



**Substantive Change Prospectus for a
Doctor of Philosophy degree with a major in Forensic Science
Submitted by Sam Houston State University
July 2014**

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The proposed PhD in Forensic Science builds on the strength of the programs in the nationally recognized College of Criminal Justice. It is a natural extension of the outstanding graduate program already housed in the college within the Department of Forensic Science. The existing Master of Science in Forensic Science is nationally recognized and was the very first FEPAC-accredited graduate program in Texas.

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List degrees that the institution is authorized to grant. As a subset of each degree, list majors available.

Business Administration, MBA
Business Administration-Banking and Financial
Institutions, MBA
General Business, BBA
Entrepreneurship, BBA
Finance BBA, MS
Banking and Financial Institutions, BBA
Accounting, BBA, MS
Economics, BBA
International Business, BBA
Management, BBA
Project Management, MS
Human Resource Management, BBA
Management Information Systems, BBA
Marketing, BBA
Criminal Justice Leadership and Management,
MS
Criminal Justice and Criminology, MA
Criminal Justice, BA, BS, MS, PhD,
Victim Studies, BA, BS
Victim Services Management, MS
Forensic Science, MS
Security Studies, MS
Curriculum and Instruction, MA, MED
Instructional Technology, MED
Interdisciplinary Studies, BA, BS
Administration, MA, MED
Educational Leadership, EdD
Instructional Leadership, MA, MED
Higher Education Administration, MA
Counselor Education, MA, PhD
Counseling, MED
Developmental Education Administration, EdD
Clinical Mental Health Counseling, MA
Special Education, MA, MED
Reading, MA, MED
Reading/Language Arts, MED
Literacy, EdD
International Literacy, MED
Library Science, MLS

Communication Studies, BA, BS, MA
English, BA, MA
Creative Writing, Publishing, and Editing, MFA
Interior Design, BA, BS
Family and Consumer Sciences, BA, BS, MS
Food Science and Nutrition, BS
Food Service Management, BA, BS
Dietetics, MS
Fashion Merchandising, BA, BS
Spanish, BA, MA
History, BA, BS, MA
Public Administration, MPA
Political Science, BA, BS, MA
Philosophy, BA
Psychology, BS, MA
Clinical Psychology, PhD
Psychology-Clinical Psychology, MA
School Psychology, SSP
Sociology, BA, BS, MA
Theatre, BFA
Musical Theatre, BFA
Computer Animation, BFA
Art-Advertising and Graphic Design, BFA
Photography, BA, BS
Art-Photography, BFA
Art, BA, BFA
Art-Studio Art, BA, BFA
Dance, BA, BFA, MFA
Mass Communication, BA
Digital Media, MA
Music, BA, BM, MM
Music Therapy, BM
Music Therapy-Correctional, BM
General Studies, BGS
Composite Science, BS
Interdisciplinary Agriculture, BS
Agriculture, MS
Agricultural Business, BS
Agricultural Engineering Technology, BS
Agricultural Communication, BS

Animal Science, BS
Horticulture and Crop Science, BS
Industrial Technology, BS, MA
Construction Management, BS
Electronics and Computer Engineering
Technology, BS
Design and Development, BS
Applied Arts and Sciences, BAAS
Biology, BA, BS, MA, MS
Biomedical Sciences, BS
Chemistry, BS, MS
Forensic Chemistry, BS
Computing Science, BS
Computing and Information Science, MS
Digital Forensics, MS
Information Assurance and Security, MS
Computer Software Engineering Technology, BS
Geology, BS

Geography, BA, BS
Geographic Information Systems, MS
Mathematics, BA, BS, MA, MS
Statistics, MS
Physics, BS
Health, MA, MED
Kinesiology, MA, MED
Kinesiology, BA, BS
Bilingual Health Care Studies, BA
Health, BS
Public Health, BS
Wellness Management, BS
Athletic Training, BS
Health Care Administration, BS
Health Sciences, BS
Nursing, BSN *

