizobium meliloti,* Keshavan, N.D., Chowdhary, P.K., Haines, D.C., and Gonzalez, J.E., *Journal of Bacteriology*, 187, 8427 - 8436 (2005)

pH-Induced Alteration and Oxidative Destruction of Heme in Purified Chromaffin Granule Cytochrome b_{561}: Implications for the Oxidative Stress in Catecholaminergic Neurons, Wanduragala, S., Wimalasena, D.S., Haines, D.C., Kahol, P.K., and Wimalasena, K., *Biochemistry*, 42, 3617- 3626 (2003)

Plausible Molecular Mechanism for Fumarate Activation and Electron Transfer of the Dopamine β-Monooxygenase Reaction, Wimalasena, D.S., Jayatillake, S.P., Haines, D.C., and Wimalasena, K., *Biochemical Journal*, 367, 77-85 (2002)

Practical, Enantiospecific Syntheses of 14,15-EET and Leukotoxin B (Vernolic Acid), Falck, J.R., Reddy, Y.K., Haines, D.C., Reddy, K.M., Krishna, U.M., Graham, S., Murry, B., and Peterson, J.A., *Tetrahedron Letters*, 42, 4131 - 4133 (2001)

The Pivotal Role of Water in the Mechanism of $P450_{BM-3,}$ Haines, D.C., Tomchick, D.R., Machius, M., and Peterson, J.A., *Biochemistry*, 40, 13456 - 13465 (2001)

The FMN-binding Domain of P450BM-3: Resolution, Reconstitution, and Flavin Analog Substitution, Haines, D.C., Sevrioukova, I.F., and Peterson, J.A., *Biochemistry*, 39, 9419 - 9429 (2000)

Chiral Multisubstrate Inhibitors of Dopamine β-Monooxygenase: Evidence for Dual Modes of Interaction, Wimalasena, K., Wimalasena, D.S., Dharmasena, S., Haines, D.C., and Alliston, K.R., *Biochemistry*, 36, 7144 – 7153 (1997)

A General Progress Curve Method for the Kinetic Analysis of Suicide Enzyme Inhibitors, Wimalasena, K. and Haines, D.C., *Analytical Biochemistry*, 234, 175-182 (1996)

Nucleophilic Substitution Reactions of Phenacyl Bromide Oxime: Effect of the Solvent and the Basicity of the Nucleophile, Wimalasena, K. and Haines, D.C., *Journal of Organic Chemistry*, 59, 6472-6474 (1994)

Funded External Grants

Engineering an Efficient Cholesterol Hydroxylase from a Highly Active Fatty Acid Hydroxylase, CYP102A1, Haines, D.C. (PI), Welch Foundation, Houston, TX, 2005-8, $150,000 (University of Texas at Dallas)

Potential Regulation of Production of Metastasis-Inducing Oxysterol by Interaction of CYP46 with Profilin and GAS7, Haines, D.C (PI)., American Cancer Society Institutional Research Grant to University of North Texas Health Sciences Center, 2004, $15,000 (University of Texas at Dallas)

Honors and Awards

B.L. Parker Endowed Fellowship, 1995 – 1998
Wichita State Univ. Outstanding Senior Chemist (ACS), 1994
National Merit Semifinalist, 1989
State of Kansas Scholar, 1989

Peer-Review Presentations/Posters

Man vs Machine: Balancing Tech in the Classroom with a Human Element. Texas Branch of the American Society for Microbiology Meeting, Waco, TX, October 2012.

A single residue with dramatic impact on substrate-induced spin-state change in P450BM-3. Experimental Biology - American Society of Biochemistry and Molecular Biology, San Diego, CA, April 2012.

A Single Residue with Dramatic Impact on Substrate-Induced Spin-State Change in P450BM-3, Texas Enzyme Mechanism Meeting, Univ. of Texas School of Pharmacy, Austin, TX, January, 2012.

Correlation of LD50 and cytochrome c oxidase activity in mitochondria from brains of rodents treated with cyanide and cyanide poisoning antidotes, 50th Annual Society of Toxicology Meeting in Washington, DC, March 2011.

Cytochrome P450 Mediated Metabolism of Bacterial Acyl Homoserine Lactones with Implications for Cystic Fibrosis, Joint 66th Southwest and Southeast Regional Meeting of the American Chemical Society, New Orleans, LA, December 2010.

Interactions Between Bacterial AHL Quorum Signals and Human Immunomodulatory P450 Cytochromes" Fall 2010 Meeting of the Texas Society for Microbiology, San Marcos, TX, October 2010.

Brain mitochondrial cytochrome c oxidase activity as a marker for cyanide intoxication and prophylaxis, 49th Annual Society of Toxicology Meeting, Salt Lake City, UT, March 2010.

Acyl Homoserine Lactone Inactivation by Mammalian P450 Enzymes, Southwest P450 Meeting, Houston, TX, May 2008.

Cytochrome P450: Drugs, Bugs, and Brains, Sam Houston State University, Huntsville, TX, November 2007.

Faster Than a Speeding Bullet: New Insights into CYP102s, American Chemical Society Midwest Regional Meeting, Kansas City, KS, November 2007.

Faster Than a Speeding Bullet: New Insights into CYP102s, Southwest P450 Meeting, Houston, TX, May 2007.

Cytochrome P450 Oxidation of Acyl Homoserine Lactones in Bacterial Quorum Sensing: Torching Enemy Communication?, Southern Methodist University, Department of Chemistry, Dallas, TX, March 2006.

Cytochrome P450: The Master Chemist, Wichita State University, Department of Chemistry, Wichita, KS, March 2005.

P450BM-3 (CYP102A1): A Probable Quorum Quencher, (This award winning invited talk was presented by graduate student Puneet Chowdhary), Southwest P450 Meeting, Houston, TX, May 2004.

Cytochrome P450: The Master Chemist, University of Texas at Commerce, Department of Chemistry, Commerce, TX, February 2004.

From Thin Air: Biomachinery That Uses Oxygen For Defense, Emotion, And Thought
University of Texas at Dallas, Institute for Biomedical Sciences and Technology, Richardson, TX, January 2004.

Computational AnalysisOf Substrate-Induced Alteration Of Heme-Phenylalanine Interactions In Class III P450s, Southwest Macromolecular Symposium, Houston, TX, October 2003.

Computational Analysis of Substrate-Induced Alteration of Heme-Phenylalanine Interactions in Class III P450s, Southwest P450 Meeting, Houston, TX, May 2003.

Enzymatic Monooxygenation: From Chemistry To Structural Biology, Texas Christian University, Department of Chemistry, Fort Worth, TX, October 2001.

Other Competencies

2010 – 2012	Advisory Board Member for SHSU Texas Research Institute for Environmental Studies
2010 – 2012	Advisory Board Member for SHSU Forensic Science Department
2002 – 2012	Reviewer (Grant Proposal), Alzheimer Association
2007 – 2012	Reviewer (Manuscript), Biochemistry
2011 – 2011	Reviewer (Manuscript), Dalton Transactions
2011 – 2011	Reviewer (Manuscript), Protein & Cell
2010 – 2011	Reviewer (Manuscript), Journal of Phycology
2010 – 2010	Reviewer (Manuscript), Chemical Reviews
2010 – 2010	Reviewer (Manuscript), Applied Microbiology and Biotechnology
2006 – 2009	Reviewer (Grant Proposal), National Science Foundation
2005 – 2008	Coordinator, Univ. of Texas at Dallas Department of Chemistry Doctoral Qualifying Examination
2005 – 2008	Assistant Recruiter, Univ. of Texas at Dallas Department of Chemistry Graduate Program
2005 – 2008	Member, Univ. of Texas at Dallas Biosafety Committee
2005 – 2008	Reviewer (Manuscript), Journal of the American Chemical Society
2002 – 2008	Interviewer, Univ. of Texas at Dallas Health Professions Advisory Committee
2006 – 2007	Organizer, Affiliation Between Dept. of Chemistry and Eurasian National University, Astana, Kazakhstan
2006 – 2007	Reviewer (Grant Proposal), U.S. Civilian Research and Development Foundation (CRDF)
2002 – 2007	Member, Univ. of Texas at Dallas Chemistry Department Web Page Committee
2005	Assistant Organizer, 14th International Conference on Cytochromes P450 (Dallas, TX)
2001 – 2005	Chair, Univ. of Texas at Dallas Chemistry Departmental Seminar
2002 – 2003	Demonstrator, Alpha Phi Omega Boy Scout Camp
2001 – 2002	Demonstrator, Alpha Phi Omega Science Fair

William R. King
Associate Professor of Criminal Justice
College of Criminal Justice

Degrees Earned

Ph.D. in Criminal Justice, University of Cincinnati, 1998

M.S. in Criminal Justice, University of Cincinnati, 1993

B.S. in Criminal Justice, University of Massachusetts at Lowell, 1992

Professional Licensure and Certifications

N/A

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

2010 "Assessing the Performance of Systems Designed to Process Criminal Forensic Evidence." King, William R., and Edward R. Maguire. *Forensic Science Policy and Management: An International Journal*, Vol. 1, No. 3: 159-170.

2010 "Why Homicide Clearance Rates Decrease: Evidence from the Caribbean." Maguire, Edward R. William R. King, Devon Johnson, and Charles Katz. Manuscript accepted at *Policing and Society*, January 08, 2010.

2010 "Detecting Deception in Field Settings: A Review and Critique of the Criminal Justice and Psychological Literatures" William R. King, and Thomas Dunn. Manuscript accepted at *Policing: An International Journal of Police Strategies & Management*, Vol. 33, No. 2: 305-320.

2010 "Organizational Failure and the Disbanding of Local Police Agencies." William R. King**.** *Crime & Delinquency*, forthcoming.

2009 "Police Officer Misconduct as Normal Accidents: An Organizational Perspective." William R. King. *Criminology and Public Policy*. Vol. 8, No. 4: 769-774.

2009 "The Effects of Differential Cyanoacrolate Fuming Times on the Development of Fingerprints on Skin." William R. King. *Journal of Forensic Identification.* Vol. 59, No. 5: 537-544.

2009 "Towards a Life Course Perspective of Police Organizations." William R. King. *Journal of Research in Crime and Delinquency*, Vol. 46, No. 2: 213-244.

2008 "Youth Perceptions of the Police in Trinidad and Tobago." Devon Johnson, William R. King, Charles M. Katz, Andrew M. Fox, and Natalie Goulette. *Caribbean Journal of Criminology and Public Safety*, Vol. 13, No. 1 & 2: 217-253.

2005 "Toward a Better Understanding of The Hierarchical Nature of Police Organizations: Conception and Measurement." William R. King. Journal of Criminal Justice. Vol. 33, No. 1: 97-109.

2005 “Informal versus Formal Support Networks Among the Elderly and the Role of Religion.” Sherr, Michael E., Glenn Shields, William King, and Mary A. Curran. Social Work & Christianity: An International Journal, Vol. 32, No. 4: 341-353.

2004 “Trends in the Policing Industry.” Edward R. Maguire and William R. King. Annals of the American Academy of Political and Social Science Vol. 593, May 2004: 15-41.

2004 “Police Initiated Trans-jurisdictional Transport of Troublesome Persons.” William R. King and Thomas Dunn. Police Quarterly. Vol. 7, No. 3:339-358.
Reprinted as Chapter 22 in The Police and Society. Touchstone Readings, (3rd Ed.). Edited by Victor E. Kappeler. Waveland Press.

2003 “Bending Granite Revisited: The Command Rank Structure of American Police Organizations.” William R. King. Policing: An International Journal of Police Strategies & Management. Vol. 26, No. 2: 208-230.

2003 “Determinants of Perceived Safety among the Elderly: An Exploratory Study.” Glenn Shields, William King, Steven Fulks, and L. Flemming Fallon. The Journal of Gerontological Social Work. Vol. 38, No. 3:73-83.

2002 “Police Employee Data: Elements and Validity.” Craig D. Uchida and William R. King. Justice Research and Policy. Vol. 4. Special Issue. Fall 2002: 1-9.

2002 “Accidents and Falls in Later Life.” J. Steven Fulks, Fleming Fallon, William King, Glenn Shields, Nancy Beaumont, Jeannene Ward-Lonergan. Generations Review, Vol. 12, No. 3: 2-3.

2002 “A Survey of Speech-language Pathology and Audiology Needs of Older Adults.” Jeannene Ward-Lonegran, William King, Steven Fulks, Flemming Fallon, Glenn Shields, Nancy Beaumont, and Alex Heider. Advances in Speech-Language Pathology. Vol. 4, No. 1: 33-40.

2001 “Mailed Postcards as a High Response Rate Data Collection Instrument: A Research Note.” William R. King. Police Quarterly. Vol. 4, No. 2: 253-258.

2001 “The Community Corrections Partnership: Examining the Long Term Effects of Youth Participation in an Afrocentric Youth Diversion Program.” William R. King, Stephen T. Holmes, Martha L. Henderson, and Edward J. Latessa. Crime & Delinquency, Vol. 47, No. 4: 558-572.

2000 “Measuring Police Innovation: Issues and Measurement.” William R. King. Policing: An International Journal of Police Strategies & Management. Vol. 23, No. 3: 303-317.

2000 "Crime Prevention, Community Policing, and Training: Old Wine in New Bottles." William R. King and Steven P. Lab. Police Practice and Research: An International Journal. Vol. 1, No. 2:241-252.

1999 "Time, Constancy, and Change in American Municipal Police Organizations." William R. King. Police Quarterly. Vol. 2, No. 3: 338-364.

1997 "Nice Guys Finish Last: A Critical Review of Killed in the Line of Duty." William R. King and Beth A. Sanders. Policing: An International Journal of Police Strategies & Management, Vol.20,No. 2:392-407.

Books

2010 Criminal Justice: The Essentials, 2nd Ed. Steven P. Lab, Marian Williams, Jefferson Holcomb, Melissa Burek, William King, and Michael Buerger. Oxford University Press.

2003 Explaining Criminal Justice. Steven P. Lab, Marian Williams, Jefferson Holcomb, William King, and Michael Buerger. Roxbury Publishing.

Chapters

2010 "Federal-Local Coordination in Homeland Security." Edward R. Maguire and William R. King. Chapter forthcoming in Security and Justice in the Homeland: Criminologists on Terrorism. Edited by Brian Forst, Jack Greene, and James Lynch.

2009 "Civilianization." William King. Chapter 6 (pp. 65-70) in Implementing Community Policing: Lessons from Twelve Agencies, edited by Edward R. Maguire and William Wells. Washington, DC: Office of Community Oriented Policing Services.

2009 Greenville, South Carolina. William King and Randall Shields. Chapter 13 (pp. 123-126) in Implementing Community Policing: Lessons from Twelve Agencies, edited by Edward R. Maguire and William Wells. Washington, DC: Office of Community Oriented Policing Services.

2009 Lowell, Massachusetts. William King and Randall Shields. Chapter 16 (pp. 141-144) in Implementing Community Policing: Lessons from Twelve Agencies, edited by Edward R. Maguire and William Wells. Washington, DC: Office of Community Oriented Policing Services.

2007 "The Changing Landscape of American Police Organizations." Edward R. Maguire and William R. King. Chapter 11 (pp. 337-371) in Policing 2020: Exploring the Future of Crime, Communities, and Policing, edited by Joseph A. Schafer. Washington, DC: Dept of Justice, FBI.

2005 "Police Volunteers." William R. King. In the Encyclopedia of Police Science (3rd Ed.). Routledge- Taylor and Francis Group. New York.

2005 "Organizational Structure: Theory and Practice." William R. King. In the Encyclopedia of Police Science (3rd Ed.). Routledge- Taylor and Francis Group. New York.

2004 "Evaluating Media Strategies In Rural Communities: The Appalachian Domestic Violence Project." Glenn Shields, William King, Marian Williams, Sarah Chard, and Steven Lab. Chapter 25

(pp. 317-327) in Rural Social Work: Building and Sustaining Community Assets, (1st Ed.) edited by T. Laine Scales and Calvin L. Streeter. Thomson-Wadsworth Learning.

2003 "Greenville, South Carolina." William R. King and Randall Shields. Chapter in How Police Organizations Implement Community Policing, edited by Edward R. Maguire and William Wells. Washington, DC: Office of Community Oriented Policing Services.

2002 "Careers in Criminal Justice: Police." William R. King. Pp. 145-150 in Encyclopedia of Criminal Justice (2nd Ed.) (Volume 1). Macmillian Reference USA, New York.

Proceedings
N/A

Artistic Performances
N/A

Artistic Exhibitions
N/A

Research Monographs and Technical Reports

2010 King, William R., Charles M. Katz, Dominick Giangrasso, Peter Herrera. Improving Homicide Case Closure in the Trinidad and Tobago Police Service. Report prepared for Crime & Justice Analysts.

2009 King, William R., John C. Liederback, and Cory P. Haberman. Calls for Service and Adult Arrest Data. Preliminary Analysis for the North Baltimore, Ohio Police Department: Annual Year 2008 Data.

2008 King, William R. The Investigation of Homicides by the Trinidad and Tobago Police Service Homicide Bureau of Investigation. Report produced for "Reducing Crime in Trinidad and Tobago: A Strategic Approach, Years Two and Three."

2008 King, William R., and Jeff Snipes. Productivity of the Firearms Section at the Forensic Science Centre (FSC) of Trinidad and Tobago, 2000-2007. Report produced for "Reducing Crime in Trinidad and Tobago: A Strategic Approach, Years Two and Three."

2008 King, William R., and William Wells. The Use of Forensic Ballistic Information by the Trinidad and Tobago Police Service. Report produced for "Reducing Crime in Trinidad and Tobago: A Strategic Approach, Years Two and Three."

2005 King, Willam, and Edward Maguire. Improving How Physical Evidence is Processed in Trinidad and Tobago. Working Paper 6 for the "Reducing Crime in Trinidad and Tobago: A Strategic Approach, Year One" grant.

2005 King, William, and Jefferson Holcomb. "The Educational and Post-Educational Experiences of Graduates of the Bachelor of Science in Criminal Justice Degree Program at Bowling Green State University, (1988-2003)."

2004 “Public Attitudes about the Boardman Township Police Department: Report Prepared for the Boardman Police Department, Boardman, Ohio.” June 2004. Bowling Green State University, Criminal Justice Program.

2003 Holcomb, Jefferson, William King, and Michael Buerger. “Methodological Issues Concerning the Outcome Evaluation of Community Based Organizations’ HIV Interventions.” Bowling Green State University, Public Health Program.

2002 Katz, Charles, William King, Edward R. Maguire, and William Wells. “How Police Organizations Implement Community Policing. Site Visit Protocol.” George Mason University, Administration of Justice Program.

2001 Lab, Steven P., Glenn Shields, William King, Marian Williams, and Sarah Chard. “Evaluation of Ohio Appalachian Domestic Violence Project: Final Report, and Executive Summary.” Bowling Green State University, Department of Human Services.

1999 Fulks, J. Steven, L. Fleming Fallon, William R. King, Jeannene Ward-Lonergan, Glenn Shields, Nancy Beaumont, Alexandra I. Heider, Ross Bakhtari, Kenneth Loflin, and Rebecca Edwards. “Older Individuals in Erie County, Ohio: A Comprehensive Assessment of Needs of Residents Aged 60 and Above.” Bowling Green State University, College of Health and Human Services.

1998 King, William R., Glenn Shields, and Trevor Hayberger. “An Evaluation of the Juvenile Residential Center of Northwest Ohio.” Bowling Green State University, Criminal Justice Program.

1996 Latessa, Edward J., and William R. King. “An Evaluation of the Community Corrections Partnership.” University of Cincinnati, Division of Criminal Justice.

Funded External Grants

2009-2011 King, William R., Vincent Webb, and Larry Hoover. “National Police Research Platform Project. Subcontract awarded to SHSU by Northeastern University ($69,427).

2007-2008. King, William R. “Reducing Crime in Trinidad and Tobago: A Strategic Approach. Years Two and Three.” Awarded by the Ministry of National Security of Trinidad and Tobago. ($155,051 sub-contract from George Mason University).

2005-2006. King, William R. “Reducing Crime in Trinidad and Tobago: A Strategic Approach.” Awarded by the Ministry of National Security of Trinidad and Tobago. ($78,753 sub-contract from George Mason University).

2004. King, William R. “Assessing Citizen Satisfaction with Policing Services in Boardman Township, Ohio.” Awarded by the Boardman Township Police Department. ($1,000).

2000. Lab, Steven P., William R. King, Marian R. Williams, and Glenn Shields. “Evaluation of Ohio

Appalachian Domestic Violence Project." Awarded by the Ohio Office of Criminal Justice Services. ($59,479).

1999. King, William R. "The Causes of Police Department Disbanding in Ohio Between 1990 and 1999." Awarded by the Center for Policy Analysis and Public Service at Bowling Green State University. ($3,000 and a part-time research assistant).

1998. Fulks, J. Steven, William King, Flemming Fallon, Nancy Beaumont, Glenn Shields, Jeannene Ward-Lonergan. "Needs Assessment of Older Individuals in Erie County, Ohio." Awarded by Serving Our Seniors, Sandusky, Ohio. ($30,000).

Peer Review Presentations/Posters
N/A

Work or Professional Experiences
2009- Associate Professor, Sam Houston State University, College of Criminal Justice.

2003-2009 Associate Professor with tenure, Bowling Green State University, Criminal Justice Program, (August 2003).

2005-2009 Director, Crime & Justice Research Laboratory, Bowling Green State University. (April 2005-June 2009).

2003-2009 Graduate Coordinator, Masters of Science in Criminal Justice degree program, Bowling Green State University, (August 2003-June 2009).

1998-2003 Assistant Professor, Bowling Green State University, Criminal Justice Program, (August 1998 - August 2003).

1998 Acting Director, Bowling Green State University, Criminal Justice Program, (January to July 1998).

1997-1998 Instructor, Bowling Green State University, Criminal Justice Program, (August 1997 to July 1998).

1992-1997 Research Associate, Center for Criminal Justice Research, University of Cincinnati, (September 1994 to August 1997).

1993-1997 Uniform Security Supervisor, Paramount's Kings Island, King's Island, Ohio.

Honors and Awards
Outstanding Reviewer Award (2007), Emerald Literati Network, Policing: An International Journal of Police Strategies & Management.

Nominee, Clyde R. Willis Faculty Development Award (2002-2003), Bowling Green State University.

Nominee, Outstanding Young Scholar Award (2002), Bowling Green State University.

Security Officer of the Year (1995), Paramount's Kings Island, King's Island, Ohio.

Kathleen Turner Leadership Award (1992), Department of Criminal Justice, University of Massachusetts at Lowell.

Other Competencies

Editorial board member. Policing: An International Journal of Police… (2009-).
Editorial board member. Journal of Crime & Justice. (2003-2009).

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Academic Training

Ph.D. in Medicinal Biology, (minors: Chemotherapy and Microbiology), University Medical School, Debrecen, Hungary, Europe, 1985

Ph.D. in Organic Chemistry, (minor: Biochemistry), L. Kossuth University of Arts and Sciences, Debrecen, Hungary, Europe, 1982

M.S. in General Chemistry, L. Kossuth University of Arts and Sciences, Debrecen, Hungary, Europe, 1979

Post-doctoral Research Associate of Texas A&M University, College Station, TX (1990-1992)

Work and Professional Experience

(2007-Present) Associate Professor of Chemistry (Tenured) Sam Houston State University, Huntsville, TX. *Field*: *Enzyme mechanism in drug antagonism; Enzyme and drug delivery systems; Drug formulation, Chemical warfare agent antagonism.*

(2006-2007) Battelle Contractor, (on sabbatical leave) U.S. Army Medical Research Institute of Chemical Defense, Aberdeen, MD. *Field: Cyanide research*

(2004-2006) Research Fellow, Clinical Pharmacology Laboratory, Department of Anatomy, Physiology and Pharmacology, College of Veterinary Medicine, Auburn University, AL. *Field*: *Clinical Pharmacology (pharmacokinetics); Studies with drugs and metabolites (analytical method development)*

(2004-2005) Associate Research Scientist, Department of Biochemistry & Biophysics,Texas A&M University, College Station,TX. *Field: Enzyme immobilization and nanotechnology applications for detection, decontamination and antagonism of chemical warfare agents.*

(2003-2004) Research Analytical Chemist, Clinical Pharmacology and Analytical Chemistry Laboratory, Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine, Texas A&M University, College Station, TX. *Field: Clinical Pharmacology studies. Analytical detection method development for drugs and metabolites in body fluids and tissues; Drug stability studies.*

(2002-2003) National Research Council Senior Fellow, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen, MD. *Field: Analytical and toxicity (toxicokinetics) studies with chemical warfare agents.*

(1992-2002) Assistant Research Scientist, Department of Medical Pharmacology and Toxicology, Texas A&M University, College Station, TX. *Field: Toxicology - Drug toxicity and antagonism; Drug delivery systems (Liposomes, enzyme carrier polymers, cyclodextrins, nano-encapsulation technology).*

(1990-1992) Research Associate, Department of Medical Pharmacology & Toxicology, Texas A&M University, College Station, TX. *Field: Toxicology - Mechanism of drug antagonism, enzyme mechanism and toxicokinetics in carrier red blood cells. (Noxious gases, pesticides).*

(1988-1990) Laboratory Head, Biogal Pharmaceutical Company Debrecen, Hungary. *Field: Drug development; Trans-dermal drug delivery systems; Pharmacokinetics.*

(1985-1988) Research Fellow, Research Group of Antibiotics of the Hungarian Academy of Sciences, Debrecen, Hungary. *Field: Synthesis and structural elucidation of novel beta-lactam antibiotics.*

(1982-1985) Research Associate, Dept. of Chemotherapy, University Medical School, Debrecen, Hungary. *Field: Kinetic studies on microbial beta-lactamases; Beta-lactamase resistance.*

(1979-1981) Research Associate, Research Group of Antibiotics of the Hungarian Academy of Sciences, Department of Organic Chemistry, L. Kossuth University of Arts and Sciences, Debrecen, Hungary. *Field: Synthesis and structural elucidation of penicillin and cephalosporin antibiotics.*

Scholarly and Creative Contributions

Peer-Reviewed Publications

Articles *(Name of the team member students at SHSU underlined)*

(1) Bhandari, Ray, Oda, R., Youso, S., Petrikovics, I., Rockwood, G.A. Simultaneous determination of cyanide and thiocyanate in plasma by chemical ionization gas chromatography mass-spectrometry (CI-GC-MS). Accepted. Manuscript No. ABC-00887-2012.R1

(2) Yu, J.C.C., Martin, S., Nasr, J., Stafford, K., Thompson, D.E., Petrikovics, I. LC-MS/MS Analysis of 2-Aminothiazoline-4-Carboxylic Acid as a Forensic Biomarker for Cyanide Poisoning. *Journal of World Methodology*, (Under Review, **2012***), WJM 2012-000014, 02/04/2012*

(3) Manage, B.W.M., Petrikovics, I. Confidence Limit Calculation Method for Antidotal Potency Ratios (APR) Derived from two LD50 Values Determined by the Dixon Method. *Journal of World Methodology,* (Under Review, **2012**), *WJM 2012-000017, 07/19/2012*

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Book Chapters

(1) Baskin, S.I., Petrikovics, I., Kurche, J.S., Nicholson, J.D., Logue, B.A., Maliner, B.I., Rockwood, G.A. Insights on Cyanide Toxicity and Methods of Treatment. In: *Pharmacological Perspectives of Toxic Chemicals and Their Antidotes*, pp 105-146. Eds. Flora, S. J. S., Romano, J. A., Baskin, S. I. and Sekhar, K. Narosa Publishing House, New Delhi, India, **2004**.

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Cells as Bioreactors. (Eds. Way and Deloach). Adv. Biosci. 92: 125-129. Pergamon Press, Oxford, U.K., **1993.**

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Patent Applications

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semisynthetic cephalosporanic and penicillanic acid derivatives. Chinoin Gyogyszer Es Vegyeszet December **1984**:GB2141124

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Peer-Reviewed Presentations/Posters *(Name of the team member students at SHSU underlined, Presenters are labeled with * / **)*

(1) Petrikovics, I., Jaszberenyi, J.C., Ancha, M., Feleke, B., Nagy, A., Kovacs, K*., Rockwood, G.A. "Complex Model System" for Investigating New Sulfur Donors for Cyanide Antagonism", *51th Annual Meeting of the Society of Toxicology (SOT).* March, 11-15, **2012,** San Francisco, CA. (Abstract#: 1355, Poster#: 158, Page#:247)

(2) Yu, J.C.C., Petrikovics, I., Thompson, D.E*., Logue, B.A., Baskin, S.I., Rockwood, G.A. Plasma Residence Time and Organ Distribution Determination of the Cyanide Metabolite 2-Aminothiazoline-4-Carboxylic Acid in Rat System. *51th Annual Meeting of the Society of Toxicology (SOT)*. March, 11-15, **2012,** San Francisco, CA. (Abstract#: 2457, Poster#: 464, Page#: 342)

(3) Winner, B.M*., Ngo, P., Negrito M., Kovacs, K.**, Petra, F., Petrikovics, I., Rockwood, G.A. Micellar Encapsulated Sulfur Donors to Combat Cyanide Intoxication. *51th Annual Meeting of the Society of Toxicology (SOT).* March, 11-15, **2012**, San Francisco, CA. (Abstract #: 677, Poster#: 461, Page#: 183)

(4) Petrikovics, I., Thompson, D., Holmes, S., Logue, B.A., Bhandari, R.K., Rockwood, G.A, Yu, J.C.C. Can ATCA Serve as a Diagnostic or a Forensic Biomarker for Cyanide Exposure? *BioScience Meeting*, Baltimore, MD**, 2012,** (P036)

(5) Thompson, D.E., Parbatani, A., Da Silva, Deepti, Totman, E, Thapaliya, S., Petrikovics, I., Rockwood, G.A. Incorporating Mesoporous Thin Films Into Optical Cyanide Sensing Surfaces. *BioScience Meeting*, Baltimore, MD, **2012,** (P038)

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(7) Rockwood, G.A., Booker, L., Gangwer, K., Shupe, M., Harris, D., Doherty, M., Petrikovics, I. Advances in the Development of a Novel, Lipid-Based Sulfur Donor as a Cyanide Countermeasure. *BioScience Meeting*, Baltimore, MD, **2012,** (P079)

(8) Kovacs, K., Ancha, M., Angalakurthi, S., Coveyou, K., Negrito, M., Winner, B., Jane, M., John, C., Rockwood, G.A., Petrikovics, I. Development of an Intramuscular DMTS Formulation for Cyanide Antagonism. *BioScience Meeting,* Baltimore, MD, **2012,** (P084)

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(10) Rockwood, G.A., Gangwer, K.A., Booker, L., Logue, B.A., Petrikovics, I., Peterson, R.T., Shupe, M.R., Harris, D.A., Doherty, M.R., Cyanide Diagnostics and Efficacy Testing of Next-Generation Cyanide Antidotes. *NIH CounterAct Meeting,* June, 26-28, **2012** (C.5., Page 5).

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Chemical Warfare Neurotoxic Agents. *CounterAct Annual Program Review*. April **2008,** Washington, D.C.

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Presentation at Regional Meetings by my Students at SHSU

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(14) Nasr, J.*and Petrikovics, I.** Analytical Method Development for Measuring the Cyanide Metabolite, 2-Aminothiazoline-4-Carboxylic Acid, as a Biomarker for Cyanide Exposure in Mice Organ Samples by HPLC-MS/MS. *Texas Undergraduate Research Day at the Capitol*, February **2011**, Austin, TX.

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Houston State University College of Criminal Justice, *2nd Annual Undergraduate Conference.* April 21, **2010**, Huntsville, TX. (First Place Award)

(18) Martin, S.*, Kuzmicheva, G., Jayanna, P., Wales, M., Petrikovics, I. Modeling Oral Administration of Organophosphorus Hydrolyzing Enzyme (OPH) Against Paraoxon Intoxication. *3rd Annual Sam Houston State University Honors Undergraduate Research Symposium.* April 23, **2010,** Huntsville, TX.

(19) Stafford, K.*, Yu, J. C.C., Myagmarjav, B.E., Petrikovics, I. Sample Preparation Method Development for Determining the Biomarker, 2-Aminothiazoline-4-Carboxylic Acid (ATCA), from Mice Liver after Cyanide Exposure. *113th Annual Meeting of Texas Academy of Science,* March 4-6, **2010,** Tarleton State University at Stephenville, TX.

(20) Martin, S.*, Kuzmicheva, G., Petrikovics, I. Study of Effectiveness of Rhodanese Encapsulation into Stealth Liposomes. *113th Annual Meeting of Texas Academy of Science,* March 4-6, **2010**, Tarleton State University at Stephenville, TX.

(21) Stafford, K.*, Jackson, R., Simons, K., Yu, J.C.C., Petrikovics, I.** Analytical Method Development for Determining the Biomarker, 2-Aminothiazoline-4-Carboxylic Acid (ATCA), in Mice Liver after Cyanide Exposure. *American Academy of Forensic Science,* March 7-11, **2010**, Seattle, WA.

(22) Pipken, A.*, Petrikovics, I., Thompson, D.E. Tailoring a surface enhanced Raman Sensor for the detection of the cyanide metabolite, 2-aminothiazoline-4-carboxylic acid*. 113th Annual Meeting of Texas Academy of Science,* March, 4-6, **2010**, Tarleton State University at Stephenville, TX.

(23) Stafford, K.*, Jackson, R., Yu, J.C.C, Petrikovics, I. Analytical Method Development for Determining the Biomarker, 2-Aminothiazoline-4-Carboxylic Acid (ATCA), in Mice Liver After Cyanide Exposure. *ACS 65th Southwest Regional Meeting*, November 4-7, **2009**, El Paso, TX.

(24) Martin, S.**, Kuzmicheva, G., Stafford K.*, Petrikovics, I. Determining the Optimal Condition for Rhodanese Incorporation into Liposomes. *ACS 65th Southwest Regional Meeting,* November 4-7, **2009**, El Paso, TX.

(25) Childress, J*. and Petrikovics, I.** Determination of the Optimal Composition and Encapsulation Efficiency for Liposome Encapsulated Rhodanese. *11th Annual Meeting of Texas Academy of Science,* March 6-8, **2008**, Corpus Christie, TX.

(26) Chapela, P.*, Wales, M.E., Budai, M., Petrikovics, I.** Optimal Liposomal Composition for the Encapsulation of Organophosphorous Hydrolase (OPH). *11th Annual Meeting of Texas Academy of Science,* March 6-8, **2008,** Corpus Christie, TX.

(27) Chapela, P.*, Petrikovics, I., Wales, M.E. Encapsulation of Organophosphate Hydrolase in Polylactic Acid Microspheres. *ACS Regional Meeting*, October, **2008**, Little Rock, Arkansas.

(28) Childress, J.*, Budai, M., Rockwood, G.A. Baskin, S.I., Petrikovics, I. Determining the Time Stability for Stealth Liposomes Encapsulating Rhodanese and Evaluating the In Vitro Efficacy of Co-Encapsulation of Rhodanese with a Sulfur Donor. *ACS Regional Meeting*, October, **2008**, Little Rock, Arkansas.

(29) Farrar, J.*, Chapela, P.**, Petrikovics, I. Activity and Stability of Encapsulated Acetylcholinesterase. *ACS Regional Meeting*, October, **2008**, Little Rock, Arkansas.

(30) Spurlin, J.*, Chapela, P.**, Petrikovics, I., Yu, J.C.C. Encapsulation Efficiency of Organophosphorous Hydrolase in Lecithin Liposomes as Determined by Capillary Electrophoresis, *ACS Regional Meeting*, October, **2008**, Little Rock, Arkansas.

(31) Ramirez, D.A.*, Chapela, P.**, Petrikovics, I. Encapsulation of Piroxicam in Liposomes. *ACS Regional Meeting*, October, **2008**, Little Rock, Arkansas.

(32) Chapela, P.*, Budai, M., Petrikovics, I. Liposomal Encapsulation of Tetracycline Derivatives. *ACS Southwestern Regional Meeting,* November 4-7, **2007.** (Poster#: 50514)

Honors and Awards (SHSU, 2007-2011)

- Nomination for SHSU Mentor Award (2010 and 2011)
- Nomination for SHSU Research Award (2011)
- Nomination for Society of Toxicology National Mentor Award (Pending, 2012)

Other Competencies

- World Journal of Methodology Editorial Board Member (2011-2015)
- Full Member of the American Society of Toxicology (1992-2002), and (2007-Present)
- American Chemical Society (2009-Present)
- SHSU IUCAC Committee Membership (2011-Present)

External Funding (SHSU, 2006-2012)

1) "Catalytic Bio-Scavengers with Broad Specificity Against OP Nerve Agents"
NIH Funding, 5 UG1 NS058035-02. Principal Investigator: Wild, James, R. (TAMU)
10/01/06 – 09/30/11, $1,710,206.

- Sub-Award with TAMU-SHSU (2007-2011), Principal Investigator at SHSU: Ilona Petrikovics. Sub-Award#: 570376. Type: Contract. Total: **$400,861.**

2) *"Investigation of Sulfur Donors for Cyanide Antagonism"*
Project Leader at the Army: Dr. Gary Rockwood, Principal Investigator at SHSU: Dr. Ilona Petrikovics, Type: Contract

- NIH:NIAID/USAMRICD Interagency Agreements (W911NF-07-D-0001), USAMRICD under the auspices of the US Army Research Office Scientific Services Program administered by Battelle (Delivery order 0557, Contract No TCN 08284). (SHSU-22023)
    - Y1: (Sept1, 2008-Aug 31, 2009): **$191,712**
    - Y2: (Sept1, 2009-Aug 31, 2010): **$208,305**

- NIH:NIAID/USAMRICD Interagency Agreements (W911NF-07-D-0001), USAMRICD under the auspices of the US Army Research Office Scientific Services Program administered by ORISE. (SHSU-28023)

    - Y1: (Sept 1, 2010-Aug 31, 2011): **$218,682**

- NIH:NIAID/USAMRICD Interagency Agreements (W911NF-07-D-0001), USAMRICD under the auspices of the US Army Research Office Scientific Services Program administered by Battelle (Delivery order 0557, Contract No TCN-11-078). (SHSU-28031).

    - Y1: (Sept 1, 2011-Aug 31, 2012): **$237,844**
    - Y2: (Sept 1, 2012-Aug 31, 2013): **$219,680**

Christopher P. Randle
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Major Research Interests

Plant evolution and systematics, parasitic plant evolution, molecular evolution, and theoretical phylogenetics.

Appointments

August 2012-present: Associate Professor, Department of Biological Sciences, Sam Houston State University.

August 2006-2012: Assistant Professor, Department of Biological Sciences, Sam Houston State University.

Post-Doctoral Experience

June 2004 – July 2006: Evolution and systematics of *Crassula* (Crassulaceae). Supervisor: Mark Mort, University of Kansas

July 2005 – July 2006: Evolution of the African clade of Coreopsidae (Asteraceae): Supervisor: Daniel J. Crawford, University of Kansas.

Education

Ph.D. Department of Evolution, Ecology and Organismal Biology, The Ohio State University. 2004.

B.A. (*cum laude*) Biology, Hiram College. 1995.

Teaching Experience

Lecturer. Sam Houston State University.

Introduction to Botany (BIO 161/BIOL 1311): 2006-Present
Introductory Genetics (BIO 345): Fall 2007-Spring 2008
Principles of Systematics (as BIO 531, 536): 2006-Present
Special Graduate Topics: Mechanisms of Plant Evolution (BIO 561, 535): 2007-Present.
Population Genetics (BIO 595, 591): Spring 2009, Spring 2011
Evolution of the Universe from the Big Bang to Humankind (HON 131): 2008-2009.
Decision-Making: Coping in a Complex World (HON 231): 2009-Present
Molecular Biology (BIOL 4480): Fall 2011

Graduate Teaching Assistant. The Ohio State University. *September 1997-June 2004*. Plant Biology 101 lab (Autumn 1997; Autumn 1998); Plant Biology 102 lab (Winter 1998); Plant Biology 102 lecture (Summer 1998); Local Flora 210 lab (Spring 1998); Animal Diversity and Systematics lab 405.5 (Spring 2001); Molecular Ecology 610 (Spring 2004).

Teaching Assistant and Lab Instructor. Hiram College. *September 1992-December 1994*.

Teaching Experience ctd.

Introduction to German 110 (Fall 1992; Fall 1993); Introduction to German 111 (Winter 1993); Introduction to German 112 (Spring 1993). Organic Chemistry 220 (Fall 1994)

Honors and Awards

One of six top-funded researchers, SHSU 2012

Student Award: Best Presentation, Systematics. S. African Association of Botanists. 2002

Delzie Demaree Award. 1999.

Service Award for work performed as vice-president of Hiram College Student Senate, 1995.

Phi Beta Kappa, 1995.

American Electric Power Scholarship, 1991.

Mastin Scholarship, 1991.

Service

Member of the Governing Council of the Willi Hennig Society, 2012-present

Symposium Co-Organizer: The Greatest Opportunists of All- Celebrating 40 years of Job Kuijt's *Biology of Parasitic Flowering Plants*. *Botanical Society of America*. Snowbird, UT. July 2009.

Editorial Board: *Systematic Biology* 2007-present

Botany Committee Chair: SHSU Dept. of Biol. Sci. The committee was charged with revamping Botany labs (BIO 111/BIOL 1111) and the creation of a new lab manual. 2008-2009.

Genetics Professor Search Chair: 2007-2008.

Manuscript Review: *American Journal of Botany*, *Annals of the Missouri Botanical Garden*, *Botanical Journal of the Linnaean Society*, *Bothalia*, *Castanea*, *Cladistics*, *International Journal of Plant Science*, *Journal of the Botanical Research Institute of Texas*, *Molecular Biology and Evolution*, *Molecular Phylogenetics and Evolution*, *Plant Systematics and Evolution*, *Systematic Biology*, *Systematic Botany*.

Current Memberships in Professional Societies

American Society of Plant Taxonomists; Botanical Society of America, Society for Systematic Biology, Willi Hennig Society.

Grants and Fellowships

Active Grants

Randle, C.P. and J.J. Morawetz. 2012. Collaborative Research, RUI: Systematic Investigation of Tropical Diversity in Orobanchaceae. National Science Foundation, Division of Environmental Biology: $145,051 (Total Grant: $533,788)

Randle, C.P. and J.K. Williams. The Rio Grande as a barrier to gene flow for three ecologically disparate plant species. USDA /NIFA through Sul Ross State University. $47,550.

Previous Grants

Arthur G. Seeligson, Jr. Conservation Grant (Fort Worth Zoo) 2009: $5,000.
Enhancement Grant for Research, Sam Houston State University 2008: $17,496
Beckman-Coulter Genomics Educational Grant 2008: $50,000
Faculty Research Grant, Sam Houston State University 2007: $4,767
Presidential Fellowship, The Ohio State University 2003-2004: $15,000 (stipend)
Professional Development Travel Award, The Ohio State University 2001: $450
National Science Foundation Doctoral Dissertation Improvement Grant, 2001: $10,000
Graduate Student Alumni Research Award, The Ohio State University, 2001: $2,000
American Society of Plant Taxonomists Graduate Student Research Grant, 2000: $1,000
Sigma Xi Graduate Research Grant, 2000: $800
Janice Carson Beatley Herbarium Award, The Ohio State University, 1999 and 2000: Total $2,000
International Student Dissertation Travel Grant, The Ohio State University, 1998: $2,000

Current Manuscripts

RANDLE, C.P. *In press. Bartsia*. Flora of North America. Vol. 17, Oxford University Press, NY.

RANDLE, C.P. *In press. Brachystigma*. Flora of North America. Vol. 17, Oxford University Press, NY.

RANDLE, C.P. *In press. Odontites*. Flora of North America. Vol. 17, Oxford University Press, NY.

***Peer-reviewed Publications* [27]**

RAGHAVENDRAH, R., **C.P. RANDLE,** AND S.R. BUCHELI. 2011. Identification of a death-scene maggot using standardized molecular methods: *Sarcophaga bullata* Parker 1916 (Sarcophagidae) out-numbers blowflies (Calliphoridae) on an urban cadaver in southeastern Texas. *Journal of Forensic Research* 2(6):1-4.

MORAWETZ, J.J., AND **C.P. RANDLE**. 2010 . The status of *Harveya alba* (Orobanchaceae) *Kew Bulletin* 65(3): 495-496.

RANDLE, C.P. AND K.M. PICKETT. 2010. The conflation of ignorance and knowledge in the inference of Bayesian clade posteriors. *Cladistics* 26(5): 550-559.

MORAWETZ, J.J., **C.P. RANDLE**, AND A.D. WOLFE. 2010. Phylogenetic relationships within the tropical clade of Orobanchaceae. *Taxon* 59(2): 416-426.

CURETON, J.C., A.B. BUCHMAN , **C. P. RANDLE,** W. I. LUTTERSCHMIDT, AND R. DEATON. 2010. Development and cross-amplification of nine novel *Gambusia geiseri* microsatellite loci in *G. clark-hubbsi* and the endangered *G. nobilis*. *Conservation Genetics Resources* doi 10.1007/s12686-010-9220-7.

MORT, M.E., **C.P. RANDLE**, P. BURGOYNE, G.SMITH, E. JAARSVELD, AND S. HOPPER. 2009. Analyses of cpDNA *matK* sequence data place *Tillaea* (Crassulaceae) within *Crassula*. *Plant Systematics and Evolution* 283(4): 211-217.

MORT, M. E., O'LEARY, T.R., CARILLO-REYES, P., NOWELL, T., ARCHIBALD, J. K. AND C**. P. RANDLE.** 2009. Phylogeny and Evolution of Crassulaceae: past, present, and future. *In* N. Juergens and D. Metzing, eds. *Phylogeny of Succulent Plant Families.* Biocentre Klein Flottbek, Hamburg.

CRAWFORD, D. J., M.TADESSE, M. E. MORT, R. T. KIMBALL, AND **C. P. RANDLE**. 2009. Coreopsidae. Pp. 713-730 in: *Systematics, Evolution, and Biogeography of Compositae*, eds. V.A. Funk, A. Sussana, T.F. Stuessy, and R.J. Bayer. International association of Plant Taxonomy, Vienna.

FUNK, V.A. ET AL. (58 AUTHORS INCLUDING **C.P. RANDLE**). 2009. Compositae Meta-supertree: the next generation. Pp. 747-777 in: *Systematics, Evolution, and Biogeography of Compositae*, eds. V.A. Funk, A. Sussana, T.F. Stuessy, and R.J. Bayer. International association of Plant Taxonomy, Vienna.

CURETON, J.C., A.B. BUCHMAN , **C. P. RANDLE,** W. I. LUTTERSCHMIDT, AND R. DEATON. 2009. Characterization of ten novel microsatellite loci for the threatened Ornate Box Turtle, *Terrapene ornate*. *Conservation Genetics Resources* 1: 141-143.

BUCHMAN, A.B. , R. DEATON, **C.P. RANDLE**, T. BRUMMEL, E.D. WILSON, AND W.I. LUTTERSCHMIDT. 2009. Isolation and characterization of polymorphic microsatellite loci for the three-toed box turtle (*Terrapene carolina triunguis*) and cross-amplification in other *Terrapene* species. *Molecular Ecology Resources* 9(4):1169-1171.

MORT, M. E. **C. P. RANDLE**, R. T. KIMBALL, M. TADESSE, AND D. J. CRAWFORD. 2008. Phylogeny of Coreopsideae (Asteraceae) inferred from nuclear and plastid DNA sequences. *Taxon* 57:1-12.