* Prospectus in-progress

List of existing approved off-campus sites and their addresses

The Woodlands Center

3380 College Park Drive, The Woodlands, Texas
77384

University Park*

20515 State Highway 249, Building 12, Suite
232, Houston, Texas 77070

Aldine Independent School District

14910 Aldine Westfield Rd., Houston, Texas
77032

Bryan Independent School District

101 North Texas Avenue, Bryan, Texas 77803

Conroe Independent School District

3205 W. Davis, Conroe, Texas 77304

Cy-Fair Independent School District

10300 Jones Road Houston, Texas 77065

Edinburg Independent School District

411 North 8th Ave, Edinburg, Texas 78541

Huntsville Independent School District

441 FM 2821 East Huntsville Texas 77320

Madisonville Independent School District

718 Bacon Street, Madisonville, Texas 77864

New Caney Independent School District

21580 Loop 494, New Caney, Texas 77357

Spring Independent School District

16717 Ella Blvd., Houston, Texas 77090

Trinity Independent School District

101 W Jefferson, PO Box 752, Trinity, Texas
75862

Willis Independent School District

204 W. Rogers, Willis, TX 77378

Certificate, Diploma and Degree Programs Which are Related to the Proposed Program

Biology, MA

Biology, MS

Chemistry, MS

Forensic Science, MS

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Abstract

Sam Houston State University is requesting approval to offer a Doctor of Philosophy degree with a major in Forensic Science. The PhD in Forensic Science will require the completion of 86 credit hours beyond the bachelor's degree. The curriculum is designed to deliver essential core courses 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 mission of the new program is to provide students with the critical thinking ability, problem-solving skills, and advanced, discipline-specific knowledge to allow them to advance into leadership positions in forensic science. 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. The target audience include individuals seeking academic positions in forensic science programs, laboratory professionals seeking advanced or management-level positions within forensic science service provider organizations, and those intending to pursue careers in research.

Beginning in Spring 2015, the new doctoral degree will be delivered on the main SHSU campus in Huntsville, TX using traditional (classroom and laboratory) instruction. We anticipate between six and seven students will be admitted annually on an ongoing basis.

Background information

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 at SHSU 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.

Institutions proposing new doctoral programs must comply with the Texas Higher Education Coordinating Board (THECB) rules described in the Texas Administrative Code (TAC) §5.46. SHSU developed the proposal for the PhD in Forensic Science in 2012 and it is currently in the final stages of THECB approval. It has already received Texas State University System Board of Regents approval. The program is not offered at other approved off-campus sites and there are no similar programs offered within the institution.

Assessment of Need and Program Planning/Approval

The PhD in Forensic Science is a natural progression of the existing and very successful MS degree in Forensic Science. The MS in Forensic Science was the first of its kind in Texas, and the first to be accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC) in 2009. There are now approximately 20 accredited graduate forensic science programs in the United States.

The demand for a highly qualified workforce in forensic science is growing nationally and internationally. According to the most recent Census of Publicly Funded Crime Laboratories from the Bureau of Justice Statistics¹, 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 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.

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 Forward². 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 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 recurrence³. 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. The NAS report highlights in particular the need for integrated governance, national standards and a significant infusion of federal funds to address these issues. In addition to the growing need for highly qualified forensic examiners, in order for the proposed forensic reform efforts to be successful we must invest in and develop new leaders in forensic science.

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

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.

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 Science⁴. 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. 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.

The report to Congress recognized 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:

“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

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

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.

In order to provide a strong foundation and continuity of assessment beyond the MS-level, the new doctoral program will adhere to the planning, evaluation and assessment standards required under FEPAC. With financial assistance from the National Institute of Justice, in 2003 the Forensic Science Education Programs Accreditation Commission (FEPAC) was established. 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. 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.

Additionally, the program will be reviewed every seven years as part of the program review process at the university. This review includes site visits from two outside reviewers. As part of our continuing assessment process at the university, the program will assess learning outcomes each year and provide a plan for continuous improvement.