MORT, M. E., J. K. ARCHIBALD, **C.P. RANDLE**, N. D. LEVSEN, R. T. O'LEARY, K. TOPALOV, C. WIEGAND, AND D. J. CRAWFORD. 2007. Inferring phylogeny at low taxonomic levels: utility of rapidly evolving cpDNA and nuclear ITS loci. *American Journal of Botany* 94(2): 173-183

RANDLE, C.P. 2006. Book review: "Phylogeny and Evolution of Angiosperms". *Cladistics* 22: 97-99.

WOLFE, A.D., **C. P. RANDLE**, S. L. DATWYLER, J. J. MORAWETZ, N. ARGUEDAS, AND J. DIAZ. 2006 Phylogeny, taxonomic affinities, and biogeography of *Penstemon* (Plantaginaceae) based on ITS and cpDNA sequence data. *American Journal of Botany* 93(11): 1699-1713

RANDLE, C.P. 2006. Taxonomic revision of *Harveya* (Orobanchaceae) species of southern Africa. *Systematic Botany Monographs* 80: 1-74 .

RANDLE, C.P. AND K.M. PICKETT. 2006. Are non-uniform clade priors important for Bayesian phylogenetic inference: a response to Brandley et al. *Systematic Biology* 55(1): 147-151

RANDLE, C.P., M.E. MORT, AND D.J. CRAWFORD. 2005. Bayesian inference of phylogenetics revisited: developments and concerns. *Taxon* 54(1): 9-15.

RANDLE, C.P. AND A.D. WOLFE. 2005. The evolution and expression of *rbcL* in holoparasitic sister-genera *Harveya* Hook. and *Hyobanche* L. (Orobanchaceae). *American Journal of Botany* 92(9): 34-44.

MORT, M.E., N. LEVSEN, E. VAN JAARSVELD, **C.P. RANDLE**, AND A. PALMER. 2005. Phylogenetics and diversification of *Cotyledon* (Crassulaceae) inferred from nuclear and chloroplast DNA sequence data. *American Journal of Botany* 92(7): 1170-1176.

WOLFE, A.D., **C.P. RANDLE,** L. LIANG, AND K. STEINER. 2005. Phylogeny and Biogeography of Orobanchaceae. *Folia Geobotanica* 40: 115-134.

PICKETT, K.M AND **C.P. RANDLE.** 2005. Strange Bayes indeed: uniform topological priors imply non-uniform clade priors. *Molecular Phylogenetics and Evolution* 34:203-211.

WOLFE, A.D. AND **C.P. RANDLE**. 2004. Recombination, heteroplasmy, haplotype polymorphism, and paralogy in plastid genes: Implications for plant molecular systematics. *Systematic Botany* 29: 1011-1020.

WOLFE, A.D., S.L. DATWYLER, AND **C.P. RANDLE**. 2002. A phylogenetic and biogeographic analysis of the Cheloneae (Scrophulariaceae) based on ITS and matK sequence data. *Systematic Botany* 27(1):138-148.

SIMMONS, M.P., **C.P. RANDLE**, J.V. FREUDENSTEIN, AND J.W. WENZEL. 2002. Limitations of relative apparent synapomorphy analysis (RASA) for measuring phylogenetic signal. *Molecular Biology and Evolution* 19(1):14-23.

WOLFE, A.D. AND **C.P. RANDLE**. 2001. Relationships within and among species of the holoparasitic genus *Hyobanche* (Orobanchaceae) inferred from ISSR banding patterns and nucleotide sequences" *Systematic Botany* 26(1):120-130.

LORET DE MOLA, J.R., F. ARRENDO-SOBERON, **C.P. RANDLE**, R.T. TUREK AND M.A. FRIEDLANDER. 1997 Markedly elevated cytokines in pleural effusion during ovarian hyperstimulation syndrome: transudate or acsites? *Fertility and Sterility* 67(4) 780-782. 1997.

Invited Seminars and Workshop Presentations **[13]**

C.P. RANDLE. 2011. Taking to the Trees: A Natural History of an Aerial Parasite. Texas Tech, Lubbock, TX.

RANDLE, C.P. 2011. Model-based phylogenetic methods. Twelfth International Workshop in Phylogenetic Methods, sponsored by the Willi Hennig Society and the Inecole Ecologia, AC. Xalapa, Verecruz. Mexico.

RANDLE, C.P. 2010. Model-based phylogenetic methods. Eleventh International Workshop in Phylogenetic Methods, sponsored by the Willi Hennig Society and the Ohio State University. Columbus, OH.

MORAWETZ, J.M. AND **C.P. RANDLE**. 2009. Progress and pitfalls: Towards a phylogeny of the tropical broomrapes (Orobanchaceae). "Botany 2009" Symposium: The Greatest Opportunists of All- Celebrating 40 years of Job Kuijt's *Biology of Parasitic Flowering Plants*. *Botanical Society of America*. Snowbird, UT.

RANDLE, C.P., S.E. KEITH-COUCH, AND V.G. TARSON. 2009. Characterization of *rbcS* in Orobanchaceae. "Botany 2009" Symposium: The Greatest Opportunists of All-Celebrating 40 years of Job Kuijt's *Biology of Parasitic Flowering Plants*. *Botanical Society of America*. Snowbird, UT.

RANDLE, C.P. 2009. Model-based phylogenetic methods. Tenth International Workshop in Phylogenetic Methods, sponsored by the Willi Hennig Society and the Ohio State University. Columbus, OH.

RANDLE, C.P. 2009. Tropical diversity in the new Orobanchaceae. Rancho Santa Ana Botanical Garden, Claremont, CA.

RANDLE, C.P. 2009. Can we see the Forest and the Tree? Lone Star College at North Harris Phylogenetics Symposium, Houston, TX.

RANDLE, C.P. AND K.M. PICKETT. 2008. Conflation of ignorance and knowledge in the inference of clade posteriors. Hennig XXVII: International Meeting of the Willi Hennig Society, Tucuman Argentina.

RANDLE, C.P. 2007 Systematics and photosynthetic gene evolution of the parasitic genus *Harveya (*Orobanchaceae). Department of Plant Biology, University of Texas at Austin.

RANDLE, C.P. 2007. Introduction to DNA- Sequences #1 by John Lane: Emergent properties of DNA sequence information in science and art. Contemporary Music Festival. Sam Houston State University.

CRAWFORD, D. J., M. E. MORT, **C.P. RANDLE**, R. T. KIMBALL, AND MESFIN TADESSE 2006. "Phylogeny of Coreopsideae (Asteraceae): insights from nuclear and plastid sequences". The International Compositae Alliance, Barcelona, Spain.

RANDLE, C.P. 2004. Parasitic plants: Notes from the Underground. Old Dominion University, Department of Biology Seminar. Norfolk, VA.

RANDLE, C.P. AND K.M. PICKETT. 2004. The influence of flat topological priors on Bayesian inference of phylogeny. "Botany 2004" Symposium: Methods and Theory of Phylogenetic Inference. *Botanical Society of America*. Snowbird, UT.

Presentations, Posters, and Abstracts **[38]**

RANDLE, C.P. AND J.V. FREUDENSTEIN. 2011. The effect of within-replicate search strategies on jackknife support of clades of different size. "Botany 2011". St. Louis, MO.

HAWKINS, A.K., A.D. ARCHAMBEAULT, B.C. CANNON, A.M. FAUST, N.D. LEVSEN, J.K. WILLIAMS, AND **C.P. RANDLE**. 2011. Subspecific classification within *Phoradendron serotinum* (Viscaceae): Morphological and molecular markers for assessment of population genetic structure. "Botany 2011". St. Louis, MO.

CANNON, B.C., J.D GARRISON, J.F. SOPAS, T.J. VERASTEGUI, AND **C.P. RANDLE.** 2011. Presentation, aroma, and flavor: Investigation of host cues in the orientation and establishment of *Phoradendron serotinum* (Viscaceae). "Botany 2011". St. Louis, MO.

REID, R.L., HAWKINS, A.K**.,** LA ROYA, S.E., CANNON, B.C., FAUST, A.M., VERASTEGUI, T.J., TARSON, V.G., AND GARZA, L.D., **RANDLE, C.P.** 2010. Identification of host cues for haustorium orientation and initiation in the leafy mistletoe *Phoradendron serotinum* (Santalaceae). "Botany 2010". Providence, Rhode Island.

HAWKINS, A.K., **RANDLE, C.P.,** WILLIAMS, J.K., ARCHAMBEAULT, A.D., AND CANNON, B.C. 2010. Subspecific classification within *Phoradendron serotinum* (Viscaceae): Development of microsatellite markers for assessment of population genetic structure. "Botany 2010". Providence, Rhode Island.

MORAWETZ, J.M. AND **RANDLE, C.P.** 2010. The five lost tribes of Orobanchaceae: New insights on family classification from the tropical lineage. Botany 2010". Providence, Rhode Island.

HAWKINS, A.K., **C.P. RANDLE**, J.K. WILLIAMS, B.C. CANNON, AND A.D. ARCHAMBEAULT. 2009. Subspecific classification within *Phoradendron serotinum* (Santalaceae): Development of microsatellite markers for assessment of

population genetic structure. Texas Invasive Plant & Pest Conference - Trinity University, San Antonio TX.

HAWKINS, A.K., **C.P. RANDLE**, AND A.D. ARCHAMBEAULT. 2009. Subspecific classification within *Phoradendron serotinum* (Santalaceae): Development of microsatellite markers for assessment of population genetic structure. "Botany 2009" *Botanical Society of America*. Snowbird, UT.

REID, R.L., A.K. HAWKINS, AND **C.P. RANDLE**. 2009. Pilot Study: Germination and haustorial disc initiation in *Phoradendron serotinum* (Santalaceae). "Botany 2009" *Botanical Society of America*. Snowbird, UT.

HAWKINS, A.K., AND **C.P. RANDLE**. 2009. Subspecific classification within *Phoradendron serotinum* (Santalaceae): Development of microsatellite markers for assessment of population genetic structure. Texas Academy of Sciences Conference. Junction, Texas.

RAGHAVENDRA, R., S.R. BUCHELI, AND **C.P. RANDLE**. 2009. Identification of a death-scene maggot using modern molecular techniques. 7th Annual Meeting of the National Association of Forensic Entomologists. Miami, FL.

CURETON, J.C., **C.P. RANDLE**, W.I. LUTTERSCHMIDT, AND R. DEATON. 2009. Investigating the impact of urbanization on ornate box turtles (*Terrapene ornata*). Texas Academy of Sciences Conference. Junction, Texas.

C.P. RANDLE, J. WILLIAMS, S.M. LEE, G.V. ZYCHOWSKI, AND R.L. REID. 2008. Host preference in leafy mistletoe, *Phoradendron serotinum* (Santalaceae). "Botany 2008" *Botanical Society of America*. Vancouver, British Columbia.

C.P. RANDLE AND K.M. PICKETT. 2008. Conflation of ignorance and knowledge in the inference of clade posteriors. "Botany 2008" *Botanical Society of America*. Vancouver, British Columbia.

HAWKINS, A.K. AND **C.P. RANDLE.** 2008. A preliminary examination of subspecific classification within *Phoradendron serotinum* (Santalaceae): development of microsatellite markers for assessment of population genetic structure. "Botany 2008" *Botanical Society of America*. Vancouver, British Columbia.

MORAWETZ, J. J., **C. P. RANDLE,** AND A. D. WOLFE. 2008. Detangling *Melasma*: One genus or two. "Botany 2008" *Botanical Society of America*. Vancouver, British Columbia.

MORAWETZ, J. J., **C. P. RANDLE,** AND A. D. WOLFE. 2007. Phylogeny and evolution of holoparasitism in the African clade of Orobanchaceae. "Botany 2007" *Botanical Society of America*. Chicago, Illinois.

RANDLE, C. P., M. E. MORT, J. K. ARCHIBALD, N. D. LEVSEN, T. R. O'LEARY, K. TOPALOV, C. M. WIEGAND, AND D. J. CRAWFORD. 2006. The Tortoise, the Hare and the Old, Grey Mare: Utility of Rapidly evolving loci in resolving phylogenies among closely related taxa. *Kansas Systematics Symposium*. Lawrence, Kansas.

MORT, M. E., **C.P. RANDLE**, P. M. BURGOYNE, G.F. SMITH, H. TOLKEN, S. HOPPER, E. VAN JAARSVELD. 2006. Molecular phylogenetics of Crassula (Crassulaceae) inferred from nuclear and plastid DNA sequences: patterns of evolution and dispersal. "Botany 2006" *Botanical Society of America*. Chico, California.

RANDLE, C. P., M.E. MORT, P.M. BURGOYNE, G.F. SMITH. 2005. Phylogenetic investigation of the genus *Crassula* L. (Crassulaceae). "Botany 2005" *Botanical Society of America.* Austin, Texas.

JANDA, R.D., B.D. JOSEPH, J.M. UNGER, M. DALY, J.V. FREUDENSTEIN, **C.P. RANDLE**, AND J.W. WENZEL. 2005. Shifts that pass in the night: Missed opportunities in the recent history of linguistics and biology**.** "79th Annual Meeting". *The Linguistics Society of America*. San Francisco, California.

JANDA, R.D., B.D. JOSEPH, J.M. UNGER, M. DALY, J. V. FREUDENSTEIN, **C.P. RANDLE**, AND J.W. WENZEL. 2005. Linguistic borrowings from biology: Cross-pollination or cross-bollixation? "79th Annual Meeting" *The Linguistics Society of America*. San Francisco, California

PICKETT, K.M., AND **C.P. RANDLE**. 2004. The persistence of clade prior influence in Bayesian phylogenetic analyses. *Cladistics* 20: 602-602.

RANDLE, C.P. AND K.M. PICKETT. 2004. The influence of flat topological priors on Bayesian inference of phylogeny. "Botany 2004" *Botanical Society of America.* Snowbird, Utah.

PICKETT, K.M., **C.P. RANDLE**, AND M.P. SIMMONS. 2003. Do Bayesian support values reflect probability of the truth? "Hennig XXII" *The Willi Hennig Society*. New York, New York.

WOLFE, A.D., **C.P. RANDLE**, AND N. ARGUEDAS. 2003. Patterns of evolution in *Hyobanche* L. (Orobanchaceae). "Botany 2003" *Botanical Society of America*. Mobile Alabama.

RANDLE, C.P. AND A.D. WOLFE. 2003. The evolution and expression of *rbcL* in holoparasitic sister genera, *Harveya* Hook. and *Hyobanche* L. (Orobanchaceae): Expression of the large subunit of Rubisco despite the presence of pseudogenes. "Botany 2003" *Botanical Society of America*. Mobile, Alabama.

RANDLE C.P. AND A.D. WOLFE. 2002. The evolution of *rbcL* in holoparasitic sister lineages *Harveya* Hook. and *Hyobanche* L. (Orobanchaceae). "Botany 2002" *Botanical Society of America*. Madison, Wisconsin.

WOLFE, A.D., **C.P. RANDLE** AND N. ARGUEDAS. 2002. Assessing species boundaries in *Hyobanche L.* (Orobanchaceae). "Botany 2002" *Botanical Society of America*. Madison, Wisconsin.

RANDLE C.P. AND A.D. WOLFE. 2002. The evolution of photosynthetic genes in holoparasitic genera *Harveya* Hook. and *Hyobanche* L. (Orobanchaceae). 28th Annual Conference of the *South African Association of Botanists*. Grahamstown, South Africa.

RANDLE, C.P., M.P. SIMMONS, J.V. FREUDENSTEIN, AND J.W. WENZEL. 2001. Limitations of relative apparent synapomorphy analysis (RASA) for measuring phylogenetic signal. "Evolution 2001". *The Society for the Study of Evolution*, *Society for Systematic Biologists*, and *American Society of Naturalists*. Knoxville, Tennessee.

RANDLE C.P. AND A.D. WOLFE. 2001. Molecular evolution of photosynthetic genes in holoparasites *Harveya* Hook. and *Hyobanche* L. (Orobanchaceae). "Botany 2001" *Botanical Society of America*. Albuquerque, New Mexico.

WOLFE, A.D., **C.P. RANDLE**, S.L. DATWYLER. 2000. Phylogeography and character evolution of the genus *Penstemon*. ASPT session 3. Meetings of the Botanical Society of America. *American Journal of Botany* 85 (6, Supplement):168-169

RANDLE C.P., A.D. WOLFE. 2000. Biosystematics of *Harveya* Hook. (Orobanchaceae): preliminary studies. *American Journal of Botany* 85 (6, Supplement):179

WOLFE, A.D., S.L. DATWYLER, **C.P. RANDLE**, R.J. REILAND. 1999. Systematics of the North American Cheloneae. *Abstracts of the XVI International Botanical Congress* :439.

RANDLE, C.P., A. MCMULLEN, A.D. WOLFE. 1998. Conservation Biology of *Penstemon debilis* (Scrophulariaceae): Implications of genetic diversity inferred from ISSR banding patterns. *American Journal of Botany* 85 (6, Supplement):168.

WOLFE, A.D. AND **C.P. RANDLE**. 1998. Assessing species relationships and genetic diversity within the South African holoparasitic genus *Hyobanche* (Scrophulariaceae). *American Journal of Botany* 85 (6, Supplement):122.

FRIEDLANDER M.A., **RANDLE C.P**., WU Y.C., DEOREO P.B., MONNIER V.M. 1997. The role of dialysis clearance in the accumulation of structurally defined AGEs on plasma proteins. *Journal of the American Society of Nephrology* (8, Supplement).; A1008

CURRICULUM VITA **DARREN L. WILLIAMS**

Chemistry Department, Sam Houston State University, Huntsville, TX 77341, (936)294-1529
Email: williams@shsu.edu Web: http://www.shsu.edu/~chm_dlw/ Blog: http://pchem4u.wordpress.com

ACADEMIC TRAINING

1997 Ph.D. Physical Chemistry, Oregon State University, Joseph Nibler – Research Advisor
1992 B.S. Chemistry, University of Texas at Austin, Joseph Lagowski – Undergraduate Research Advisor

SUMMARY OF WORK EXPERIENCE

2010 – present	Associate Professor, Chemistry, Sam Houston State University, Huntsville, TX
2004 – 2010	Assistant Professor, Chemistry, Sam Houston State University, Huntsville, TX
2001 – 2004	Section Scientist, BWXT Pantex LLC (US-DoE facility), Amarillo, TX
2001 – 2004	Adjunct Professor, Chemistry, West Texas A&M University, Canyon, TX
1997 – 2001	Assistant Professor, Chemistry, West Texas A&M University, Canyon, TX
1992 – 1997	Graduate Assistant, Physical Chemistry, Oregon State University, Corvallis, OR
1989 – 1992	Undergraduate Researcher for Dr. Joseph Lagowski, University of Texas, Austin, TX
Summer 1992	Student Research Director, Young Scholars Program, University of Texas, Austin, TX
Fall 1991	Undergraduate Teaching Assistant, University of Texas, Austin, TX

LEADERSHIP EXPERIENCES

2011 – present	Member of the Texas Higher Education Coordinating Board's Tuning Oversight Council for Engineering and Science, and Chair of the THECB Chemistry Tuning Subcommittee.
2007 – present	Member of Huntsville Rotary Club District 5910, Member of Board of Directors (2011)
2005 – present	Faith Lutheran Church School Board Member
1999 – 2002	ACS Panhandle Plains Local Section Officer

CERTIFICATIONS AND CLEARANCES

2003 CTM Certification, Toastmasters International, Club 9440, Amarillo, TX
2002 Six-Sigma Black Belt Certification, BWXT Pantex LLC, Amarillo, TX
2002 Department of Energy Q & SCI Security Clearances, BWXT Pantex LLC, Amarillo, TX
2001 OSHA 40-Hour Hazardous Waste Operations Certification, West Texas A&M University

SCHOLARLY AND CREATIVE CONTRIBUTIONS

1. Williams, D. L. BOOK REVIEW: CRC Handbook for Critical Cleaning: Book I – Cleaning Agents and Systems, Book II – Applications, Processes, and Controls, *Controlled Environments Magazine*, March (2012).
2. Williams, D. L. and Kuhn, A. T. Just How Clean is Clean, *Products Finishing Magazine*, 76(5), 34-37, (2012).
3. Williams, D. L. A Training Case Study in Reproducibility and Reliability, *Proceedings of the Process Cleaning Expo*, April 19-21, Columbus, OH (2011).
4. Williams, D. L. Point of View: The Path from Academia to Industry and Back, *Controlled Environments Magazine*, April (2011).
5. Williams, D. L.; Kuhn, A. T.; O'Bryon, T. M.; Konarik, M. M.; Huskey, J. E., Contact Angle Measurements Using Cellphone Cameras to Implement the Bikerman Method, *Galvanotechnik*, 102(8), 1718-1725, (2011).
6. Williams, D. L.; Kuhn, A. T.; Amann, M. A.; Hausinger, M. B.; Konarik, M. M.; Nesselrode, E. I. Computerized Measurement of Contact Angles, *Galvanotechnik*, 101(11), 2502-2512, (2010).
7. Williams, D. L.; Kuklenz, K. D. Controlling the Particle-Size Distribution of Nitroanilines via the Hansen Solubility Parameters and Precipitation Paths, *Proceedings of the 43rd Combustion Subcommittee Meeting of the Joint Army Navy NASA Air Force (JANNAF) Interagency Propulsion Committee, Enhanced Blast Phenomenology*, La Jolla, (2009).
8. Williams, D. L.; Kuklenz, K. D. A QSAR Model for Predicting Solvents and Solvent Blends for Energetic Materials, *Proceedings of the International Annual Conference of ICT, 40th (Energetic Materials)*, Karlsruhe, Germany, 2/1-2/11, (2009).
9. Williams, D. L.; Kuklenz, K. D., A Determination of the Hansen Solubility Parameters of Hexanitrostilbene (HNS), *Propellants Explosives and Pyrotechnics*, 34(5), 452-457, (2009).
10. Williams, D. L.; Flaherty, T. J.; Alnasleh B. K., Beyond Lambda-Max Part 2: Predicting Molecular Color, *Journal of Chemical Education*, 86(3), 333-339 (2009).
11. Williams, D. L.; Kuklenz, K. D. An Evaluation of Modified IMS Swabs for the Screening of Oxidizers and Home-made Explosives, *Texas Journal of Science*, 60(4), 299-308, (2008).
12. White, R. C.; White J. H.; Williams D. L.; Granic-White M.; White, J. W., Discoveries in Chemistry and Textiles: The Development of a Two-Week Elective Chemistry Course in Germany and Paris, *The Chemical Educator* 13(6), 392-396 (2008).

13. Williams, D. L.; Jupe, C. L.; Kuklenz, K. D.; Flaherty, T. J., An Inexpensive, Digital Instrument for Surface Tension, Interfacial Tension, and Density Determination, *Industrial & Engineering Chemistry Research*, 47(12), 4286-4289 (2008).
14. Williams, D. L., Flaherty, T. J., Jupe, C. L., Coleman, S. A., Marquez K. A., Stanton J. J., Beyond Lambda-Max: Transforming Visible Spectra into 24-bit Color Values, *Journal of Chemical Education*, 84(11), 1873-1877 (2007).
15. Flaherty T. J., Timmons J.C., Wrobleski D. A., Orler E. B., Langlois D. A., Wurden, K. J., Williams, D. L., Infrared and Raman Spectral Signatures of Aromatic Nitration in Thermoplastic Urethanes, *Applied Spectroscopy*, 61(6), 608-612 (2007).
16. Lopez, E. P., Moddeman, W. E., Birkbeck, J. Williams, D.L., Benkovich M.G., Solvent Substitution – PART 2: The Elimination of Flammable, RCRA and ODC Solvents for Wipe Application, *CleanTech Magazine*, 4(10), 14-16 (2004).
17. Lopez, E. P., Moddeman, W. E., Birkbeck, J. Williams, D.L., Benkovich M.G., Solvent Substitution – PART 1: The Elimination of Flammable, RCRA and ODC Solvents for Wipe Application, *CleanTech Magazine*, 4(9), 16-19 (2004).
18. Williams D. L., Timmons J. C., Woodyard J. D., Rainwater K. A., Richardson B. R., Lightfoot J. M., Burgess C. E., and Heh J. L., UV-Induced Degradation Rates of 1,3,5-Triamino-2,4,6-Trinitrobenzene, *Journal of Physical Chemistry A.* 107(44), 9491-9494 (2003).
19. Williams D. L., Ashcraft R. W., *A Technical Review of the Radiological Characterization of Nuclear Weapons at Pantex*, Pantex Technical Report, (2003).
20. Birkbeck J. C., Kuehler N. L., Williams D. L., Moddeman W. E., X-ray Photoelectron Spectroscopic (XPS) Examinations of Beryllium Metal Surfaces Exposed to Chlorinated Solvents, *Surface Interface Analysis*. 27, 273-282, (1999).
21. Al-Katahni A., Williams D. L., Nibler J. W., Sharpe S. W., High Resolution Infrared Studies of $Al(BH_4)_3$ and $Al(BD_4)_3$, *Journal of Physical Chemistry A*, 102(3), 537-544. (1998).
22. Williams D. L., Minarik P. R., Nibler J. W., PC Calculations Using Gaussian for Windows -- a Complement to Laboratory Measurements on HCl, *Journal of Chemical Education*, 73(7), 608-611 (1996).

FUNDED GRANTS ($387,575) WHILE AT SAM HOUSTON STATE UNIVERSITY

2010 – pres.	$112,000	Dissolved Explosive Solution Confirmation Analysis, SRA/DHS S&T Lab (#S360000115)
2008 – 2010	$99,837	Determination of HSPs for cleaning applications, DOE Pantex Plant
2008	$5,000	Development of a standardized computer model for Hansen solubility parameters, Internal-FRG
2007 – 2008	$95,671	Measurement of constants for crystalline explosives, DOE Pantex Plant
2007	$15,000	Improving the security of air travel against home-made threats, Internal-EGR
2006	$29,804	Surface tension of compositional variations of Sylgard 184 with respect to temperature and time, DOE Pantex Plant
2006	$25,263	Determining the surface tension and interfacial tension of liquids and complex mixtures, Subcontract through the University of Texas for the DOE Pantex Plant
2005	$5,000	A study of the molecular vibrations of nitrated explosive binders, Internal-FRG

HONORS, AWARDS, AND OTHER SPECIAL RECOGNITIONS

2010, 2012	Outstanding Teacher – Alpha Chi National Honor Society
2008	"Best Darn Teacher in the World Award" – Phi Sigma Pi National Honor Fraternity
1994	Milton Harris Teaching Excellence Award as a GTA, Oregon State University
1993	Outstanding Teaching Assistant Award, Oregon State University, 1993

PROFESSIONAL SERVICE

Reviewer for the following entities: ScienceDirect Search Tools, Elsevier; Journal of Chemical Education; The Chemical Educator; US Army Corps of Engineers' Engineer Research and Development Center (ERDC); Joint Army Navy NASA Air Force (JANNAF) Journal, Chemical Propulsion Information Analysis Center; Physical Chemistry-GRE, Texas Teacher Certification Chemistry and General Science Exams, Educational Testing Service; Journal of Physical Chemistry A

TEACHING DUTIES - COURSES TAUGHT

2004 – present	Physical Chemistry – Spectroscopy (Fall) and Thermodynamics (Spring)
2005 - present	Forensic Chemistry
2006 – present	Graduate Thermodynamics
2005Su, 2010Su	Inorganic & Environmental Chemistry Lecture and Lab
1997 – 2002	Environmental Chemistry
1997 – 2001	Instrumental Analysis
1997 – 2001	Analytical Chemistry
1997 – present	Graduate Molecular Spectroscopy
1997 – present	General Chemistry I and II

CURRICULUM VITAE

Justin K. Williams, Ph.D.
Department of Biological Sciences
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EDUCATION:

Ph.D. in Botany, May 1999, from University of Texas, Austin. Dissertation title: "The Apocynaceae of Mexico with morphological phylogentic analysis of subfamily Apocynoideae".

Bachelor of Arts in Biology, December 1992, University of Texas, Austin.

TEACHING AND RESEARCH EXPERIENCES:

Assistant Professor of Biology, Sam Houston State University

Current Teaching Responsibilities: Botany (Freshman level; 140 students), General Ecology lecture and laboratory (Junior level; 20-30 students), Plant Taxonomy (Senior level, 30 students).

EXPERTISE:

Plant Systematics, GIS, GPS, Wetlands delineation, Floristic Inventories, Environmental Impact Assessments, Project Management, Nursery/Botanical Garden Management

SECONDARY TITLES:

Director Warner Herbarium, Dept. of Biology, Sam Houston State University (2001-present)

Research Associate Plant Resources Center, University of Texas at Austin (2001-present)

PROFESSIONAL EXPERIENCE:

2007-present	**Associate Professor:** Sam Houston State University
2003-2006	**Editor**, *PHYTOLOGIA: a journal of Botanical Nomenclature*.
2001-2007	**Assistant Professor:** Sam Houston State University
2000-2001	**Director**: Zilker Botanical Garden, Austin Texas
1998-2000	**Project Coordinator**: Texas Research Institute for Environmental Studies, Sam Houston State University Huntsville, Texas.
1997-1998	**Wildlife Field Consultant:** TRC Miriah. Surveyed Falcon Reservoir for endangered species (Flora and Fauna) and assessed environmental impact of Seismic trucks.
1997-1998	**Assistant Curator:** Plant Resources Center, U.T.Austin
1994-1998	**Teaching Assistant:** University of Texas, Department of Botany
1993-1994	**Horticultural Manager:** Gardens Nursery, Austin Texas.
1993-1993	**Field Consultant:** Pantex Nuclear Facility. Conducted floristic survey of Pantex Nuclear Facility.
1991-1991	**Research Assistant:** Harvard Gray Herbarium

PROFESSIONAL ORGANIZATIONS:

American Society of Plant Taxonomist
Sigma Xi Scientific Research Society
Phi Kappa Phi Honor society

CONTRACTS/GRANTS while at Sam Houston State University:
(Total $1,810,160; Managed $1,104,701as PI).

Williams, J.K. (P.I.) and W. Lutterschmidt. 2004. Land Use Practices and its Effect on Ecosystem Dynamics along the Rio Grande. A USDA funded grant run through the cooperation of the Texas State University System. The project is fully funded at $1,200,000 with SHSU receiving **$140,000** for 2005; **$75,000.00** has been funded for 2006. **$159,000** has been funded for 2007. FUNDED.

Thies, M. L (P.I.)., J. Cook, T. Cook, D. Neudorf, W. Lutterschmidt, J. Williams, and K. Wunch. 2004. Detection, testing, mapping and movement of carriers of deadly disease: Disease vector studies along the US-Mexico border and their potential threat to Homeland Security. Federal appropriation to the Department of Homeland Security to the Texas State University System, $1,000,000 (SHSU **$250,000** for first year). FUNDED.

Williams, J.K. "An Analysis of the Correlation between Vegetation and Soils at Camp Swift," Adjutant General's Department, Texas Army National Guard Austin, Texas, August 2002, **$15,000**. FUNDED.

Williams, J.K. (P.I.), M. Thies and C. Hallum. Environmental Survey and Risk Assessment to Introducing the California Condor and Aplomado Falcon near Holloman AFB, New Mexico. U.S. Army Corp of Engineers, Engineering Research and Development. September 2001. **$266,645.39.** FUNDED.

Williams, J.K. "Species survey of the Sam Houston State University campus," Sam Houston State University Physical Plant, Huntsville, Texas, August 2002, Requested: Salary for student researcher; Received: estimated **$5,000**. FUNDED.

Williams, J. K. (P.I.), and R. Rush. Wetland Delineation Report. Larry Klotz, Manufactured Housing Community Development. **$4,056** FUNDED

Williams, J.K. (P.I.) and M. Warnock (Co-PI). Model feasibility of vegetation mapping on military bases: Pilot Project Fort Hood, TX. Construction Engineering Research Laboratories (CERL). January 1999**. $440,000** FUNDED

Carter, J. (P.I.) and J. K. Williams (Co-PI). Web Course Design: The Impact of Invasive Alien Species on Military Bases. Construction Engineering Research Laboratories (CERL). January 1999 **$277,000** FUNDED

PUBLICATIONS:

30. Anica Debelica and **Justin K. Williams**. 2008. Analysis of the completeness of vascular plant records in Florida. Florida Scientist (in review).

29. Williams, J. K. 2008. Book review: "Flora Malesiana". Econ. Bot. 62(3): In press.

28. Williams, J. K. and J. Stutzman 2008. Documented chromosome numbers 2008. Chromosome number of Thevetia ahouai (Apocynaceae: Plumerieae) with discussion on the generic boundaries of Thevetia.. J. Bot. Res. Inst. Texas (in review)

27. Berg L. R., **J. K. Williams**, Alexandru Tomescu, and Teresa Sneider-Leiby. 2007. Lab Manual-Introductory Botany : Plants, People and Environment. Brooks/Cole 160pp.

26. Williams, J. K. and D. P. Derr. 2007. Documented chromosome numbers 2007. Chromosome number of Laubertia contorta (Apocynaceae: Apocynoideae). J. Bot. Res. Inst. Texas 1(1): 431-435. 2007.

25. Livshultz, T., D. Middleton, M. Endress and **J. K. Williams**. 2007. Phylogeny of Apocynoideae (Apocynaceae) and the APSA Clade. Ann. Missouri Bot. Gard. Ann Mo. Bot. 94: 323-361.

24. Williams, J. K. and W. I. Lutterschmidt. 2006. Determining Large Scale Data Gaps in Museum Collections Using Species Area Relationships. Lundellia 9: 41-50.

23. Williams, J. K. and J. F. Morales. 2006. Lectotypification of Echites campanulata Sessé & Moç. (Apocynaceae). Taxon 55: 779-780.

22. Williams, J.K. 2005. Botanical Humor. Phytologia 87: 58.

21. Morales, J. F. and **J. K. Williams**. 2005. Una nueva combinacion en el genero Allotonia (Apocynaceae, Apocynoideae, Echiteae). Lakersteriana 5(2): 119-120.

20. Spencer, W. P. and **J. K. Williams**. 2005. Emilia fosbergii (Asteraceae: Senecionae) in Texas revisited. SIDA 21(3): 1937-1938.

19. Williams, J.K. 2004. A Revision of Capraria (Scrophulariaceae). Lundellia 7: 53-78.

18. Williams, J.K. 2004. A new combination in Mexican Mandevilla (Apocynaceae) III. Phytologia 86(3) 178-183.

17. Williams, J.K. 2004. Polyphyly of the genus Echites (Apocynaceae: Apocynoideae: Echiteae): Evidence based on a morphological cladistic analysis. SIDA 21(1) 117-131.

16. Morales, J. F. and **J. K. Williams**. 2004. Allotonia, a new neotropical genus of Apocynaceae (subf. Apocynoidae) based on a subgeneric segregate of Echites. SIDA 21(1) 133-158.

15. Williams, J. K. 2004. A Range Extension for Fernaldia speciosissima (Apocynaceae, Subfamily Apocynoideae). Rhodora 105: 399-402

14. Williams, J. K. 2003. A New Combination in Mexican Mandevilla (Apocynaceae Subfamily Apocynoideae) II. Lundellia 6: 144-147.

13. Williams, J. K. 2002. A Re-reevaluation of Echites section Yucatanensis (Apocynaceae) with an additional note on the genus. Brittonia 54(4): 310-317.

12. Williams, J. K. 2002. A New Apocynaceae Genus (Thoreauea) from Oaxaca, Mexico. Lundellia 5:47-58.

11. **Williams, J.K.** 1999. A new species of Tintinnabularia (Apocynaceae) from Hondurus, with taxonomic notes. Lundellia 2:136-141.

10. Kirkpatric, Z. and **J. K. Williams**. 1998. Glaucium corniculatum (Papaveraceae), A New Introduction to Texas." SIDA 18:347-349.

9. **Williams, J. K.** 1998. A new species of Mandevilla (Apocynaceae) from Jalisco, Mexico. SIDA 18:231-235.

8. **Williams, J. K.** 1998. A new combination in Mexican Mandevilla (Apocynaceae). SIDA 18: 237-239.

7. **Williams, J. K.** 1998. Revision of Thenardia (Apocynaceae). Lundellia 1: 78-94.

6. **Williams, J. K**. 1996. The Mexican genera of the Apocynaceae (sensu A. DC.), with key and additional taxonomic notes. SIDA 17: 197-214.

5. **Williams, J. K.** 1996. A new combination in Thevetia (Apocynaceae). SIDA 17: 185-190.

4. **Williams, J. K.** 1995. Miscellaneous notes Haplophyton (Apocynaceae: Plumerieae). SIDA 16: 469-475.

3. **Williams, J. K.** 1995. A New Species of Thenardia (Apocynaceae) with notes on the genus. Brittonia 47: 403-407.

2. **Williams, J. K.** 1994. A New Species, Symphoricarpos guatemalensis (Caprifoliaceae), from Guatemala with Key to the Mexican and Guatemalan Species. SIDA 16: 273-280.

1. **Williams, J. K.** 1994. Emilia fosbergii (Asteraceae: Senecioneae), A New Introduction to Texas. SIDA 16: 378.

PROFESSIONAL REPORTS

Williams, J. K., C. Hallum, and B. Patel, 2003. Environmental Survey and Risk Assessment of Bird Impacts at Holloman AFB, New Mexico; Logistic Regression Approach to Bird Avoidance Modeling: A New Method . Construction Engineering Research Laboratory (September 30, 2003)

Williams, J. K. Correlation of the Vegetation and Soils at Camp Swift. Army National Guard. November 2003.

Williams, J. K. 2002. Inventory of the trees of Sam Houston State University Campus, Office of Research and Sponsored Projects, Sam Houston State University (October 31, 2002).

Johnston, M. and J. K. Williams. 1993. Floristic Survey: Pantex Plant Site, Carson County, Texas 1993." Report for the U.S. Department of Energy.

PRESENTATIONS AND INVITED SEMINARS:

Williams, J.K. Is Human Settlement Driven by Plant Species Richness? A Chicken and Egg Argument. Southwestern Association of Naturalist, Memphis, TN. April 10-12. To be presented. **[oral presentation]**

Williams, J. K., A. Gaillard, C. Hargrave, and W. I. Lutterschmidt. Multi-variant analysis of Invasive Plants and Land Condition on the Biodiversity of Fish Assemblages with the Rio Grande. Southwestern Association of Naturalist, Memphis, TN. April 10-12. To be presented. **[oral presentation]**

Julia Stutzman and Justin K. Williams. Clutch Size and Pollen-Ovule Ratios in the Apocynaceae. Southwestern Association of Naturalist, Memphis, TN. April 10-12. To be presented. **[poster presentation]**

Justin L. Degrate and Justin K. Williams. Trends in GIS: Remote Sensing the Hierarchical Levels of the NVCS. Southwestern Association of Naturalist, Memphis, TN. April 10-12. To be presented. **[poster presentation]**

Williams, J. K. and W. I. Lutterschmidt. Determining data gaps in the herbaria collections of Texas using species area relationships. Texas Wildlife Diversity Conference, Houston, TX. Jan. 17-19, 2008. [**oral presentation].**

Williams, J. K., A. Gaillard and W. I. Lutterschmidt. Effects of Invasive Plants on the Biodiversity of Fish Assemblages with the Rio Grande. Invasive Plants of Texas Conference, Lady Bird Wildflower Research Center November 2007. [**oral presentation].**

Williams, J. K., A. Gaillard and W. I. Lutterschmidt. Land use Practices and its Effect on Ecosystem Dynamics along the Rio Grande. SAWC conference South Padre, May 2007. [**oral presentation].**

Williams, J. K. 2007. Independent assessment of the Herbaria in the Philippines**.** Plenary address the Philippine Society for the Study of Nature 1st international convention at Puerto Princessa Palawan, May 2-4, 2007. [**oral presentation].**

Hamilton, P. Jamie Hebert**, J.K. Williams**, and M. A. Liboro. Economic Development of Tree Crops in Palawan While Protecting the Rain Forest. Philippine Society for the Study of Nature 1st international convention at Puerto Princessa Palawan, May 2-4, 2007. [**oral presentation].**

Williams, J. K. & W. I. Lutterschmidt. Determining Large Scale Data Gaps in Museum Collections Using Species Area Relationships. SWAN April 15, 2005. Sam Houston State University. ASPT, American Society of Plant Taxonomist. Austin Tx. August 15-17, 2005. Torch Conference, Fort Worth Texas, May 6, 2006. **[oral presentation].**

Williams, J. K. and W. P. Spencer. Modeling the Distribution and Densities Of The Non-Native Flora Of Texas Using Herbaria Records and GIS. Invasive Plants of Texas Conference. Austin, Tx, Lady Bird Wildflower Center, November 18, 2005. **[oral presentation].**

Lutterchmidt, W. I., K. W. Luce, S. D. Koether and J. K. Williams. Land-use practices along the Rio Bravo (Rio Grande) and their influences on vegetation and ichtyofaunal communities. SWAN, South west Association of Naturalist, Colima, Mexico 13-15 April 2006. **[poster presentation]**

Daly, S. M and J. K. Williams. Eveluating the success of the Kansas Anuran Monitoring Program. SWAN, Southwest Association of Naturalist, Colima, Mexico 13-15 April 2006. **[poster presentation]**

Koether, S. and J. K. Williams. Functional Significance of the Apical Anther Appendage in Pentalinon (Apocynaceae). ASPT, American Society of Plant Taxonomist. Austin Tx. August 15-17, 2005. SWAN, Southwest Association of Naturalist, Colima, Mexico 13-15 April 2006. **[poster presentation]**

Tanya Livshultz, David Middleton, Mary Endress & Justin Williams (Harvard University, USA; Royal Botanic Garden, Edinburgh, Scotland; Institute of Systematic Botany, Switzerland; Sam Houston State University,USA) - "Progress in systematics of subfamilies Rauvolfioideae and Apocynoideae (Apocynaceae s. str.)". International Botanical Congress; Vienna, Austria. July 2005. **[oral presentation].**

Spencer, W. P. & J. K. Williams. GIS Inventory of the Non-Native Flora of Texas. ASHS, American Society for Horticultural Sciences, 18-20 July 2005. Las Vegas. **[poster presentation, 1st Place undergraduate research award].**

Williams, J.K. & D. Derr. Chromosome counts in the Apocynaceae. SWAN, San Antonio April 15 2004. **[poster presentation]**

Spencer, W. P. & J. K. Williams. Nutlet structuring in the Brazoria/Warnockia complex. SWAN, San Antonio April 15 2004. ASPT, Austin Tx, August 18 2005. **[poster presentation]**

Williams, J. K. Trees of Huntsville. Huntsville Audubon Society Apr 2004. **[oral presentation].**

Williams, J.K. Vegetation and Flora of Saudi Arabia, New York Botanical Garden, Bronx, October 2 2003. October 7, 2005. Field Museum. **[oral presentation].**

Williams, J.K. A morphometric analysis of Amsonia (Apocynaceae). SWAN, Norman, Oklahoma. April 17, 2003. American Society of Plant Taxonomist. Austin Tx. August 15-17, 2005. [**poster presentation]**

Williams, J.K. The Dogbane Family (Apocynaceae) of Mexico. SWAN, Cuernavaca, Mexico. April 28, 2002. Instituto de Ecologia, Xalapa Vera Cruz, August 4, 2003. **[oral presentation]**

Story, J., M. Thies, and J. K. Williams. Habitat Survey to Determine Nesting probability of Aplomado Falcons on Holloman Air Force Base. SWAN, Cuernavaca, Mexico. April 28, 2002. **[poster presentation]**

Lauren Grawey and J. K. Williams. GIS survey of the trees of Sam Houston State University. Sigma Xi, Galveston Texas, November 16, 2002. SWAN, Norman, Oklahoma. April 17, 2003. **[poster presentation]**

Williams, J. K. Vegetation and Habitat of Golden Check Warbler and Black Vireo. Huntsville Audubon Society Apr 2002. **[oral presentation].**

Name: Christopher Wilson
Title: Professor
Department: Psychology
College: Humanities and Social Sciences

Degrees Earned
B.A., Psychology, Eckerd College, 1972
M.A., Psychology, Texas Christian University, 1975
Ph.D., Psychology, Texas Christian University, 1976

Professional Licensure and Certifications
N/A

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

Wilson, C., Anastasi, J., Nungaray, K., Kubota, Y., Rothrock, M., & McCain, S. (2008). Transport response elicitation and subsequent behaviors in rat pups: Effects of elicitation duration. In review.

Anastasi, J. S., Wilson, C., Knobloch, D., Sapio, S., Kelsey, K., & Williams, S., (2008). Effects of age and sex on ketamine-induced activity in mice. Acta Zoologica Sinica, In press.

Wilson, C., Nungaray, K., Garza, M., Raska, J., Kercher, M., & Lutterschmidt, W (2008). Sit down and stay here! Transport response elicitation modulates subsequent activity in rat pups. Behavioural Processes, 77, 131-134.

Wilson, C., Kercher, M., Quinn, B., Murphy, A., Fiegel, C., & McLaurin, A. (2007). Effects of age and sex on ketamine-induced hyperactivity in rats. Physiology & Behavior, 91, 202-207.

Wilson, C., Cone, K., Kercher, M., Hibbitts, J., Fischer, J., Van Lake, A., & Sumner, J. (2005). Naloxone increases ketamine-induced hyperactivity in the open field in female rats. Pharmacology Biochemistry & Behavior, 81, 530-534.

Wilson, C., & Pulido, M. (2002). Effects of PD152255 on juvenile rats' responses to dorsal stimulation, the transport response, and related behaviors. Behavioral Neuroscience, 116, 1098-1102.

Wilson, C., & Pulido, M. (2000). Effects of serotonergic agents on the transport response in rats. Pharmacology Biochemistry & Behavior, 66, 541-545.

Wilson, C., Brocher, N., Copeland, A., Thornton, H., & Godfrey, J. (2000). Effects of atropine and adrenergic antagonists on arousal in rats. Journal of General Psychology, 127, 249-260.

Wilson, C., Cswaykus, D., Brocher, N., & Koenning, D. (1998). Effects of atropine on measures of behavioral arousal in rats. Journal of General Psychology, 125, 355-365.

Wilson, C., & Marcus, D. (1996, 2000). Teaching the anatomy of the sheep brain: A laboratory exercise with PlayDoh. In: Handbook of Demonstrations and Activities in the Teaching of Psychology, Volume II, Mark E. Ware and David E. Johnson, eds. Lawrence Erlbaum, Mahwah, NJ.

Wilson, C., Koontz, D., & Seymour, T. (1994). Effects of haloperidol and propranolol on transport response potentiation with maternal stimulation. Journal of General Psychology, 121, 147-156.

Wilson, C., & Kaspar, A. (1994). Changes in immobility responses in rat pups with maternal stimuli. Journal of General Psychology, 121, 111-120.

Wilson, C., & Marcus, D. (1992). Teaching the anatomy of the sheep brain: A laboratory exercise with PlayDoh. Teaching of Psychology, 19, 223-225.

Wilson, C., & Gibson, C. (1991). Potentiation of the transport response with supplemental stimulation in white rats. Bulletin of the Psychonomic Society, 29, 147-149.

Wilson, C., Cromey, A.D., & Kramer, E. (1989). Tactile, maternal, and pharmacologic factors involved in the transport response in rat pups. Animal Learning & Behavior, 17, 373-380.

Wilson, C., & Cromey, A.D. (1989a). Evidence of a cholinergic input into the suppression of the transport response in white rats. Psychobiology, 17, 43-48.

Wilson, C., & Cromey, A.D. (1989b). The effects of varying doses of pilocarpine on the transport response in white rats. Bulletin of the Psychonomic Society, 27, 138-140.