The Department of Forensic Science at SHSU already offers a robust and diverse graduate curriculum as a result of the FEPAC-accredited MS 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, research, and ongoing industrial partnerships. The proposed doctoral program, which is designed to advance its graduates into leadership positions within forensic science, is unique in this respect.

The proposal for the PhD in Forensic Science was initially developed in 2012 in accordance with the institution and college-level strategic plan. Faculty, administrators and institutional committees participated in the review process. After it was approved by the University Curriculum Committee (consisting of faculty from across the university) in January 2013 it received institutional approval at the Academic Affairs Council, which consists of department chairs, deans, associate deans, Vice Provost, Provost, and Faculty Senate representatives (April 2013). It was approved by the Board of Regents of the Texas State University System in August 2013 and was submitted to the Texas Higher Education Coordinating Board (THECB) for review in August 2013. The program underwent an on-site review by the THECB in May of 2014 and is in the final stages of approval.

Description of Change

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. The educational objectives are as follows:

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.

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 (inclusive of internship), a minimum of 15 credit hours of dissertation research and an additional 26 credit hours of electives (**Table 1**). The curriculum is designed to deliver an essential core curriculum in forensic science (**Table 2**), together with specialized electives and research in the area of interest (**Table 3**). Students are expected to fulfill the requirements during four to five years of full-time study.

Table 1. Degree Requirements

Category	Semester Credit Hours
Required Courses	39
Electives	26
Internship	6
Dissertation	15
TOTAL	86

Table 2. Required Courses

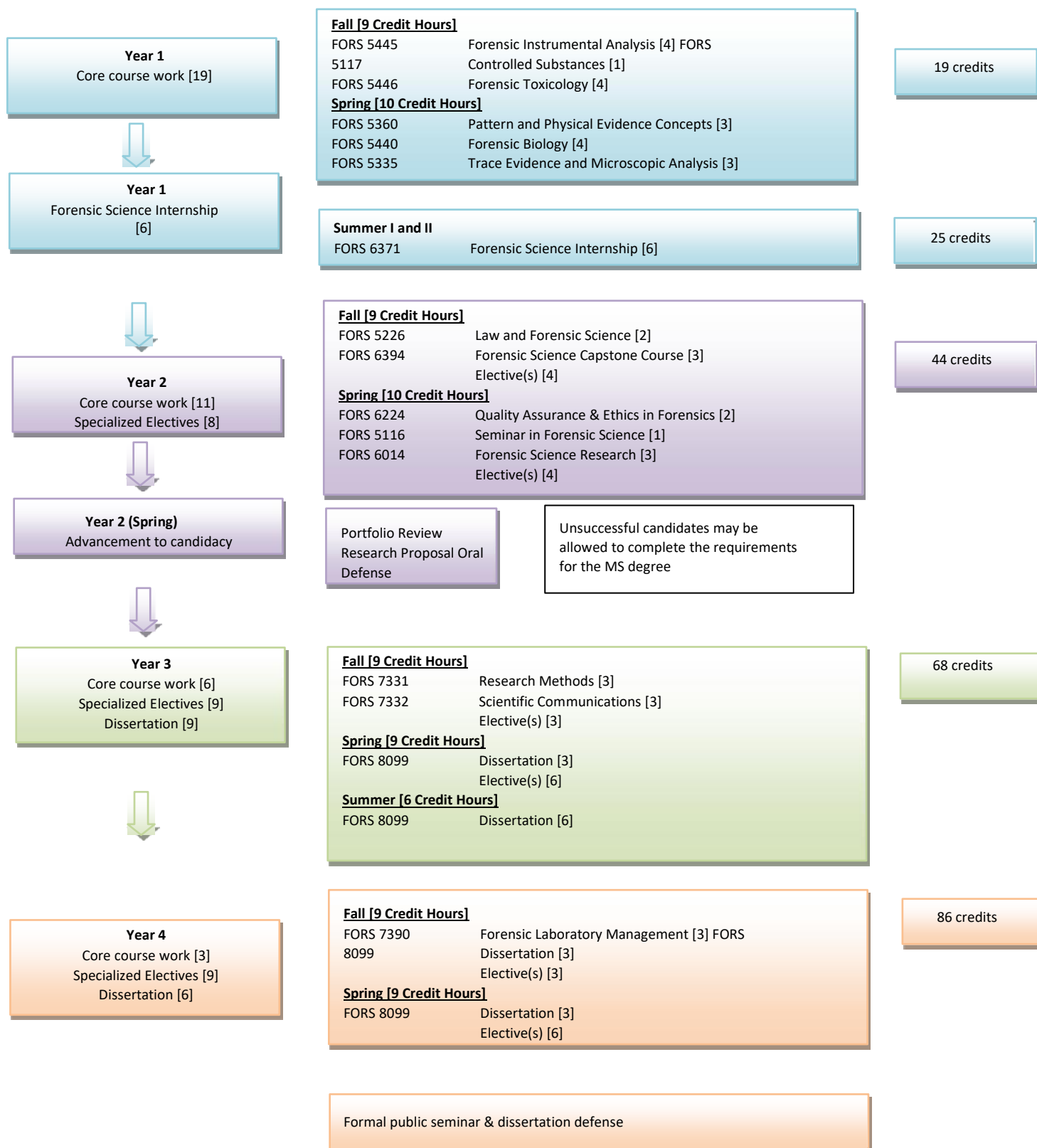
Prefix and Number	Required Courses	SCH	Year
FORS 5445	Forensic Instrumental Analysis	4	1
FORS 5360	Pattern and Physical Evidence Concepts	3	1
FORS 5231	Techniques for Crime Scene Investigation	2	1
FORS 5117	Controlled Substance Analysis	1	1
FORS 5440	Forensic Biology	4	1
FORS 5335	Trace Evidence and 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 6014	Forensic Science Research (6 credit hours total)	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 3. Specialized Electives*