Wilson, C. (1988a). The effects of apomorphine and lithium chloride on the transport response in white rats. Bulletin of the Psychonomic Society, 26, 452-454.

Wilson, C. (1988b). The effects of sensory stimulation in inducing or intensifying the transport response in white rats. Animal Learning & Behavior, 16, 83-88.

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Remley, N.R., Wilson, C., & Snethen, G.L. (1981). Effects of anterior cingulate lesions on sequential behavior. Bulletin of the Psychonomic Society, 18, 334-336.

Wilson, C. (1977). Some effects of ventromedial hypothalamic lesions, adrenalectomies, and corticosterone replacement therapy on energy expenditure in rats. Behavioral Biology, 21, 380-392.

Books

Wilson, D.C. & Wilson, N.R. (2001). Walls. New York: Writers Club Press.

Wilson, C. (1990, 1993, 1995). Research Methods in Psychology: An introductory laboratory manual. Dubuque: Kendall/Hunt.

Chapters

Proceedings

Artistic Performances

Artistic Exhibitions

Research Monographs and Technical Reports

Brocher, N., Pulido, M., & Wilson, C. (1999). Effects of PD 152255, a dopamine D3 antagonist, on transport response and locomotor behaviors in rats. Technical report to Parke-Davis, Ann Arbor, MI.

Pulido, M., & Wilson, C. (1999). Effects of quipazine, metergoline, ketanserin, and cinanserin on arousal behaviors in developing rats. Technical report to Bristol-Myers Squibb, Princeton, N.J.

Wilson, C., & Pulido, M. (1999). Effects of quipazine and serotonergic antagonists on transport response in rats. Technical report to Bristol-Myers Squibb, Princeton, N.J.

Funded External Grants

Peer-Review Presentations/Posters

Wilson, C., Anastasi, J. S., Nungaray, K., Kubota, Y., & Garza, M. (2007). Ultrasonic Vocalizations with Dorsal Stimulation in Rat Pups. Psychonomic Society. Long Beach, CA.

Johnson, G., Murphy, A., Kercher, M., & Wilson, C. (2005). Effects of Haloperidol on Ketamine-induced Hyperactivity in Rats. Southwestern Psychological Association (SWPA). Memphis, TN.

Murphy, A., Kapllanaj, B., Kercher, M.M., & Wilson, C. (2005). Effects of age and sex on ketamine-induced hyperactivity in rats. SWPA, Memphis, TN.

Lutterschmidt, W.I., Roth, T., & Wilson, C. (2004). Melatonin and suppression of the transport response in rat pups. Annual Meeting of the Society for Integrative and Comparative Biology. New Orleans Marriott, New Orleans, Louisiana.

Kramer, T., Harman, M.J., Bruce, A.J., & Wilson, C. (2004). Integrated visual and audio continuous performance test with undergraduate students. SWPA, San Antonio, TX.

Wilson, C. (2002). Polydrug Abuse. 8th Annual Drug, Alcohol and Impaired Driving Conference, Plano, TX, sponsored by the International Association of Chiefs of Police.

Wilson, C., Meshell, M., Maisel, J., Smith, J., Manley, M., & Cone, K. (2002). Naloxone exacerbates ketamine-induced hyperactivity in rats. SWPA, Corpus Christi, TX.

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Pulido, M. & Wilson, C. (2000). Serotonergic agents and the transport response in developing rats. SWPA, Dallas, TX.

Wilson, C. (1999). GANGS: Where are they, who are they, and what to do about them. Bayes Achievement Center, Huntsville, TX. (March 16, 1999).

Brocher, N. R., Copeland, A., Thornton, H., Godfrey, J. & Wilson, C. (1999). Cholinergic and adrenergic antagonists on arousal/inhibition in rats. SWPA, Albuquerque, NM.

Brocher, N. R., Cswaykus, D. M., Koenning, D., & Wilson, C. (1999). Effects of atropine on measures of behavioral arousal in rats. SWPA, Albuquerque, NM.

Wilson, C., & Russell, J. (1997). Blocking cholinergic systems and measures of arousal in rats. SWPA, Fort Worth, TX.

Wilson, C., Itean, C., Renick, E., & Drabek, A. (1995). Serotonin stimulation on transport response and dorsal immobility in rats. SWPA, San Antonio, TX.

Wilson, C., Renick, E., Itean, C., & Russell, J. (1995). Dissociation of dopamine D1 and D2 receptors on transport response in developing rats. SWPA, San Antonio, TX.

Renick, E., Wilson, C., & Travis, A. (1995). 7-OH-DPAT intensifies the transport response in developing rats but not through D2 receptors. SWPA, San Antonio, TX.

Wilson, C., & Marcus, D. (1992). An improved method of teaching neuroanatomy by using PlayDoh. SWPA, Austin, TX.

Wilson, C., Broadus, A. D., & Eckhardt, T. (1992). Changes in maternal behavior due to suppressed responsiveness in 13-day-old rats. SWPA, Austin, TX.

Wilson, C., Kaspar, A., & Eckhardt, T. (1991). Effects of maternal stimuli and deprivation on tonic immobility and dorsal immobility in rats. International Society for Developmental Psychobiology, New Orleans, LA.

Wilson, C. (1991). Maternal stimuli can potentiate a transport response in developing rats. SWPA, New Orleans, LA.

Wilson, C. (1990). Effects of quipazine on the transport response in developing rats. SWPA, Dallas, TX.

Wilson, D. C., & Remley, N. R. (1975). The effects of ovariectomy and/or adrenalectomy on various physiological and behavioral measures. Southern Society for Philosophy and Psychology (SSPP), New Orleans.

Snethen, G. L., Remley, N. R., & Wilson, D. C. (1974). A deficit in discrete trial alternation behavior following cingulum lesions in rats. SSPP, Tampa, FL.

Remley, N. R., Kibler, J. L., & Wilson, D. C. (1973). Effects of ovariectomy and estradiol benzoate on body fat content in rats. SSPP, Knoxville, TN.

Work or Professional Experiences

Honors and Awards

Psychonomic Society, Full Member

Pi Delta Phi, Société d'Honneur Française, membre honoraire

Other Competencies

Videos

Wilson, C. (1997). Teenage Marijuana Abuse. Educational Video Network Productions.

Wilson, C. (1997). Alcohol and the brain. Educational Video Network Productions.

Wilson, C. (2000). How to Conduct an Experiment. Educational Video Network Productions.

Appendix D
Five – Year Recruiting Plan Schedule

The College of Criminal Justice/Department of Forensic Science began recruiting one additional faculty member with a Ph.D. in the fall of 2012, with the expectation that this faculty member would be in place by the beginning of the 2013-14 academic year, where they would be responsible for instructing courses in the existing M.S. in Forensic Science in addition to research. When the Ph.D. is implemented, 25% of the time of this faculty member will be reallocated to support that program.

The recruitment of one additional faculty member will be initiated during the 2015 fall semester. The qualifications for this faculty member include a Ph.D. in biology with a specialization in genetics. This faculty member will instruct courses in forensic molecular biology, statistical and investigative genetics in addition to general forensic science courses at the graduate level. The recruitment plan for this faculty member includes advertisements in the Chronicle of Higher Education, Nature, New Scientist as well as the websites of appropriate professional organizations, including the American Academy of Forensic Sciences (AAFS), American Society of Crime Laboratory Directors (ASCLD) and the Association of Forensic DNA Analysts and Administrators (AFDAA).

Appendix E

Institution’s Policy on Faculty Teaching Load

PREAMBLE: IMPLEMENTATION PROVISIONS

- Effective with the fall 2004 semester, the University entered a transition period relating to an instructional workload conversion designed to provide additional resources to enhance faculty research, scholarship, and teaching.

- Each year, under budgetary constraints, the University allows the academic deans to reduce the normative teaching load from twelve credit hours per semester to nine credit hours per semester for selected faculty members who desire to place a greater emphasis on research productivity.

- Faculty members currently on a normative instructional load of twelve credit hours per semester who desire to place a greater emphasis on teaching, while cognizant of research responsibilities, will be allowed to remain on such a load.

- To ease reporting requirements as established by the Texas Higher Education Coordinating Board, this policy will be written from the perspective of the normative teaching load of twelve credit hours being equivalent to 1.0 FTE. Faculty on the normative nine-hour teaching load in essence are a .75 FTE for teaching and a .25 FTE for research.

    - Undergraduate and master's-level three-hour courses equate to .25 FTE teaching load.

    - For any tenured/tenure-track faculty member on a normative nine-hour teaching load and teaching a doctoral class, 1.0 FTE is defined to be six hours of classroom instruction, regardless of any other provisions of this policy.

    - Any faculty member teaching two doctoral classes in one semester will have the option of being evaluated on either the nine-hour or twelve-hour normative teaching load.

1. AUTHORITY

The faculty workload policy for Sam Houston State University is designed to comply with V.T.C.A., Education Code §51.402, and will be reported to the Texas Higher Education Coordinating Board and included in the operating budget for the University. These guidelines reflect the essential nature of the University as a teaching institution but provide flexibility to permit accommodation of related activities essential to the effective operation of a multipurpose regional university.

2. DEFINITIONS

2.01 Normative instructional load of twelve credit hours per semester (prior to any course load reductions): The expected teaching load for a faculty member with an FES 3 weight of 0.25 (See Attachment 1).

2.02 Normative instructional load of nine credit hours per semester (prior to any course load reductions): The expected teaching load for a faculty member with an FES 3 weight of 0.40 (See Attachment 1).

2.03 The workload for department/school chairs is not covered by this workload policy. The workload for a department/school chair is directly related to the number of faculty FTEs in the department/school. The specific instructional workload for chairs is detailed in Attachment 2.

2.04 Teaching assistants are graduate students who are pursuing degrees and are assigned part-time instructional duties commensurate with their academic preparation and experience. Such duties for which prorated salaries are paid include responsibility for organized classes; regularly scheduled discussion, quiz, or laboratory sections; or other duties directly involved in instructional activities. Teaching assistants are not covered by this workload policy.

3. WORKLOAD POLICY

The workload policy recognizes that faculty members' interests, strengths, and skills evolve throughout their careers. The University is best served by a policy that has enough flexibility to allow the academic deans, with permission of the Provost, to assign workloads that meet the University's changing needs and interest and skill sets of the faculty. The respective colleges are responsible for documenting rationale for modifications from the normative workloads.

3.01 The normal teaching loads for faculty members paid from appropriated funds defined as Faculty Salaries within the Elements of Institutional Costs shall be either an instructional load of twelve credit hours per semester or nine credit hours per semester. Final allocation of faculty to a specified instructional load rests with the appropriate academic dean with the Provost's approval. Departments/schools and colleges may propose deviations to the provisions of this academic policy to their academic dean.

To be eligible for this instructional load, a faculty member must be tenured or in a tenure-track position. All newly hired tenure-track faculty will be assigned to the normative instructional load of nine credit hours per semester.

a. Moving from one workload to another.

(1) Tenured/tenure-track faculty may request to change their teaching load from a twelve- to a nine-hour teaching load or vice versa. Faculty must file a written request with the department/school chair to move from one teaching load to another by April 15 for change effective in the subsequent spring semester. Approval is dependent upon availability of funding, departmental needs, and of the faculty member's ability to successfully produce the research as evidenced by a review of supporting materials such as vitae and professional portfolio. The academic dean, with the approval of the Provost, may grant such requests.

(2) Each year, as part of the Faculty Evaluation System (Academic Policy Statement 820317), the research and scholarly productivity of the faculty on the nine-hour teaching load will be reviewed by the academic dean in consultation with the department chair. If a faculty member has not produced sustained and demonstrable research, creative, or scholarly achievement by meeting established college standards, the faculty member may be moved to the twelve-hour teaching load by the dean in consultation with the department chair and the DPTAC.

b. Normally, the equivalent FTE workload is determined by multiplying the total number of hours taught by one-twelfth (.0833). Following are exceptions to this norm:

(1) Two clock hours of scheduled class time per week in a long semester (or its equivalent in a summer term) will equate to 1/8 (.125) FTE for one-credit hour kinesiology and dance courses.

(2) Supervision of one student teacher will equate to 1/24 (.04) FTE with a maximum credit of 1/4 (.25) FTE per section.

(3) Six contact hours per week in a Studio Art course during a long semester (or its equivalent during any summer term) is equivalent to 1/3 (.33) FTE per semester.

(4) A faculty member teaching a net twelve contact hours in two studio art courses and three contact hours in lecture course in the Workshop in Studio Art and History (WASH) program will receive 1.0 FTE credit for coordination of the WASH curriculum, preparation of studio activities, and supervising studio activities outside of scheduled meeting times.

(5) A three-semester-hour course that receives field-based funding will equate to 1/3 (.33) FTE per semester.

(6) Two clock hours of scheduled laboratory time per week in a long semester (or its equivalent in a summer term) equates to 1/12 (.08) FTE semester hour of workload credit for a faculty member who teaches a formally scheduled laboratory.

(7) A faculty member may receive credit for supervising a formally-scheduled laboratory course when the faculty member directly supervises graduate or undergraduate students who serve as the instructors for the laboratory sections. Two clock hours of scheduled laboratory time per week during a long semester (or its equivalent in a summer term) will equate to 1/24 (.04) FTE per semester for a faculty member who supervises laboratory courses up to the following limit: A faculty member may receive a maximum of 1/4 (.25) FTE during any single semester or any summer term for such supervision regardless of the number of sections of a single course (or the number of student instructors) that are supervised. A faculty member may receive separate credit for each course number using this formula if laboratory sections representing different courses are supervised.

(8) Appropriate workload credit for teaching or supervising laboratory-type sessions in courses other than the sciences may be assigned by the academic dean with the approval of the Provost and Vice President for Academic Affairs.

c. Music courses other than the usual three-semester-hour courses will be equated as follows in computing normal load:

(1) Lecture class of two semester hours with three hours contact will equate to .25 FTE.

(2) Instrumental Techniques of one semester hour with three hours contact will equate to .25 FTE.

(3) Singers Diction of one semester hour with two hours contact will equate to .20 FTE.

(4) Private Applied Music:

(a) One-semester-credit-hour courses, as indicated by last number of section number, with one-half hour contact per week will equate to .0275 FTE times the number of students.

(b) Two-, three-, or four-semester-credit-hour courses, as indicated by last number of section number, with one hour of student contact per week will equate to .055 FTE times the number of students.

(c) Two-semester-credit-hour courses with one hour contact will equate to .055 FTE times the number of students.

(5) Music Composition: one-semester-hour contact will equate to .055 FTE times the number of students.

(6) Major ensemble of one semester hour with six hours of student contact will equate to .50 FTE.

(7) Minor ensemble of one semester hour with three hours of student contact will equate to .25 FTE.

(8) Chamber Music and Practicum in Music Therapy of one semester hour with one hour of student contact will equate to .20 FTE.

(9) Advanced Conducting of three semester hours with six hours of student contact will equate to .25 FTE.

(10) Class Piano of one semester hour with two hours of student contact will equate to .125 FTE.

(11) Recital of one semester hour with one-half hour of student contact will not receive load credit (equates to thesis-type courses).

d. Instructors in the above music activities may deviate from a total of 1.0 FTE for any particular semester, but it is expected that the two semesters combined will total at least 2.0 FTEs.

3.02 Accrual of credit for assignments beyond full-time load: Credit hours not compensated with overload payment and earned under these criteria may be accrued for application to a faculty member's future workload. Once a faculty member accumulates overload hours equivalent to a one-course reduction, the released time must be taken within a three-year period, or it will be deleted.

Credit for such courses may be accrued for a maximum of three years after which time credit older than three years will be deleted. To assure that adequate faculty resources are available for the standard teaching functions of the department/school, the department/school chair will decide when the course load reduction will be granted. Such teaching load compensations can only be granted in long semesters. No more than a total of three semester hours of instructional load accrual credit may be awarded to any faculty member during a long semester.

3.03 Instructors of organized classes that are team taught will proportionally share the workload credits allowed for those classes in accordance with their distribution of responsibilities.

3.04 As the need dictates, faculty members may be requested on occasion to exceed normal teaching loads. Nothing in this workload policy should be construed to prohibit the President of the University or the Provost and Vice President for Academic Affairs from making this determination. A faculty member may be given an assignment that exceeds the normal load as defined in paragraph 2.01

either by assignment of an extra class or by assignment of a combination of courses from different levels. In such instances, compensation for such overload will be granted in accordance with established University policy or, subject to the policies and at the convenience of the affected college, equivalent released time. A faculty member may not be paid for an overload during the semester he/she is granted released or reassigned time.

3.05 Released time accrues at the forbearance of the University and is not reimbursable by the University should an instructor terminate or have his/her employment with the University terminated prior to the utilization of said released time.

4. ADJUSTMENTS TO THE NORMAL LOAD

4.01 During the academic year, the dean of a college may grant teaching load reductions for the following reasons:

a. Full-time tenured or tenure-track faculty member for whom a scheduled class does not materialize and for whom an appropriate alternate assignment is not available. This exception is not permissible for any individual beyond two consecutive semesters without a prorated reduction of salary.

b. Full-time tenured or tenure-track faculty member for whom enrollment in a scheduled class reduces to zero after the twelfth class day. In this event, the dean of the college may assign alternative responsibilities related to the programs and purposes of the college.

c. Faculty members who are given an administrative, supervisory, or coordinator assignment directly related to the instructional programs and purposes of the University and whose assignment is subordinate to that of department/school chair. The following examples are illustrative but not intended to constitute a complete list of possibilities.

(1) Coordinator of a program, multiple-section course, or other similar responsibilities.

(2) Developer of a significant new academic program.

(3) Supervisor of radio and television programming, news gathering and transmission, and other program production in the Department of Mass Communication.

(4) Director of a major musical, dramatic, or dance stage production or the designer/director for lighting, scenes, costumes, and properties for such major productions.

(5) Faculty in Music whose professional assignments include participation in the SHSU Faculty Brass Quintet, SHSU Faculty Woodwind Quintet, and/or the SHSU Trio.

d. Instructor of one or more large classes (typically 100 students). The reduction is subject to the approval of the dean in consultation with the chair. A written justification prepared by the chair must accompany the request and should address enrollment numbers in the course(s), complexity of delivery of course material, and availability of resources that may assist in the delivery of material, e.g., teaching assistants. (Effective fall 2010.)

e. Faculty members with miscellaneous assignments such as:

(1) Chair of a major accreditation evaluation committee.

(2) Holder of a major office in a national professional organization.

f. Three-credit-hour-load (.25 FTE) reduction for direction to completion of five master's theses or three doctoral dissertations.

g. Released time accrued in accordance with Section 3.02 should apply during the semester immediately following the completion of the qualifying thesis or dissertation, or during the earliest possible long semester thereafter. The released time must be taken within a three-year period or the credit will be deleted.

h. Faculty members may receive instructional load credit for supervising approved internship courses. Each student who completes an approved internship course will equate to 1/60 (.001667) FTE (i.e., 15 students equate to a .25 FTE). No more than 1/4 (.25) FTE, a total of three semester

hours of instructional load credit for internship completion, may be awarded to any faculty member for any given section.

5. MONITORING FACULTY WORKLOAD POLICY

5.01 It is the responsibility of each department/school chair at the beginning of each instructional period to report to the appropriate dean the workload assignment of each faculty member within his/her academic unit.

5.02 It is the responsibility of each dean to review and to transmit to the Provost and Vice President for Academic Affairs a report of workload assignments of all faculty members within his/her academic unit, to specifically note each instance in which a faculty member's assignment deviates from the general workload policy, to explain the basis for such deviation, and to recommend approval or disapproval of the deviation.

5.03 The Provost and Vice President for Academic Affairs will have final responsibility for the approval of faculty workloads in conformity with adopted University policy subject only to review by the President and final action by the Board of Regents, The Texas State University System.

6. EFFECTIVE DATE

This revised policy becomes effective fall 2010.

APPROVED: /signed/
James F. Gaertner, President

DATE: 07/06/10

CERTIFICATION STATEMENT

This academic policy statement (APS) has been approved by the reviewer(s) listed below and represents Sam Houston State University's Division of Academic Affairs' APS from the date of this document until superseded.

Original Date: June 1, 1979
Reviewer(s): Council of Academic Deans
Faculty Senate
Academic Policy Council

Review Cycle: June 1, ONY*
Review Date: June 1, 2013

Approved: /signed/ Date: 06/14/10
David E. Payne
Provost and Vice President
for Academic Affairs

*ONY = Odd Numbered Year

ATTACHMENT 1

TABLE I: WEIGHTS FOR FACULTY EVALUATION

NORMATIVE WORKLOAD OF TWELVE CREDIT HOURS PER SEMESTER

FES 1 Teaching Effectiveness	FES 2 Scholarly and Creative Accomplishments	FES 3 Service	FES 4 Administrative Assignments
.25	.25	.25	.25

NORMATIVE WORKLOAD OF NINE CREDIT HOURS PER SEMESTER

FES 1 Chair's Rating	FES 2 Students' Rating	FES 3 Scholarly and/or Creative Accomplishments	FES 4 Service
.20	.20	.40	.20

ATTACHMENT 2

ACADEMIC DEPARTMENT/SCHOOL CHAIR TEACHING LOAD AND STIPEND

Department/School Chairs: The workload for a department/school chair is directly related to the number of faculty FTEs in the department/school and, in many instances, a department/school chair may have duties such as oversight of buildings, university lands, laboratory facilities, and research that cannot be adequately assessed by FTEs alone. Therefore, the base workload and stipend for a department/school chair should be based on FTE count, but a college dean (with the approval of the Provost and Vice President for Academic Affairs) may arrange with a chair to increase the stipend or reduce the workload to accommodate the extra responsibilities. The base workload and stipend are described below:

Each department/school chair, regardless of the size of the respective department/school, will teach at least one class during the fall and spring semesters. In addition, the requirement that the chair must be on campus during the summer months applies to all departments regardless of size.

CATEGORY	FTE SIZE	TEACHING LOAD	STIPEND
A	1 to 11.99	Six courses (each for 3 credit hours or more) per year [i.e., two each long semester and two in the summer]. Must be on campus in the summer.	Negotiable based on FTEs, a minimum of $2,100 and a maximum of $2,400 per year.
B	12 to 20.99	Five courses (each for 3 credit hours or more) per year. Must be on campus in the summer.	$3,600 per year
C	21 to 29.99	Four courses (each for 3 credit hours or more) per year. Must be on campus in the summer.	$4,800 per year
D	30 or more	Three courses (each for 3 credit hours or more) per year. Must be on campus in the summer.	$6,000 per year

CAD AMENDMENT (February 2003): Each department/school chair, regardless of the size of the respective department/school, will teach at least one class during the fall and spring semesters. In addition, the requirement that the chair must be on campus during the summer months will apply to all departments regardless of size.

CAD AMENDMENT (March 2007): Chairs are allowed an assistant chair(s) or programs coordinator(s) with administrative release to be approved by the academic dean and the Provost.

Appendix F

Itemized List of Capital Equipment Purchases

1. Allegra x-22 Centrifuge (01/03/2007)…….…….…….$5,874.54
2. Varian FTIR Spectrometer (06/12/2007)…….$32,532.00
3. Carl Zeiss Polarizing Light Microscope Axio Imager (08/07/2007)……..….$41,499.70
4. Applied Biosystems PCR system 9700 (08/03/2007)…….....$8,051.00
5. Agilent Gas Chromatograph NPD/FID (08/31/2007)……..$43,821.20
6. Applied Biosystems API 3200 LCMSMS (06/14/2007)…….……..$172,332.00
7. Applied Biosystems Real Time PCR system (08/03/2007)…….……$24,808.00
8. Allegra 64A Beckman Refrigerator Centrifuge (08/01/2007)…….……..$9,365.13
9. Frontier Pyrolyzer (01/30/2008)…….….$45,260.00
10. Keyence Microscopic Imaging System (10/01/2007)……..……$45,899.94
11. Thermo Gas Chromatograph Mass Spectrometer DSQ II (01/10/2008)……...$108,877.00
12. Leica Comparison Microscope (10/16/2008)…….…….$69,864.20
13. Leica Steromicroscope (10/16/2008)…….…..$11,764.50
14. Agilent Gas Chromatograph Mass Spectrometer (10/07/2009)…….….$49,991.99
15. TurboVap LV Workstation (01/05/2010)…….....$7,854.14
16. Mastercycler Gradient (01/04/2010)…….…….....$6,875.18
17. Applied Biosystems 3500 Genetic Anaylzer (02/25/2011)……..….$100,880.00
18. Leica DM750p Polarizing Microscope (10/01/2009)……...……..…$7,435.65
19. Leica EC3 Microscope (10/19/2009).…….….$10,373.05
20. Nicolet 6700 FTIR Spectrometer (12/01/2009)..……. ...….$71,749.04
21. Agilent Gas Chromatograph Mass Spectrometer (11/04/2009)……..$65,939.86
22. Thermo Scientific UV-Visible Spectrometer (09/29/2010)……...……...…$5,886.90
23. QiaCube (11/30/12)…….$19,759.70
24. Cold Vault Walk in Freezer (07/07/2009)……...…….……....…$15,210
25. John Deere 4x2 Gator (8/11/2008)....……..…….$5,417.03
26. Bobcat Compact Excavator (01/25/2009)..……. .....….$15,239.00
27. Speckfinder HD Digital Computer Microscope (07/06/2009)…….……..$7,157.50
28. Konica Minolta Digital X-Ray System (07/29/2009)……...…….....….$59,825.00
29. Isomet 1000 Precision Saw (10/31/11)…….……$7,470.00
30. Disk Array Enclosure (08/10/2010)……...…..$29,400.16
31. Portable Cadaver Scissor Lift (12/05/2011)……...……...…$7,311.00
32. Bone Digitizer (08/31/12)…….……$6,695.00

Total……..…….. $1,120,419.94

Appendix G

Librarian’s Statement of Adequate Resources

Sam Houston State University
A Member of The Texas State University System
NEWTON GRESHAM LIBRARY

January 14, 2013

Dr. Sarah Kerrigan, Chair
Department of Forensic Science
College of Criminal Justice
Box 2525
Sam Houston State University
Huntsville, TX 77341

Dear Dr. Kerrigan:

A review of the library's collection of information resources for the doctorate in Forensic Science, found that the collection can support this degree without any additional costs.

The Library provides the Sam Houston State University community with access to a collection of over 1.3 million books and journals in both print and electronic format. For the Forensic Science doctorate the most relevant electronic books are provided by CRCNetbase a multidisciplinary collection of e-books in the areas of Forensics/Law Enforcement, Biology, and Chemistry. Citations and full text for peer reviewed articles are available through an interdisciplinary mix of databases such as American Chemical Society Publications, Science Direct, SpringerLink, Wiley Interscience, Biological Abstracts, Web of Science, MEDLINE, International Security & Counter Terrorism Reference Center, Criminal Justice Abstracts, Proquest Criminal Justice and Sage Premier. The Library provides 24/7 remote access to its collection of electronic resources. A "Virtual Reference Desk" provides students with real time access to a librarian who can guide students to the appropriate resource, or help develop a research strategy.

.

For those resources not immediately available at Sam Houston State University, interlibrary loan and the Texas shared resources program will provide access. All Texas state institutions and many private universities participate in TexShare, a cooperative resource-sharing program which permits borrowers in good standing at their home institution to obtain books on-site at participating institutions. The library will monitor the demand for document delivery and interlibrary loan services to determine the need for additional journals as the program grows and specific research areas are identified.

We in the library wish you well with this program. It will be an asset to the university. Please let me know if I can be of further assistance.

Sincerely yours,

Ann H. Holder
Director of Library Services

Appendix H

Articulation Agreements with Partner Institutions

Not Applicable

Appendix I

Action Plan for Improving Undergraduate Success Measures

Not Applicable

Recommended Appendix A

Requests for Addition of New Courses

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 6333
b. Proposed title (30 Character Max): Behavioral Genetics
c. Proposed catalog description including prerequisites and credit: This course provides students with an understanding of behavior genetics and the influence of genes and the environment on emotion, personality and behavior in humans and animals. Credit 3.

d. Companion course/Co-requisite: N
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: None
k. Identify the majors and/or minors for which this course may be an elective: Master's in Forensic Science, Criminal Justice and Psychology; PhD in Criminal Justice and Forensic Science.

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
The MSFS program is accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC). Accreditation standards require us to provide advanced discipline-specific electives. This course will serve as an elective for both the Forensic Science and Criminal Justice Master's programs. The Behavioral Genetics course will satisfy the need for advanced discipline-specific study and support the curriculum by offering an investigative genetics course that focuses on emotion, personality and behavior. This topic is highly applicable to forensic science and criminology and will complement existing research, external funding and other activities at SHSU in the area of behavioral genetics. This course is also proposed as an elective for the PhD in Forensic Science.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
Existing faculty have the expertise to teach this course. No additional faculty are required and faculty assignments can be modified to accommodate the new course by adding the course to the rotation of elective courses which have been offered previously as special topics courses. The course is proposed as an elective and will not influence degree requirements.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
There are no similar course offerings available.

d. Identify who is likely to be the instructor(s) of this course.
Dr. Todd Armstrong; Dr. Danielle Boisvert; Dr. Brian Boutwell; Dr. David Gangitano.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").
Upon completion of this course, the student will be able to:
1) Describe behavioral genetic methods including behavioral genetics, quantitative genetics and linkage and association designs.

2) Analyze behavioral genetic data including data from twin and adoption studies and data with information regarding specific genetic variation.
3) Conduct case control comparisons that identify genetic variation distinguishing one sample from another.
4) Discuss major trends in the behavioral genetics literature, identifying the strengths and weaknesses within this literature and identifying potential contributions to the literature.
5) Write a literature review for a scholarly contribution to the behavioral genetic literature.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
Plomin, DeFries, McClearn and McGuffin	Behavioral Genetics 5th edition, Worth Publishers	2008
Yong-Kyu Kim	Handbook of Behavior Genetics	2010

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Course Overview and Introduction to Behavioral Genetics
Week 2	Quantitative Methods - Twin and Adoption Studies
Week 3	Quantitative Methods - Molecular Genetic Studies
Week 4	Quantitative Methods - Linkage and Association Designs
Week 5	Quantitative Methods - Disentangling Genetic and Environmental Effects
Week 6	Genetic Variation and Brain Structure and Function
Week 7	Genetic Variation and Personality
Week 8	Psychopathology I: ADHD, Impulsivity, Depression, and Stress
Week 9	Psychopathology I I: Aggression and Psychopathy
Week 10	Endophenotypes for Antisocial Behavior
Week 11	The Genetics of Drug Abuse I: Genetic Variation and Drug Abuse
Week 12	The Genetics of Drug Abuse II: Genetic Variation in Treatment Outcomes
Week 13	The Genetics of Crime, Delinquency and Antisocial Behavior I
Week 14	The Genetics of Crime, Delinquency and Antisocial Behavior II
Week 15	Applied Research in Behavioral Genetics

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	7
Books	2
Trade Journals	0
Newspapers	0
Popular Magazines	0
Audio-Visual	0
Other (please specify)	0

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
Plomin, DeFries, McClearn and McGuffin, Behavioral Genetics 5th edition, Worth Publishers

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

☒ The form has been proofed for spelling and grammar errors. Please note that the Form B template does not have grammar and spell check.

☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 6333
Proposed Title: Behavorial Genetics

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including: PSYC 5330 -- Psychopathology, PSYC 5360 -- Advanced Physiological Psychology, PSYC 7339 -- Developmental Psychopathology, PSYC 7374 -- Human Neuropsychology, and CRIJ 6360 -- Seminar in Deviant Behavior.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (contains titles such as Neurobiology of Aggression and Rage, Biological Influences on Criminal Behavior, Forensic and Medico-legal Aspects of Sexual Crimes & Unusual Sexual Practices, Biobehavioral Resilience to Stress, and Serial Offenders: Current Thought, Recent Findings). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Aggressiveness, Mental Illness--Genetic aspects, Criminal Behavior -- Genetic Aspects, Behavior Genetics, Psychiatric Epidemiology, Psychology – Pathological, Twins – Psychology, and Genetic Psychology.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Science Direct, Biological Abstracts, Web of Science, MEDLINE, PsycARTICLES, PsycINFO, and Ebsco's Psychology & Behavioral Sciences Collection.Some of the indicated databases provide full text of journals articles, including: Behavior Genetics, Behavioral Neuroscience, Journal of Abnormal Psychology, Journal of Individual Differences, and Psychology of Violence.

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.
   The one requested title, Behavioral Genetics 5th edition, retails for $145.99. This can easily be purchased with exisiting funds.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).
   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 15 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 6335
b. Proposed title (30 Character Max): Advanced Forensic Chemistry
c. Proposed catalog description including prerequisites and credit: This course will address novel scientific techniques in crime scene chemistry and crime lab chemistry. Non-destructive optical methods developed for sensing or identifying physical evidence are particularly emphasized in this course. New developments in chromatographic, spectroscopic and microscopic techniques for the analysis of fibers, hair, gunshot residue, ink, paints, glass, explosives and narcotics will also be explored. Prerequisite: FORS 5335, FORS 5445. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: None
k. Identify the majors and/or minors for which this course may be an elective: MS in Forensic Science, PhD in Forensic Science, MS in Chemistry.

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course was offered previously as a special topics course (elective) for the Master of Science in Forensic Science (MSFS). The course is required to support the growing enrollment in the forensic science program and in particular, student interest in the discipline of forensic chemistry and trace evidence techniques. This course will also serve as an elective for the proposed PhD in Forensic Science. The MSFS program is accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC). Accreditation standards require us to provide advanced discipline-specific electives. The Advanced Forensic Chemistry course satisfies this requirement and has been offered successfully in the past as FORS 6394 (Special Topics in Forensic Science).

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
Existing faculty have the expertise to teach this course and have been teaching it as a special topics course. No additional faculty are required and faculty assignments can be modified to accommodate the new course. The course is proposed as an elective and will not influence degree requirements.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
There are no courses offered currently with similar titles or content. FORS 5335 - Trace Evidence and Microscopic Analysis has related (fundamental) scientific content and is a prerequisite for the advanced level course proposed here. The existing FORS 5335 (Trace Evidence and Microscopic Analysis) and proposed FORS 6335 (Advanced Forensic Chemistry) courses will be instructed by the same faculty member.

d. Identify who is likely to be the instructor(s) of this course.
The instructor will be Jorn Yu., PhD., Assistant Professor of Forensic Science.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").

Upon completion of this course, the student will be able to:

1. List advanced chemical analysis techniques for physical evidence examination. For example, isotope ratio mass spectrometry, and ambient pressure mass spectrometry for the detection and analysis of physical evidence.
2. Explain the current state of knowledge and future development in forensic chemistry.
3. Describe scientific interpretation of physical evidence with an emphasis of its transfer property.
4. Apply advanced techniques in physical evidence discovery and examination. For example, remote sensing, X-ray fluorescence spectrometry, IR imaging, and evidence mapping for the discovery of evidence at a crime scene.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
Robert D. Blackledge	Forensic Analysis on the Cutting Edge, Robert Blackledge, Wiley-Interscience, ISBN: 9780471716440.	2007

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Introduction to Advanced Forensic Chemistry
Week 2	Advanced Crime Scene Chemistry I
Week 3	Advanced Crime Scene Chemistry II
Week 4	Optical Technique for Physical Evidence Sensing and Imaging
Week 5	Remote sensing and IR remote sensing
Week 6	Advanced Crime Lab Chemistry
Week 7	Forensic Applications of UPLC-Tandem Mass Spectrometry
Week 8	Ambient Pressure Mass Spectrometer
Week 9	Isotope Ratio Spectrometer
Week 10	Microfluidics for Physical Evidence Examination
Week 11	Pyrolysis-GC/MS for Physical Evidence Examination
Week 12	Ion Mobility Spectroscopy (IMS) for Screening Trace Evidence
Week 13	Micro-FT-IR for Physical Evidence Examination
Week 14	Micro-Raman Spectroscopy for Physical Evidence Examination
Week 15	Forensic Applications of Machine Learning Algorithm

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	7
Books	1
Trade Journals	0

Newspapers	0
Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None.

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

☒ The form has been proofed for spelling and grammar errors. Please note that the Form B template does not have grammar and spell check.

☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 6335
Proposed Title: Advanced Forensic Chemistry

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including: FORS 5335 - Trace Evidence & Microscopic Analysis, CHEM 5368 - Analytical Spectroscopy, and CHEM 5372 - Advanced Biochemistry.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (contains titles such as Advances in Forensic Applications of Mass Spectrometry, Forensic Human Identification: An Introduction, Advances in Isotope Methods for the Analysis of Trace Elements, Machine Learning Forensics for Law Enforcement, Security & Intelligence, and Forensic Examination of Fibres). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Mass Spectrometry, Isotopes, Microfluidics, Pyrolysis, Ion Mobility Spectroscopy, Crime Laboratories, Trace Analysis, Chemistry - Forensic, and Chemistry -Analytic.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Science Direct, American Chemical Society Publications Database, Web of Science, MEDLINE, and SciFinder Scholar. Some of the indicated databases provide full text of journals articles, including: Talanta: Forensic Chemical Analysis, Applied Spectroscopy, Critical Reviews in Analytical Chemistry, Journal of Analytical Chemistry, Journal of Applied Spectroscopy, Journal of the American Society for Mass Spectrometry, and Rapid Communications in Mass Spectrometry.

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested. Listed textbook is available in the Library collection.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 11 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 6346
b. Proposed title (30 Character Max): Advanced Forensic Toxicology
c. Proposed catalog description including prerequisites and credit: This course will focus on advanced principles and practices in forensic toxicology, in particular advanced analytical, methodological and interpretive issues. Students will apply their knowledge of basic forensic toxicology principles to a variety of analytical and interpretive topics relevant to behavioral and postmortem toxicology including but not limited to impaired driving, sexual assault and death investigation. Prerequisite: FORS 5446. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: None
k. Identify the majors and/or minors for which this course may be an elective: MS in Forensic Science, PhD in Forensic Science, MS in Chemistry.

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course was offered previously as a special topics course (elective) for the Master of Science in Forensic Science (MSFS). The course is required to support the growing enrollment in the forensic science program and in particular, student interest in the discipline of forensic toxicology. Approximately one third of all MSFS graduates currently find employment in the field of forensic toxicology. This course will also serve as an elective for the proposed PhD in Forensic Science. The MSFS program is accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC). Accreditation standards require us to provide advanced discipline-specific electives. The Advanced Forensic Toxicology course satisfies this requirement and will complement existing research and external funding in the area of forensic toxicology at SHSU.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
Existing faculty have the expertise to teach this course and have taught it in the past. No additional faculty are required and faculty assignments can be modified to accommodate the new course. The course is proposed as an elective and will not influence degree requirements.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
There are no courses offered currently with similar titles or content. FORS 5446 - Forensic Toxicology has related (fundamental) scientific content and is a prerequisite for the advanced level course proposed here. The existing FORS 5446 (Forensic Toxicology) and proposed FORS 6346 (Advanced Forensic Toxicology) courses will be instructed by the same faculty member.

d. Identify who is likely to be the instructor(s) of this course.
The instructor will be Sarah Kerrigan, PhD., Professor and Chair of Forensic Science.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").

Upon completion of this course, the student will be able to:

1. Apply fundamental toxicological principles and knowledge of drugs and poisons to solve problems and develop an understanding of interpretive toxicology.
2. Demonstrate problem solving abilities, critical thinking and quantitative analysis.
3. Optimize and performa a scientific validation on a toxicological method.
4. Further develop understanding of quality assurance and regulatory requirements in the major forensic toxicology disciplines.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
Barry Levine	Principles of Forensic Toxicology, 3rd Edition. AACC Press, Washington DC. ISBN 1594250960	2010

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Introduction to interpretive toxicology
Week 2	Human performance toxicology - impairing drugs
Week 3	Drug facilitated sexual assault
Week 4	Drug impaired driving
Week 5	Postmortem forensic toxicology
Week 6	Standards and regulatory considerations - focus on the Scientific Working Group on Toxicology (SWGTOX)
Week 7	Accreditation and certification requirements in toxicology
Week 8	Method development requirements
Week 9	Application of method development in practice
Week 10	Method validation requirements in accordance with SWGTOX
Week 11	Application of validation protocols in practice
Week 12	Measurement uncertainty in forensic toxicology
Week 13	Quality assurance and quality control issues specific to toxicology
Week 14	Expert testimony in forensic toxicology
Week 15	Ethical issues, litigation and criminal justice consequences

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	7
Books	3
Trade Journals	0
Newspapers	0

Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None.

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

☒ The form has been proofed for spelling and grammar errors. Please note that the Form B template does not have grammar and spell check.

☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 6346
Proposed Title: Advanced Forensic Toxicology

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including: FORS 5346 - Forensic Toxicology and CHM 546 - Forensic Toxicology & Drug Chemistry.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (contains titles such as Analytical & Practical Aspects of Drug Testing in Hair, Postmortem Toxicology of Abused Drugs, Toxicology: A Case-Oriented Approach, Forensic Toxicology: Medico-Legal Case Studies, Instrumental Data for Drug Analysis, and Workplace Drug Testing). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Toxicology, Designer Drugs, Rape Investigation, Drinking & Traffic Accidents, Drugged Driving, Autopsy, Toxicological Chemistry, Evidence – Expert, Evidence – Criminal, Crime Laboratories, and Scientists - Professional Ethics.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Science Direct, American Chemical Society Publications Database, Web of Science, MEDLINE, and SciFinder Scholar. Some of the indicated databases provide full text of journals articles, including: Toxicology International, Chemical Research in Toxicology, Clinical Toxicology, Forensic Toxicology, Journal of Analytical Toxicology, Journal of Applied Toxicology, Particle & Fibre Toxicology, Toxicologic Pathology, Toxicological Sciences, and Toxins.

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested. The Library owns the textbook listed.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 11 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 7331
b. Proposed title (30 Character Max): Research Methods
c. Proposed catalog description including prerequisites and credit: This course focuses on the scientific method, research methods and design. The course provides students the opportunity to discover, structure, and formulate research questions. Through this process students come to understand the many ways in which researchers can acquire knowledge and insights using a wide variety of research methods applicable to forensic science. Prerequisite: Three credits of statistics. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: PhD in Forensic Science
k. Identify the majors and/or minors for which this course may be an elective: MS in Forensic Science, MS in Chemistry, MS in Biology

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course will be required for the PhD in Forensic Science. Doctoral students within the program are expected to engage in scholarly inquiry and scientific research. An understanding of the fundamental basis of research methods, design and evaluation is necessary in order for students to be successful.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
This is a required course for the proposed PhD in Forensic Science and as such, is a critical component of the overall degree requirements. Current faculty have the expertise to teach this course. However, if the Forensic Science Doctoral program is approved, new faculty will be hired to meet the increased need associated with the program.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
Other offerings on research methods are based in social science or criminal justice. The PhD in Forensic Science is an interdisciplinary program rooted in the natural sciences. Students within the program are laboratory scientists who are expected to advance into leadership positions. This course will focus on the scientific method and research methods and design from the standpoint of laboratory-based experimental research. No other course offerings satisfy the specialized course content that is required.

d. Identify who is likely to be the instructor(s) of this course.
The instructor will be Dr. Jorn Yu, Associate Professor of Forensic Science.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").
Upon completion of this course, the student will be able to:
1. Describe and apply the scientific method.
2. Explain the basis of research ethics, informed consent and regulatory aspects of scientific research.

3. Critically evaluate and sythesize research from the scientific literature.
4. Identify and critically evaluate basic components of a research proposal.
5. Understand and apply methods used to analyze qualitative and quantitative data.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
M. L. Mitchell and J. M. Jolley	Research Design Explained (7th ed.). Cengage.	2009
M. G. Maxfield and E. R. Babbie	Basics of Research Methods for Criminal Justice and Criminology (3d ed.)	2012

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Introduction to the scientific method
Week 2	History of research ethics, informed consent and compliance with federal and institutional regulations
Week 3	Hypothesis testing
Week 4	Logical reasoning, inductive and deuctive
Week 5	Developing a framework for research design including observational, pre-experimental and experimental designs
Week 6	Defining, measuring and manipulating variables
Week 7	Descriptive methods including observational, case study and qualitative methods
Week 8	Analysis of data: qualitative and quantitative
Week 9	Reliability, error and validity
Week 10	Data organization and descriptive statistics
Week 11	Correlation methods and statistics
Week 12	Data sampling techniques
Week 13	Modeling and prediction in laboratory based science
Week 14	Critical evaluation of forensic research proposals
Week 15	Critical evaluation of data in forensic science research

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	7
Books	3
Trade Journals	0
Newspapers	0
Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None. Existing resources are sufficient.

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

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Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 7331
Proposed Title: Research Methods

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including CRIJ 6334 -- Research Methods & Quantitative Analysis in Criminal Justice, CRIJ 6385 -- Statistics for Criminal Justice Research, CRIJ 7434 -- Advanced Statistics I, CRIJ 7387 -- Research Design, CRIJ 7389 -- Advanced Statistics II, CRIJ 7393 -- Computer Based Data Analysis, and CRIJ 6387 -- The Ethics of Criminal Justice.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (Ethics & the Practice of Forensic Science, Principles & Practice of Criminalistics: The Profession of Forensic Science, and Scientific Method: Applications in Failure Investigation & Forensic Science). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Science -- Methodology, Methodology, Experimental Design, Science--Statistical Methods, Biometry, Chemometrics, and Chemistry--Statistical Methods.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Science Direct, American Chemical Soceity Publications Database, Web of Science, MEDLINE, and SciFinder Scholar. Some of the indicated databases provide full text of journals articles, from key forensic science journals including Journal of Forensic Sciences, Forensic Science Interational, and Science & Justice .

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested or identified.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 17 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 7332
b. Proposed title (30 Character Max): Scientific Communications
c. Proposed catalog description including prerequisites and credit: This course develops oral and written communication skills necessary for forensic science researchers and practitioners. Students must develop mastery of the following: technical report writing with regard to standard operating procedures, scientific publications and grant proposals; oral presentations, depositions and courtroom testimony of scientific evidence. Prerequisite: FORS 5226. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: PhD in Forensic Science
k. Identify the majors and/or minors for which this course may be an elective: MS in Forensic Science

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course will be required for the PhD in Forensic Science. Doctoral students within the program must develop oral and written communication skills necessary to write and publish scientific papers in peer reviewed journals, present papers at scientific conferences, defend a thesis and present scientific testimony in a court of law. The doctoral-level course proposed here focuses on topics that apply to most scientific disciplines (technical report writing, scientific publications and grant proposals), but also those that are quite specific for forensic scientists (standard operating procedures in accordance with ISO (International Organization for Standardization) accreditation and presentation of scientific testimony in legal proceedings).

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
This is a required course for the proposed PhD in Forensic Science and as such, is a critical component of the overall degree requirements. Current faculty have the expertise to teach this course. However, if the Forensic Science Doctoral program is approved, new faculty will be hired to meet the increased need associated with the program.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
There are no doctoral-level course offerings that focus on scientific communications. The Biological Science Department offers BIOL 5200 (Professional Aspects of Science), a Master's level course covering the professional and ethical responsibilities of scientists.

d. Identify who is likely to be the instructor(s) of this course.
The instructor will be Sarah Kerrigan, Ph.D., Professor and Chair, Forensic Science (or a faculty member yet to be hired).