Prefix and Number	Elective	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 7385	Warfare Agents	3	2-4
FORS 7334	Social Science of Forensics	3	2-4
FORS 7389	Practicum	3	4

*Additional electives may be selected with approval of the Department Chair.

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.



To be considered for admission, candidates must hold a bachelor's degree or higher from an institution accredited by an agency recognized by the THECB in chemistry or biology; or a bachelor's degree or higher from an institution accredited by an agency recognized by the THECB in a forensic or natural science with the equivalent of a minor in either chemistry or biology.

Students who previously graduated from the MS in Forensic Science program at SHSU may incorporate up to 44 semester credit hours towards the doctoral degree with approval from both the Graduate Standards and Admissions Committee and the Department Chair. A maximum of 15 semester credit hours may be transferred from another graduate program in accordance with existing institutional policies.

Sam Houston State University follows the policies established by The Texas Higher Education Coordinating Board, Chapter 4, Subchapter A, section 4.6, to determine the number of contact hours necessary for 3 hours credit. According to these guidelines, "Three-semester-credit-hour courses should contain 15 weeks of instruction plus a week for final examinations so that such a course contains 45 to 48 contact hours depending on whether there is a final exam." Courses that award less than three (3) credit hours typically require more than one or two hours a week but combine lecture and application. "Courses delivered in shortened semesters are expected to have the same number of contact hours and the same requirement for out-of-class learning as courses taught in a normal semester". Rules concerning the implementation of shortened courses are addressed in Sam Houston State University Academic Policy Statement 860110. All course credits within the proposed PhD program adhere to all university policy requirements.

Administrative oversight to ensure overall program quality is provided at the institutional and national-level, ensuring both internal and external oversight. Accreditation standards for forensic science education were established in the years following a 1999 report by the National Institute of Justice entitled "Forensic Science: Review of Status and Needs". The report specifically called for national standards for forensic science education; an independent, community-wide, consensus-building, standard-setting body for education in forensic science; and an accreditation system for forensic science education programs. With those systems now in place, SHSU was among a handful of graduate programs in the nation to achieve full accreditation status under FEPAC in 2009, and the first of its kind in Texas.

Faculty

Academic qualifications, relevant experiences and courses eligible for instruction are summarized in the Faculty Roster form (**Appendix I**).

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 within the department will be devoted to doctoral-level education and 50% to masters-level education. During the fall 2014 semester the department will begin recruiting a new full-time forensic science faculty member. This new faculty member will be in place by the fall 2015 semester.

The research teaching load for faculty at SHSU requires them to teach the equivalent of 9 credit hours each long semester (i.e., Fall and Spring). 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.

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. Support faculty of appropriate graduate faculty status are eligible to serve on dissertation committees and direct doctoral student research.

Faculty have the necessary scholarship and research capability to support the program. Forensic research at SHSU is highly interdisciplinary in nature and attracts significant federal funding. Since 2008, SHSU has attracted more than \$4.5 million in external funding, of which core and support faculty associated with the doctoral program account for more than \$3 million (**Appendix II**). Moreover, the core forensic science faculty have chaired close to one hundred MS-level research committees to date (**Table 4**). A complete summary of MS-level student research by current forensic science faculty members is provided (**Appendix III**).

Table 4. Direction of Graduate Student Research

Core Faculty	Number of MS-Level Research Committees Chaired	Since	External Grants to Date
Dr. Sarah Kerrigan (Chair)	37	2007	7
Dr. David Gangitano	31	2008	3
Dr. Chi-Chung (Jorn) Yu	23	2008	2
Dr. Sheree Hughes-Stamm	4	2013	1
Dr. Joan Bytheway	1	2007	-
Dr. Jasmine Drake	1	2014	-

Library and Learning Resources

The Newton Gresham Library, open 100 hours per 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. Discipline-specific refereed journals are provided in **Appendix IV**.

Student Support Services

SHSU currently offers a full complement of student support services to meet the needs of undergraduate and graduate students (**Table 5**). Programming and activities related to the graduate student support are described in the Graduate Catalog (<http://www.shsu.edu/graduate-catalog/2013-2015/student-support-services.html>).

Instructional and support services that are currently provided at the institutional level are sufficient to meet the needs of the proposed program. Institutional resources are complemented by additional department and college-level support including but limited to academic advising, mentoring, career placement and professional development. With anticipated new forensic science faculty, we anticipate that the primary advising responsibility will transition from the Department Chair to a member of the graduate faculty.

The Office of Graduate Studies offers a variety of programming for graduate students including professional, career and academic development seminars. These workshops cover areas such as resume and vita building, dissertation 101, scholarly presentations, scholarly publications, etc. Students are also provided travel support to present research at conferences.

Table 5. Student Support Services

Career Services
Center for Leadership & Service
Continuing Education Center
Counselling Center
Dean of Students' Office
Department of Residence Life
Division of Student Services
Health Center
Lowman Student Center
Office of International Programs (OIP)
Office of Students' Legal & Mediation Services
Press and Copy Center
Public Safety Services
Recreational Sports and Activities Program
Services for Students with Disabilities
Student Advising and Mentoring (SAM) Center
Student Government Association
Student Money Management Center
Visitor Center
Writing Center, Reading Center, Mathematics Tutoring Center

Physical Resources

The existing Department of Forensic Science is located in the Chemistry and Forensic Science (CFS) Building, centrally located on the main 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 Department of Chemistry (College of Science). The 37,000 square foot facility offers classroom, office and laboratory space. The Department of Forensic Science occupies approximately 7,800 SF of the 37,000 SF facility. Laboratory, administrative and storage space accounts for approximately 5100, 2200 and 500 SF, respectively. Teaching laboratories are used for both instructional and research purposes. A new Health and Life Sciences Building is currently in the facilities planning stage. If funded, the Department of Forensic Science would be housed within this new facility, providing additional research and teaching space.

In 2008 the university established 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.