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not “introduce” or “identify”).
Upon completion of this course, the student will be able to:

1. Develop strategies for the presentation of highly technical scientific information to a variety of scientific and non-scientific audiences.
2. Demonstrate excellence in technical writing.
3. Develop and critically evaluate written and oral research proposals.
4. Demonstrate oral presentation skills.
5. Synthesize oral presentation skills for effective communication of scientific information in legal proceedings.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
Angelika H. Hofmann	Scientific Writing and Communication. Oxford University Press.	2009

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Challenges to scientific communications
Week 2	Oral presentation skills - preparation, organization, content, vocabulary, delivery, body language, questions and answers (theory and skills)
Week 3	Oral presentation skills - preparation, organization, content, vocabulary, delivery, body language, questions and answers (demonstration)
Week 4	Presentation of scientific evidence in court - strategies for improvement
Week 5	Principles of scientific writing (words, technical sentences, grammar, organization, graphics, references)
Week 6	Process of scientific writing (planning, drafts, reviews and editing, critical evaluation)
Week 7	Manuscripts - research papers, technical reports and review articles
Week 8	Grant proposals (proposal writing, preproposals, letters of enquiry, abstract, aims, objectives, budget)
Week 9	Standard operating procedure writing in accordance with ISO/IEC 17025: 2005
Week 10	Conference presentations (posters, oral presentations)
Week 11	Technical documents critical to laboratory accreditation
Week 12	Media communications
Week 13	Employment applications, interview techniques
Week 14	Mock presentation of a scientific paper for the American Academy of Forensic Sciences
Week 15	Moot court - direct and cross examination

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	7
Books	3
Trade Journals	0
Newspapers	0

Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None. Existing resources are sufficient.

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

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Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 7332
Proposed Title: Scientific Communications

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including BIOL 5200 -- Professional Aspects of Science, SOCI 5378 -- Techniques of Research Proposal Writing in the Social Sciences, and FORS 6114 -- Forensic Science Capstone Course.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (Feder's Succeeding as an Expert Witness, Forensic Evidence: Science & the Criminal Law, The Scientist or Engineer as an Expert Witness, Effective Expert Witnessing, Expert Witnessing & Scientific Testimony: Surviving in the Courtroom). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Communication in Science, Technical Writing, Oral Communication, Public Speaking, Evidence – Expert and, Communication in Chemistry.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Science Direct, American Chemical Society Publications Database, Web of Science, MEDLINE, and SciFinder Scholar. Some of the indicated databases provide full text of journals articles, from key forensic science journals including Journal of Forensic Sciences, Forensic Science Interational, and Science & Justice .

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested or identified. The Library owns the listed required textbook.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 17 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 7334
b. Proposed title (30 Character Max): Social Science of Forensics
c. Proposed catalog description including prerequisites and credit: This course addresses the nexus between social and behavioral principles and the conduct of forensic science. Topics addressed include the organization of the forensic enterprise including the structure and functioning of forensic crime labs; performance assessment of forensic systems, organizations and practitioners; sociological, social-psychological, and psychological factors affecting the performance of forensic practitioners; and management theory of forensic workplaces and workers. Credit 3.

d. Companion course/Co-requisite: N
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) No ; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: None
k. Identify the majors and/or minors for which this course may be an elective: PhD in Forensic Science, MS in Forensic Science, MS in Criminal Justice, MA in Criminal Justice, PhD in Criminal Justice.

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This new course is proposed as an elective in support of the PhD in Forensic Science. Just as forensic scientists must understand the law-science interface, knowledge of social science research about forensic science related issues is critical for effective management and leadership within a forensic laboratory.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
Current faculty have the expertise to teach this course. No additional faculty are required and faculty assignments can be modified to accommodate the new course by adding this course to the rotation of electives. However, if the Forensic Science Doctoral program is approved, new faculty will be hired to meet the increased need associated with the program. The course is proposed as an elective and will not influence degree requirements.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
This is the only course that will address social science issues related to forensic science.

d. Identify who is likely to be the instructor(s) of this course.
The instructor for this course will be Dr. William R. King, an Associate Professor of Criminal Justice, or a new faculty member yet to be hired.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").
Upon completion of this course, the student will be able to:
1. Describe the organizational landscape of forensic evidence processing in the US.
2. Explain the methods for assessing the performance of forensic evidence processing.

3. Discuss the research related to decision-making, identification, and accuracy of analysis in forensic processing.

4. Review and apply the research on organizational theory, structure, and management to forensic processing systems and organizations.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
K. M. Pyrek	Forensic Science Under Siege: The Challenges of Forensic Laboratories and the Medico-Legal Investigation System, Academic Press.	2007

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	The landscape of forensic evidence processing in the US: Organizations, systems, and processes
Week 2	The criminal justice system, criminal investigation, and forensic evidence
Week 3	Discretionary decision-making in criminal justice and forensics
Week 4	Critique and crisis in forensic processing: The National Academy's report
Week 5	Critiques of forensic processing: Mistakes, errors, malfeasence
Week 6	Performance of individuals in forensic science: What matters
Week 7	Assessing individual performance
Week 8	System performance assessment in forensic science: What matters
Week 9	Assessing system performance
Week 10	Organizational theory: Introduction
Week 11	Organizational theory
Week 12	Organizational theory applied to forensic processing organizations
Week 13	Organizational theory applied to forensic processing organizations: Culture
Week 14	Unit and small group management
Week 15	Organization and system management

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	7
Books	2
Trade Journals	0
Newspapers	0
Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc.

Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
SHSU recently acquired an electronic subcription to the journal, Forensic Science Policy & Management: An International Journal. Taylor & Francis.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

☒ The form has been proofed for spelling and grammar errors. Please note that the Form B template does not have grammar and spell check.

☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 7334
Proposed Title: Social Science of Forensics

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including: BIOL 5200 -- Professional Aspects of Science, SOC 5322 Seminar in Medical Sociology, CRIJ 6332 -- Resource Development in the Organizational Context, CRIJ 6333 -- Seminar in Organization & Administration, and CRIJ 6335 -- Seminar in Leadership and Management.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (contains titles such as Criminal Investigative Failures, Ethics & the Practice of Forensic Science, Ethics in Forensic Science : Professional Standards for the Practice of Criminalistics, Quality Assurance in the Pathology Laboratory: Forensic, Technical, & Ethical Aspects, and Ensuring Competent Performance in Forensic Practice: Recovery, Analysis, Interpretation, & Reporting). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Forensic Sciences -- Moral & Ethical Aspects, Forensic Scientists -- Professional Ethics, Crime Laboratories, Pathological Laboratories, and Science -- Social Aspects.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as American Chemical Society Publications, Science Direct, Biological Abstracts, Web of Science, MEDLINE, Criminal Justice Abstracts, and Proquest Criminal Justice. Some of the indicated databases provide full text of journals articles, including Forensic Science International, Science & Justice, Journal of Forensic Sciences, Forensic Science Policy & Management, Social Studies of Science, and Forensic Examiner.

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 15 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 7381
b. Proposed title (30 Character Max): Explosive Analysis & Detection
c. Proposed catalog description including prerequisites and credit: This course surveys the broad field of explosive engineering and detection to include the safety and transportation classifications. Chemical and physical properties, explosive reagents and byproducts and detection techniques are addressed. It includes military and improvised devices, post-blast evidence and constitutional aspects of interdiction. Prerequisite: CHEM 4440 or FORS 5445. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: None
k. Identify the majors and/or minors for which this course may be an elective: PhD in Forensic Science, MS in Chemistry, MS in Forensic Science

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course is proposed as an elective for the PhD in Forensic Science. The PhD program in Forensic Science is an interdisciplinary program rooted in the natural sciences. Advanced discipline-specific electives are required in chemistry, biochemistry and biology to support this program. The Explosive Analysis and Detection course will satisfy this requirement as an advanced chemistry elective. Not only is the topic highly applicable to forensic science but it also receives widespread attention in light of the focus on homeland security issues. The course will also complement existing research, external funding and other activities at SHSU in the area of explosives.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
Current faculty have the expertise to teach this course. No additional faculty are required and faculty assignments can be modified to accommodate the new course by adding this course to the rotation of electives. However, if the Forensic Science Doctoral program is approved, new faculty will be hired to meet the increased need associated with the program. The course is proposed as an elective and will not influence degree requirements.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
No other courses in the Departments of Chemistry or Forensic Science resemble the course proposed here.

d. Identify who is likely to be the instructor(s) of this course.
The instructor will be Dr. Darren Williams, Associate Professor of Chemistry.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not “introduce” or “identify”).
Upon completion of this course, the student will be able to:

1. Distinguish between safe and unsafe methods of transportation, handling, and storage of energetic materials.
2. Relate the energetic properties to the physical and chemical properties of explosives.
3. Describe and select appropriate techniques for a variety of detection scenarios.
4. Contrast the challenges posed by improvised versus commercial and military explosive devices
5. Explore the constitutional challenges related to the interdiction of unauthorized use of explosives.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
Maurice Marshall and Jimmie C. Oxley	Aspects of Explosive Detection, Elsevier	2008

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Introduction to Energetic Materials
Week 2	ATFE regulations related to storage and classification
Week 3	ATFE regulations related to explosive production, handling, and destruction
Week 4	Military explosive materials and devices
Week 5	Commercial explosive materials and devices
Week 6	Energetic chemicals and improvised explosive materials and devices
Week 7	Detection: natural and electronic noses
Week 8	Detection: mass and ion mobility spectrometry
Week 9	Detection: colorimetry and spectroscopy
Week 10	Detection: scattering techniques
Week 11	Post-blast effects analysis
Week 12	Post-blast detection issues
Week 13	Constitutional issues: search and seizure
Week 14	Constitutional issues: surveillance
Week 15	Constitutional issues: interdiction

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	3
Electronic Databases	7
Books	1
Trade Journals	0
Newspapers	0
Popular Magazines	0
Audio-Visual	0
Other (please specify)	Internet resources will be used extensively.

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
Jehuda Yinon, Forensic and Environmental Detection of Explosives, John Wiley and Sons, New York, NY, 1999, ISBN 0 471 98371 3

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

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☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 7381
Proposed Title: Explosive Analysis & Detection

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including: FORS 5331 - Techniques for Crime Scene Investigation, FORS 5226 – Law & Forensic Science, and CHEM 5368 - Analytical Spectroscopy

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (contains titles such as Explosives & Chemical Weapons Identification, Practical Bomb Scene Investigation, and Forensic Investigation of Explosions). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on explosives, bombs & bombing, improvised explosive devices, mines, mass spectronomy, mobility spectroscopy, colorimety, and legal issues regarding search, seizure, surveillance & interdiction. Additionally, the Library's Government Documents Collection contains many relevent items.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Index to Legal Periodicals, Lexis/Nexis, Science Direct, Westlaw, Wilson OmniFile Full Text, American Chemical Society Publications Database, Web of Science, MEDLINE, and SciFinder Scholar. Some of the indicated databases provide full text of journals articles, including: Journal of Hazardous Materials, Military Medicine, Safety Science, Applied Energy, Accident Analysis & Prevention, and Materials Chemistry & Physics. Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   The requested title "Forensic and Environmental Detection of Explosives" (Jehuda Yinon) is already in the Library print collection. The listed textbook is also in the collection,

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 11 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 7385
b. Proposed title (30 Character Max): Warfare Agents
c. Proposed catalog description including prerequisites and credit: This course evaluates chemical, biological and radiological warfare agents. These agents are discussed from a chemical and biochemical standpoint including structure, function, mechanism of action, injury, clinical therapy, and recovery. Three credit hours of biochemistry or toxicology at the undergraduate or graduate level are recommended for students taking this course. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: None
k. Identify the majors and/or minors for which this course may be an elective: PhD in Forensic Science, MS in Chemistry, MS in Forensic Science

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course is proposed as an elective for the PhD in Forensic Science. The PhD program in Forensic Science is an interdisciplinary program rooted in the natural sciences. Advanced discipline-specific electives are required in chemistry, biochemistry and biology to support this program. The Warfare Agents course will satisfy this requirement as an advanced biochemistry elective. Not only is the topic highly applicable to forensic science but it also receives widespread attention in light of the focus on homeland security issues. The course will also complement existing federally-funded research at SHSU in the area of warfare agents.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
Current faculty have the expertise to teach this course. No additional faculty are required and faculty assignments can be modified to accommodate the new course by adding this course to the rotation of electives. Moreover, if the Forensic Science Doctoral program is approved, new faculty will be hired to meet the increased need associated with the program.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
No other courses in the Departments of Chemistry or Forensic Science resemble the course proposed here.

d. Identify who is likely to be the instructor(s) of this course.
The instructor for this course will be Ilona Petrikovics, Ph.D., an Associate Professor of Chemistry.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").
Upon completion of this course, the student will be able to:
1. Explain fundamental principles, generalization, and classification of chemical, biological and radiological warfare agents (CBRWA).

2. Describe detection, function, mechanism of action and antagonism, injury, clinical therapy and recovery for CBRWA.
3. Apply theroretical concepts and techniques for CBRWA diagnostics and develop contermeasures.
4. Elaborate recent nation-wide research efforts on diagnostics and antidotal approaches for antagonizing CBRWA including cyanide and nerve agents.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
Al Mauroni	Chemical & Biological Warfare. A Reference Handbook/ ABC-CLIO Inc. Although this handbook is more than five years old, it is the most curent text on biological warfare.	2006
Rames C. Gupta	A Handbook of Toxicology of Chemical Warfare Agents. Academic Press, Elsevier, SD, CA	2009

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Significance of chemical, biological, radiological, or nuclear (CBRN) warfare agents
Week 2	Chemical Agents: including cyanides, nerve agents and toxic industrial chemicals
Week 3	Detection of chemical warfare agents
Week 4	Mechanistic aspects of chemical agents
Week 5	Toxicology, clinical therapy and recovery from chemical warfare agents
Week 6	Biological agents: including anthrax, botulinum toxin, ricin and others
Week 7	Detection of biological warfare agents
Week 8	Mechanism of action of biological agents
Week 9	Toxicology, clinical therapy and recovery from biological warfare agents
Week 10	Radiological and nuclear threats
Week 11	Mechanism of action of radiological agents
Week 12	Detection of radiological and nuclear warfare agents
Week 13	Toxicology, clinical therapy and recovery from nuclear and radiological warfare agents
Week 14	Novel technologies for CBRN detection in the field
Week 15	Implications for CBRN detection in the U.S.

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	6
Books	5
Trade Journals	1
Newspapers	1
Popular Magazines	1
Audio-Visual	1
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
None

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
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Please check each box to verify review.

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Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 7385
Proposed Title: Warfare Agents

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including: BIOL 5375 -- Bacterial Physiology, BIOL 5378 – Virology, CHEM 5381 -- Advanced Physical Chemistry: Thermodynamics, CHEM 536 -- Organic Reaction Mechanisms, and CRIJ 5339 -- Global Terrorism.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (contains titles such Nuclear, Chemical, & Biological Terrorism: Emergency Response & Public Protection, Handbook of Chemical & Biological Warfare Agents, National Security Issues in Science, Law, & Technology, Emergency Action for Chemical & Biological Warfare Agents, Advances in Biological & Chemical Terrorism Countermeasures, Explosives & Chemical Weapons Identification, Laboratory Biosecurity Handbook, Counter-Terrorism for Emergency Responders, and Emergency Characterization of Unknown Materials). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Bioterrorism, Biological Warfare, Biological Weapons, Chemical Terrorism, Chemical Agents, Nuclear Terrorism, and Weapons of Mass Destruction.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as American Chemical Society Publications, Science Direct, Biological Abstracts, Web of Science, MEDLINE, International Security & Counter Terrorism Reference Center, Criminal Justice Abstracts, and Proquest Criminal Justice. Some of the indicated databases provide full text of journals articles, including Journal of Battlefield Technology, Disaster Management & Response, Disaster Prevention & Management, Disasters, Studies in Conflict & Terrorism, Naval War College Review, Emerging Infectious Diseases, Military Medicine, Journal of Hazardous Materials, and American Journal of Emergency Medicine.

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 15 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 7389
b. Proposed title (30 Character Max): Practicum
c. Proposed catalog description including prerequisites and credit: The practicum affords the doctoral student the opportunity to apply research in a practical setting, adapt technologies for maximal use, appreciate the steps necessary for the implementation of new technology within an accredited environment, and observe the technical and non-technical processes involved. During the practicum students must complete the equivalent of a ten-week, full-time placement (400 hours) in an approved forensic science laboratory or facility. Prerequisite FORS 6371. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: None
k. Identify the majors and/or minors for which this course may be an elective: PhD in Forensic Science.

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This new course is an elective in support of the PhD in Forensic Science. The doctoral program in forensic science promotes interdisciplinary scientific research and academic-industrial partnerships with forensic laboratories. The practicum affords the doctoral students the opportunity to apply research in a practical setting in partnership with an accredited forensic science laboratory. The Forensic Science Program currently collaborates with more than fifty accredited laboratories and organizations.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
This course will be offered in partnership with directors in accredited laboratories and forensic science organizations. No additional faculty are required. The course is an elective and will not influence degree requirements.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
This practicum is specific to the doctoral program in forensic science.

d. Identify who is likely to be the instructor(s) of this course.
The practicum will be coordinated by Dr. Sarah Kerrigan, Professor and Chair of Forensic Science.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not “introduce” or “identify”).
Upon completion of this course, the student will be able to:
1. Explain the challenges associated with the practical implementation of novel techniques and methodology into an accredited forensic facility.
2. Adapt technologies for maximal use and effectiveness.
3. Synthesize and integrate laboratory-based research into routine laboratory use.

4. Describe the administrative and non-technical steps involved with the implementation of new methods or technology within a regulatory environment.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
	NA	

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	Practicum - Students submit progress report
Week 2	Practicum - Students submit progress report
Week 3	Practicum - Students submit progress report
Week 4	Practicum - Students submit progress report
Week 5	Practicum - Students submit progress report
Week 6	Practicum - Students submit progress report
Week 7	Practicum - Students submit progress report
Week 8	Practicum - Students submit progress report
Week 9	Practicum - Students submit progress report
Week 10	Practicum - Students submit progress report
Week 11	Practicum - Students submit progress report
Week 12	Practicum - Students submit progress report
Week 13	Practicum - Students submit progress report
Week 14	Practicum - Students submit progress report
Week 15	Practicum - Students submit progress report

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	5
Electronic Databases	5
Books	4
Trade Journals	2
Newspapers	0
Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:

None. Existing resources are sufficient.

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.

No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

☒ The form has been proofed for spelling and grammar errors. Please note that the Form B template does not have grammar and spell check.

☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 7389
Proposed Title: Practicum

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course including FORS 6371 -- Internship in Forensic Science. The Library's collection meets the requirements of the forensic science education accrediting body -- Forensic Science Education Programs Accreditation Commission

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. Additional electronic books can be found in Ebsco ebooks and ebrary.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Science Direct, American Chemical Society Publications Database, Web of Science, MEDLINE, and SciFinder Scholar. Some of the indicated databases provide full text of journals articles, from key forensic science journals including Journal of Forensic Sciences, Forensic Science Interational, and Science & Justice .

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested or identified.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 17 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 7390
b. Proposed title (30 Character Max): Forensic Laboratory Management
c. Proposed catalog description including prerequisites and credit: This course addresses key areas of forensic laboratory management and leadership. It prepares students for administrative and leadership roles in public or private sector forensic science laboratories. It focuses on the integration of technical and discipline specific policies and procedures into the administrative framework of the crime laboratory. Issues include the quality management system, organizational efficiency, fiscal, personnel and resource management, regulation, certification and accreditation. Credit 3.

d. Companion course/Co-requisite: No
e. May course be repeated for credit? No
f. Maximum number of credit hours that can be earned: 3
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: PhD in Forensic Science
k. Identify the majors and/or minors for which this course may be an elective: MS in Forensic Science, MS in Criminal Justice, MA in Criminal Justice, PhD in Criminal Justice.

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course will be required for the PhD in Forensic Science. Doctoral students within the program are expected to advance into leadership positions within forensic science organizations. An understanding of the key issues associated with forensic laboratory management and leadership are critical for graduates to be successful.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
This is a required course for the proposed PhD in Forensic Science and as such, is a critical component of the overall degree requirements. Current faculty have the expertise to teach this course. However, if the Forensic Science Doctoral program is approved, new faculty will be hired to meet the increased need associated with the program.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
There are no course offerings specific to forensic laboratory management offered at the present time. Although there are more general courses addressing leadership and management, none addresses the specific regulatory framework and quality management systems that define the operational characteristics of a forensic laboratory. Course offerings such as CRIJ 6335 (Seminar in Leadership and Management) do not address the specific regulatory or technology-intensive aspects of forensic science. Doctoral students will be encouraged to take these more generic offerings on management and leadership in Criminal Justice and other Colleges to complement the highly specialized course content offered here.

d. Identify who is likely to be the instructor(s) of this course.
The instructor will be Dr. Sarah Kerrigan, Professor and Chair of Forensic Science.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").

Upon completion of this course, the student will be able to:

1. Describe specific challenges associated with forensic laboratory management.
2. Elaborate management and leadership issues within the context of a highly regulated framework.
3. Apply accreditation, certification and forensic reform legislation to crime lab operations and management.
4. Evaluate resources, productivity and the quality management system.

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
Jami St. Clair	Crime Laboratory Management, Academic Press.	2003
	This 2003 text by Academic Press (Elsevier) is the only one of its type. Additional texts are anticipated in light of forensic reform efforts and those will be considered when available.	

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	The role of the crime laboratory
Week 2	Forensic laboratory organizational structure
Week 3	Regulatory and reform issues in forensic science
Week 4	Accreditation, certification and oversight of forensic laboratories and personnel
Week 5	Resource management within the laboratory system
Week 6	Real and perceived ethical issues and conflicts of interest in crime laboratories
Week 7	The role of quality assurance in management and leadership
Week 8	Strategic management and organizational excellence
Week 9	Project management and the balance of timeliness, quality and criminal justice consequences
Week 10	Resource management, budgeting and fiscal models within forensic laboratories
Week 11	Management considerations specific to private vs. publicly funded laboratories
Week 12	Effective communications, media and public relations
Week 13	Government relations, partnerships and strategic collaborations
Week 14	Safety culture
Week 15	The quality management system in practice

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	6
Electronic Databases	6
Books	5
Trade Journals	2
Newspapers	2
Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None. Existing resources are sufficient.

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

☒ The form has been proofed for spelling and grammar errors. Please note that the Form B template does not have grammar and spell check.

☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 7390
Proposed Title: Forensic Laboratory Management

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses covering related content as the proposed course, including: BIOL 5200 -- Professional Aspects of Science, CRIJ 6332 -- Resource Development in the Organizational Context, CRIJ 6333 -- Seminar in Organization & Administration, and CRIJ 6335 -- Seminar in Leadership and Management.

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. The most relevant electronic books are provided by CRCNetbase (contains titles such Laboratory Biosecurity Handbook, Ensuring Competent Performance in Forensic Practice: Recovery, Analysis, Interpretation, & Reporting, Implementing Quality in Laboratory Policies and Processes: Using Templates, Project Management & Six Sigma, and Quality Assurance in the Pathology Laboratory: Forensic, Technical, & Ethical Aspects). Additional electronic books can be found in Ebsco ebooks and ebrary.

   The Library's print collection includes items on Forensic Sciences, Forensic Scientists, Crime Laboratories, and Pathological Laboratories.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as American Chemical Society Publications, Science Direct, Biological Abstracts, Web of Science, MEDLINE, Criminal Justice Abstracts, and Proquest Criminal Justice. Some of the indicated databases provide full text of journals articles, including Forensic Science International, Science & Justice, Journal of Forensic Sciences, Forensic Science Policy & Management, and Forensic Examiner.

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested. The Library owns the required textbook.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course .

Signed: Susan Strickland Date: 15 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

FORM B
REQUEST FOR ADDITION OF A NEW COURSE

I. Course Identification

a. Proposed prefix and number: FORS 8099
b. Proposed title (30 Character Max): Dissertation
c. Proposed catalog description including prerequisites and credit: NA

d. Companion course/Co-requisite: No
e. May course be repeated for credit? Yes
f. Maximum number of credit hours that can be earned: 18
g. Is course eligible to receive a grade of IP? No If yes, justification:
h. Is this course exempt from the 3-peat charge? No; If yes, justification:
i. Is the proposed course eligible to be offered as writing enhanced? (applies only to undergraduate courses) N/A; if yes, attach Writing Enhancement Supplement.
j. Identify the majors and/or minors for which this course will be required: PhD in Forensic Science
k. Identify the majors and/or minors for which this course may be an elective: None

II. Statement of Need and Program Compatibility

a. Justify the need for this course, including how the proposed course will support the present program curriculum.
This course will provide dissertation credit to students enrolled in the PhD in Forensic Science. The doctoral degree requires 83 semester credit hours beyond the bachelor's level, of which a minimum of 15 hours must be dissertation credit.

b. Explain how the addition of this course will directly or indirectly influence personnel rotation, inventory of courses, degree requirements, etc.
This is a required course for the proposed PhD in Forensic Science and as such, is a critical component of the overall degree requirements. Current faculty possess the requisite expertise to supervise dissertations. Moreover, if the Forensic Science Doctoral program is approved, new faculty will be hired to meet the need.

c. Identify courses with similar titles or similar contents currently offered in other departments. Explain how this course is different. Identify representatives from departments offering courses with similar titles or contents who have reviewed this proposal and summarize their responses.
NA. These dissertation credit hours are specifically required for the proposed PhD in Forensic Science.

d. Identify who is likely to be the instructor(s) of this course.
Dr. Sarah Kerrigan, Professor and Chair of Forensic Science.

III. Course Content

a. List the course objectives as expected student outcomes. Objectives should be specific, measureable, and appropriate for the course level (i.e., graduate courses should not "introduce" or "identify").
Upon completion of this course, the student will be able to:
NA

b. Identify the proposed text(s) for the course (include full name of author, title, publisher and date). **If the text is more than 5 years old, please provide a justification.**

Author	Title And Publisher	Year
	NA	

c. Using a 15-week class schedule, identify the topics to be covered during each week of the semester:

Week 1	NA
Week 2	NA
Week 3	NA
Week 4	NA
Week 5	NA
Week 6	NA
Week 7	NA
Week 8	NA
Week 9	NA
Week 10	NA
Week 11	NA
Week 12	NA
Week 13	NA
Week 14	NA
Week 15	NA

IV. Library materials required for this course. This section is to help the Library review the adequacy of the current collection and plan for the future allocation of resources to better meet the needs of students enrolled in this course.

a. Please indicate the **types** of library resources you expect students to use for this course. Using a scale of 0 to 7, indicate the **extent of use** anticipated for each type of library resource selected. [0 = no use to 7 = extensive use]

Types of print/electronic library resources needed	**Extent of use anticipated (on a scale of 0 to 7)**
Scholarly, Peer-Reviewed Journals	7
Electronic Databases	7
Books	6
Trade Journals	1
Newspapers	0
Popular Magazines	0
Audio-Visual	0
Other (please specify)	

b. Please identify **specific** resources that the Library needs to **acquire** in support of this course. These resources could include but are not limited to (both print and electronic) journals, electronic databases, books, etc. Please identify **new titles** that should be acquired or **subject areas** in the collection that may need to be **enhanced** or **updated**.

New titles needed or subject area to be enhanced:
None. Existing resources are sufficient.

V. Please identify equipment and technological resources required for this course. This section addresses the need for specialized laboratory equipment, computer software or other physical resources not generally available on campus.
No additional equipment is needed for this course.

After this form has been completed, contact a Bibliographer/Librarian to complete the Library Collection Review (LCR) form. The LCR form should be attached to Form B before the proposal is forwarded to your College Curriculum Committee.

FORM B
—CHECK LIST—
Please check each box to verify review.

Overall

☒ The version of Form B currently posted on the Academic Affairs web site under Curriculum Forms is being used.

☒ Font is Times New Roman, 11 pt, no bold, no "all caps."

☒ The form has been proofed for spelling and grammar errors. Please note that the Form B template does not have grammar and spell check.

☒ Every question has a response. If there is not an affirmative response, use "N/A," "No," or "None" as appropriate.

Part I - V

☒ I.c. The catalog description is in complete sentences.

- ☒ Course catalog descriptions should be understandable to members outside the discipline. Avoid acronyms, abbreviations and terminology specific to the discipline not usually recognized by the general public. Commonly recognized terminology is acceptable, e.g., NASA, DNA, S Corporation.
- ☒ The final sentence of the catalog description lists any prerequisites, followed by credits, e.g., Prerequisite: IT 161. Credit 3.
- ☒ Use terms such as "basic," "fundamental," "introduction," and "overview" sparingly. Upper division courses should seldom be introductory.

☒ I.d. Companion courses require concurrent enrollment. This is a rare occurrence. If applicable, the companion course should be listed in the course description.

☒ I.i. If the course is proposed to be writing enhanced, course requirements listed in the 15-week class schedule should reflect writing assignments.

☒ II.b. There is nearly always an impact if a new course is added. Adding a new course may require that new faculty be hired or existing teaching assignments be modified, existing courses be deleted, or degree requirements be modified. Offer specific explanation of the modifications.

☒ II.c. Review SHSU course offerings to identify courses with similar titles or content. Err in favor of listing courses that potentially could overlap. Include documentation of discussions with appropriate departmental chairs to avoid duplication.

☒ III.b. Note that the form requires both Title and Publisher. Do not omit the publisher.

Provide a justification if the proposed texts are more than five years old. Check to see if proposed textbooks over two years old are out-of-print.

☒ III.c. If the course features differential content or directed study, provide a sample 15-week class schedule.

☒ IV. The library has been supplied with an electronic copy of this course request at least 2 weeks prior to the college submission deadline.

I certify that the Form B submitted to the University Curriculum Committee has been reviewed and complies with the stipulations on this checklist.

Sarah Kerrigan	9/14/2012		
Department Chair Signature	Date	College Curriculum Committee Chair Signature	Date

Form Revised: February 2011 Date Created: 2/12/2013

LIBRARY COLLECTION REVIEW for PROPOSED COURSE

Proposed Course Prefix and Number: FORS 8099
Proposed Title: Dissertation

1. Results of the librarian's review of the adequacy of library holdings to support the proposed course content areas and assignments. Please be specific, and indicate whether the subject areas of the course require new expenditures, or are already included in the collection due to library support of courses with similar information needs.

   The Library has a growing collection to support the forensic science program. The collection supports study, research, and coursework in graduate courses which comprise the Forensic Science Program. The Library's collection meets the requirements of the forensic science education accrediting body -- Forensic Science Education Programs Accreditation Commission

   This course will be supported with existing Library resources. Newton Gresham Library's monograph collection, journal collection, and online resources will support this course. Additional electronic books can be found in Ebsco ebooks and ebrary.

   Citations for peer reviewed articles are available through an interdisciplinary mix of databases such as Dissertation Abstracts, Science Direct, American Chemical Society Publications Database, Web of Science, MEDLINE, and SciFinder Scholar. Some of the indicated databases provide full text of journals articles, from key forensic science journals including Journal of Forensic Sciences, Forensic Science Interational, and Science & Justice .

   Articles not available online may be found in the Library's physical holdings; items not available in the Library collection can be provided by Interlibrary Services.

2. Identify additional resources that are likely to be needed, and the approximate cost of the materials.

   None requested or identified.

3. Bibliographer's comments (state any concerns regarding the library's support of the course).

   The current collection development budget will adequately support this course.

Signed: Susan Strickland Date: 17 September 2012
Bibliographer

Signed: Ann H. Holder Date: 9/17/12
Library Director

Form Revised: February 2011 Date Created: 2/12/2013

WRITING ENHANCEMENT SUPPLEMENT

Proposed Course Prefix and Number:
Proposed Title:

Briefly explain how the writing requirement will be met in this course, keeping in mind that 50% or more of the course grade must be derived from written assignments, either formal or informal.

Reviewer's Notes:

Signed: _____ Date: _____
Writing Enhanced Committee Chair

Recommended Appendix B

Specific Clinical or In-Service Sites to Support the Program:

Current Internship Agencies Illustrating Existing Academic-Industrial Partnerships

Out of State Agencies

- Aegis Sciences Corporation, Nashville, TN
- Colorado Bureau of Investigation Crime Laboratory, Denver, CO
- Colorado Bureau of Investigation Crime Laboratory, Pueblo, CO
- County of San Diego, Medical Examiner's Office, San Diego, CA
- Federal Aviation Administration Civil Aerospace Medical Institute, Oklahoma City, OK
- Erie Co. Medical Examiner's Office, Forensic Toxicology Laboratory, Buffalo, NY
- Los Angeles County Department of Coroner, Los Angeles, CA
- Maricopa County Medical Examiner Office, Phoenix, AZ
- Miami-Dade County Medical Examiner, Miami, FL
- Montgomery County Ohio - The Miami Valley Regional Crime Laboratory, Dayton, OH
- New York State Police Forensic Investigation Center, Albany, NY
- North Carolina Office of the Chief Medical Examiner Toxicology Laboratory, Chapel Hill, NC
- Office of the Chief Medical Examiner, Edmonton, Alberta, Canada
- Orange County Sheriff - Coroner Department, Santa Ana, CA
- Florida Department of Law Enforcement, Pensacola, FL
- Regional Forensic Science Center, Wichita, KS
- San Diego Police Department, Crime Laboratory, San Diego, CA
- San Francisco Medical Examiner's Office, San Francisco, CA
- Ventura County Sheriff (Forensic Sciences Laboratory), Ventura, CA
- Washington State Patrol, Forensic Laboratory Services Bureau, Seattle, WA

Texas Agencies

- Ameritox Ltd., Midland, TX
- Austin Police Department, Austin, TX
- Bexar County Forensic Science Center, San Antonio, TX
- Bexar County Medical Examiner, San Antonio, TX
- Brazoria County Crime Laboratory, Angleton, TX
- Bryan Police Department, Bryan, TX
- College Station Police Department, College Station, TX
- Dallas County Medical Examiner, Southwestern Institute of Forensic Sciences, Dallas, TX
- Galveston Medical Examiner's Office, Galveston, TX
- Harris County Sheriff's Office (Firearms) , Houston, TX
- Harris County Institute of Forensic Sciences, Houston, TX
- Harris Medical Examiner's Office (investigation office), Houston, TX
- Houston Police Department Crime Laboratory, Houston, TX
- Integrated Forensic Laboratory, Euless, TX
- Montgomery County Sheriff's Office, Conroe, TX

- Sam Houston State University Regional Crime Laboratory, The Woodlands, TX
- Texas Department of Public Safety- Austin Crime Laboratory, Austin, TX
- Texas Department of Public Safety-Crime Lab, Corpus Christi, TX
- Texas Department of Public Safety-Crime Lab, Garland, TX
- Texas Department of Public Safety-Houston Regional Crime Lab, Houston, TX
- Texas Parks and Wildlife Department-Law Enforcement Agency, San Marcos, TX
- United States Drug Enforcement Administration, DEA South Central Laboratory, Dallas, TX
- United States Department of Homeland Security, Customs and Border Protection, Southwest Regional Science Center, Houston, TX

Recommended Appendix C

Letters of Support

Brian J. Gestring
Director, Office of Forensic Services
State of New York
Division of Criminal Justice Services
Albany, NY

Brian Gestring is a veteran forensic scientist from the New York Police Department Crime Laboratory. He is also a former professor, forensic science program director and Forensic Science Education Program Accreditation Commission (FEPAC) assessor. In his current position, he is responsible for oversight over the 22 accredited forensic laboratories in New York State and the collection of DNA samples from convicted offenders for the State's DNA database.

Max M. Houck, Ph.D.
Director, Department of Forensic Sciences
Consolidated Forensic Laboratory
Washington, D.C.

Dr. Max Houck is a past Chair of the Forensic Science Education Programs Accreditation Commission (FEPAC). Formerly he was a professor from West Virginia University and a forensic scientist for the Federal Bureau of Investigation. He currently serves as the Director of the Consolidated Forensic Laboratory (CFL) in Washington DC, a newly formed $220 million dollar independent government facility that will house the new Department of Forensic Sciences (DFS), Metropolitan Police Department (MPD) Crime Scene Investigation units, public health laboratory, and the Office of the Medical Examiner.

D. Pat Johnson
Deputy Assistant Director
Law Enforcement Support-Crime Laboratory Service
Texas Department of Public Safety
Austin, TX

Assistant Director Johnson is responsible for the crime laboratory system in Texas, including the thirteen state crime laboratories, breath alcohol testing program and the CODIS database (Combined DNA Index System). In accordance with Title 37 of the Texas Administrative Code, Chapter 28, Subchapter H, the Texas Department of Public Safety also oversees the accreditation of forensic laboratories in the State of Texas.

Lynn M. Robitaille
General Counsel
Texas Forensic Science Commission
Austin, TX

Lynn Robitaille currently serves as the Texas Forensic Science Commission's General Counsel. As a former litigator with expertise in internal and special investigations in Washington DC, Ms. Robitaille is now an integral part of the Commission's activities. The mission of the Texas Forensic Science Commission is to strengthen the use of forensic science in criminal investigations and courts by developing a process for reporting professional negligence or misconduct; investigating allegations of professional negligence or misconduct; promoting the development of professional standards and training; and recommending legislative improvements.

STATE OF NEW YORK
DIVISION OF CRIMINAL JUSTICE SERVICES
Four Tower Place
Albany, New York 12203-3764
http://criminaljustice.ny.gov

September 25, 2012

Sarah Kerrigan, Ph.D.
Professor and Chair
Forensic Science Department
Sam Houston University
1003 Bowers Boulevard
Huntsville, TX 77341

Dear Dr. Kerrigan:

I wanted to thank you for your call last week and describing the doctoral program that you are proposing. Over the years I have been increasingly frustrated with the lack of terminal degree options in Forensic Science. It is my opinion that many of the systemic problems that plague the field are directly linked to the dearth of Forensic Science doctoral programs.

While several Universities have doctoral programs in other disciplines with either a research emphasis or a concentration in Forensic Science, there are no doctoral programs in Forensic Science in the United States. Currently the vast majority of forensic science practitioners lack a terminal degree and sufficient scientific background to become effective leaders in the field. Programs such as the one you have described to me have the potential to create these leaders and cement the foundations of the science that we use.

Much like an auto mechanic trying to fix an engine while it's still running, the next generation of forensic scientists must learn how to perform meaningful research to validate and improve techniques that have been used for almost a century, and that are still being used today. This generation must learn how to employ successful business strategies that allow them to manage limited resources and the large volume of evidence that must be examined. They must also learn how to harness the full potential of scientific breakthroughs to advance the field.

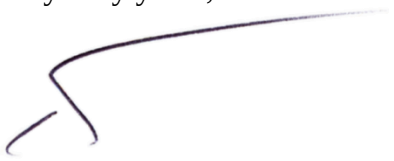
Over the course of my career I have worked in nearly every area of forensic science in positions ranging from bench level examiner to Crime Laboratory Manager. As an academic, I served as an Assistant and Associate Professor as well as the Director of a large undergraduate/ graduate program. In my current position, I am responsibile for oversight over the 22 accredited forensic laboratories in New York State and the collection of DNA samples from convicted offenders for the State's DNA database.

In virtually all of these capacities, I have been advocating for doctoral programs in Forensic Science for the reasons I have already described. Creating a program like the one you described to me will be no easy task, but if anyone can do it, it's you. When we first met, I was the lead assessor on your first FEPAC inspection. Despite being very pregnant with your second child at the time, the other assessor and I had a hard time keeping up with you as you showed off the Master's program you created.

Your organizational ability, attention to detail, and drive were, and continue to be impressive and a real asset to Sam Houston State. To further illustrate this point, not only have you created the first accredited graduate Forensic Science program in Texas, but you have also gone on to start an ASCLD/LAB *ISO* 17025 accredited forensic laboratory at the University. This is a monumental administrative achievement and a good indicator of the level of confidence your institution has in your abilities. ASCLD/LAB *ISO* is the highest level of accreditation available to a forensic laboratory, and it requires significant institutional support.

Thank you for taking this project on. Should you or anyone at your institution wish to discuss this further, please do not hesitate to contact me at (518) 402-0658.

Very truly yours,



Brian J. Gestring
Director, Office of Forensic Services

September 25, 2012

Dr. Sarah Kerrigan
Department of Forensic Science
Sam Houston State University Box 2525
Chemistry and Forensic Science Building, 221A
1003 Bowers Blvd
Huntsville, TX 77340

Dear Sarah,

This letter is in support of your efforts to pursue approval for a Ph.D. program in the forensic sciences. As a long-time advocate for improvement in forensic education, I applaud your work towards this degree, your curriculum, and its structure. I think it is long past due for a program of standing to develop and offer such a degree and I am pleased SHSU has the courage and vision to consider it.

As you know, my work in forensic education started as the project director for the Technical Working Group for Education and Training in Forensic Science (TWGED). The goal of TWGED was recommending best practices for educational curricula in forensic science. These recommendations encompassed the best practices and procedures for initial and continuing training models to provide those seeking to become forensic scientists with the educational and practical knowledge and skills necessary to effectively support their role in the criminal justice system. TWGED's work product became the foundation for the Forensic Science Educational Program Accreditation Commission (FEPAC), which I Chaired for six years. In that time, I have seen forensic education professionalize, grow, and strengthen as programs, like SHSU, have sought and achieved FEPAC accreditation.

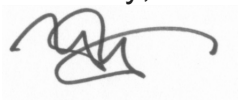
Many FEPAC programs offer Masters degrees and some consider this the terminal degree in our profession. I disagree. Graduate programs must move students from theoretical concepts to discipline-specific knowledge. Graduate programs should be designed with strong laboratory and research components. Access to instructional laboratories with research-specific facilities, equipment, and instrumentation and interaction with forensic laboratories are required to enhance the graduate-level experience.Written and oral communication and report writing must be emphasized. While a Masters program can do some of this, for forensic science to advance as a profession, research-level Ph.D. programs in the forensic sciences are necessary.

They are also rare, at least in the US. I pursued my Ph.D. in Australia because of the restrictions in curriculum and the lack of forensic doctorate degree programs in the US. Programs like the one SHSU has proposed are desperately needed for the US to keep apace with changes in science, forensic science, and technology.

I fully support your Ph.D. program and curriculum. The strength of the coursework and the rigor is demonstrates will produce, under the tutelage and guidance of your excellent faculty, the next generation of scientific leaders in the forensic sciences.

Please do not hesitate to let me know how I can help in this endeavor.

Sincerely,



Max M. Houck, Ph.D.
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Consolidated Forensic Laboratory
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Washington, D.C. 20024
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ADA BROWN
ALLAN B. POLUNSKY
JOHN STEEN

September 19, 2012

Dr. Sarah Kerrigan
Sam Houston State University
College of Criminal Justice
Forensic Science Department

Dear Dr. Kerrigan:

I received your e-mail this week along with the description of the doctorate program in Forensic Science that you are planning in your department. As you have so effectively stated, in the 2009 National Academy of Sciences report to Congress with regard to improving forensic science, there are needs to conduct basic research, in order to establish that many of the long used forensic testing procedures are actually scientifically valid. You are also correct that most crime laboratories are burdened with more analytical work to perform than resources to do it, so they don't have the manpower to be conducting the needed research.

Further, as you have stated, crime laboratory managers these days need to not only have strong science backgrounds in chemistry and molecular biology, but also need to learn how to manage projects as well as people. They need to learn how to provide good customer service, which will include some business management skills. The business aspects of managing a crime laboratory inevitably will also include accessing resources, usually from the public entity funding the operation. This could be at the city, county, or state level, so the lab director will be pitching a plan to the city council, county commissioners, or state legislature to obtain funding, as well as writing federal grant applications, and then managing those grants.

So for both the needs for research, and the needs to help a prospective crime lab director gain the skills necessary for the position, a doctorate degree appears both beneficial and appropriate.

I commend Sam Houston State University for their efforts in creating such a program. We have had students of the SHSU master's program in Forensic Science intern in our DPS crime laboratories, and we have employed your graduates as Forensic Scientists in several of our labs. This has been a good experience for DPS, and I am sure that we could also benefit from employment of your Ph. D. graduates sometime in the future.

While we cannot endorse a particular product or service, we can acknowledge the need for skilled Forensic Scientists and crime laboratory managers and directors. Given that acknowledgement, I support the Ph. D. program that you have presented.

Yours truly,

D. Pat Johnson
Deputy Assistant Director
Law Enforcement Support Division
Crime Laboratory Service

Texas Forensic Science Commission

Justice Through Science

September 26, 2012

Via Hand Delivery

Sarah Kerrigan, Ph.D
Professor and Chair
Forensic Science Department
Sam Houston State University
Huntsville, Texas 77320

Re: Letter of Support for Ph.D Program in Forensic Science

Dear Dr. Kerrigan:

I write this letter in support of the Ph.D Program in Forensic Science proposed by Sam Houston State University ("SHSU"). As General Counsel of the Texas Forensic Science Commission, I am privileged to provide counsel to the state agency entrusted with oversight of accredited crime laboratories in Texas. I am confident the State of Texas would benefit tremendously from the comprehensive and rigorous forensic science Ph.D program proposed by SHSU.

The Texas Forensic Science Commission was created by the Texas Legislature in 2005. The Commission is required to investigate allegations of negligence and misconduct that would substantially affect the integrity of the results of a forensic analysis conducted by an accredited crime laboratory. TEX. CODE CRIM. PROC. art. 38.01 § 4(a)(3). The Commission also has a significant forensic development and education component to its mission. Since its inception, the Commission has witnessed the tremendous need for forensic science education, high-level research, validation of forensic methodologies, and academic-industrial partnerships in Texas. These are exactly the issues upon which the proposed Ph.D program in forensic science would focus.

Commission Office

Lynn M. Robitaille
Commission General Counsel

Leigh M. Tomlin
Commission Coordinator

Texas Forensic Science Commission
1700 North Congress Avenue, Suite 445
Austin, Texas 78701

Phone: 1 (888) 296-4232
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The Commission recently hosted a groundbreaking stakeholder roundtable event which brought together forensic science stakeholder from across Texas, including prosecutors, defense lawyers, judges, legislators and their staff, forensic scientists, law enforcement, university professors, and advocacy organizations. After the meeting, the Commission released a report summarizing the discussion and emphasizing the tremendous need for reliable research and academic-industrial collaboration in the area of forensic science. Stakeholders expressed a strong need for exactly the type of innovative approach envisioned by the SHSU Ph.D program. If the program is approved, crime laboratories in Texas will have the opportunity to become engaged in meaningful scientific research, and the university will become an even greater leader in forensic science education and industry partnerships. Moreover, the Ph.D program is likely to be well-received by key legislators in Texas, as it would help provide an additional vehicle for enhancing the integrity and reliability of forensic science in Texas crime laboratories.

Many legislators, judges and other stakeholders in the forensic science community in Texas have closely followed the recommendations contained in a February 2009 National Academy of Sciences report entitled *Strengthening Forensic Science in the United States: A Path Forward.* The report emphasizes the importance of academia in advancing forensic science technologies, validating existing science and delivering highly trained and well-prepared scientists to crime laboratories. In fact, the Commission recently attended a meeting of the White House Subcommittee on Forensic Science in Washington, D.C., during which the need for research, validation studies and academic-industrial partnerships was discussed at length. Texas was among a handful of states invited to present its experience in forensic science oversight and development to attendees. The Commission expects national legislators and policymakers to continue to look to Texas for leadership on these issues. The SHSU Ph.D program would provide an outstanding example of leadership and innovation, and would be promoted by other states seeking to enhance the quality of forensic science practiced in their crime laboratories.

In closing, I strongly encourage the Texas State University system to approve the proposed SHSU Ph.D program in forensic science. The academically robust, thoughtful and collaborative nature of the program has the potential to benefit students and criminal justice stakeholders nationwide. Please feel free to contact me with any questions you may have. Thank you.

Sincerely,

Lynn M. Robitaille