Since 2007, SHSU has made considerable capital investments in scientific equipment, totaling almost \$1.4M. The institution has committed to additional capital outlay during the first two years of the program. An itemized list of capital equipment is provided in **Appendix V**. Due to the modular nature of the proposed PhD, the first two years of the program will comprise of a mix of masters and doctoral students. Additional faculty, resources and scientific equipment anticipated within the first year will ensure that the existing MS program is not negatively impacted.

Financial Support

The program will be supported during the first two years with student fees, board authorized tuition, designated tuition, Higher Education Assistance Funds (HEAF) and scholarship money from Graduate Studies. In subsequent years, the program will be supplemented by formula funding and reallocated faculty and staff time. We also expect graduate faculty to continue to receive external funding to support research (**Appendix II**).

The anticipated costs to the institution and sources of funding are summarized in **Tables 6-8**. The five-year costs and funding sources shown below were estimated using the Texas Higher Education Coordinating Board's "Program Funding Estimation Tool", available online at www.thecb.state.tx.us/newprogramscertificates.

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%. The "other" category includes six \$6,000 scholarships awarded annually the first 3-years and seven \$6,000 scholarships awarded annually years 4 and 5.

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 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 Office 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.

Table 6. Costs to the Institution.

<u>Cost Category</u>	<u>Cost Sub-Category</u>	<u>1st Year</u>	<u>2nd Year</u>	<u>3rd Year</u>	<u>4th Year</u>	<u>5th Year</u>	<u>TOTALS</u>
Faculty Salaries	(New)			\$99,000	\$101,970	\$105,029	\$305,999
	(Reallocated)			\$179,842	\$185,237	\$190,794	\$555,873
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	\$170,000	\$510,000
	(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	\$37,120
Library & IT Resources*							
Equipment			\$100,000				\$100,000
Facilities							
Other (Scholarships)		\$36,000	\$36,000	\$36,000	\$42,000	\$42,000	\$192,000
TOTALS		\$191,640	\$325,821	\$568,902	\$647,442	\$693,575	\$2,427,380

* IT = Instructional Technology

Table 7. Anticipated Sources of Funding.

<u>Funding Category</u>	<u>1st Year</u>	<u>2nd Year</u>	<u>3rd Year</u>	<u>4th Year</u>	<u>5th Year</u>	<u>TOTALS</u>
I. Formula Income*			\$130,755	\$130,755	\$426,675	\$688,185
II. Other State Funding HEA Funds	\$50,000	\$50,000				\$100,000
III. Reallocation of Existing Resources			\$278,842	\$287,042	\$295,823	\$861,707
IV. Federal Funding (In-hand only)						
V. Other Funding Student Fees Board Authorized Tuition Designated Tuition Students Portion	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$300,000
		\$16,362	\$28,404	\$44,364	58,731	\$147,861
		\$7,500	\$13,200	\$20,400	27,050	\$68,150
		\$22,500	\$39,600	\$61,200	81,150	204,450
		\$7,500	\$13,200	\$20,400	\$27,050	68,150
TOTALS	\$110,000	\$156,362	\$645,205	\$750,125	\$1,143,410	\$2,438,503

Table 8. Sources of Non-Formula Funding.

<u>Funding Category</u>	<u>Non-Formula Funding Sources</u>
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

Evaluation and Assessment

Sam Houston State University has well-established processes for assessing overall institutional effectiveness, as well as means for monitoring and ensuring the quality of its degree programs and services. As part of the institution's continuous improvement efforts, all educational and educational support programs at Sam Houston State University engage in an annual outcomes assessment process whereby they define outcomes, measure the attainment of those outcomes, and use the collected data to drive continuous improvement within their programs. Programmatic assessment plans, collected assessment results, and plans for continuous improvement based on these results are documented within the University's online assessment management system, the Online Assessment Tracking Database (OATDB).

The annual assessment processes documented by departments and programs at SHSU through the OATDB are monitored by the Office of Academic Planning and Assessment. This Office monitors the ongoing progress of each assessment cycle, ensuring that units are entering assessment plans, results, and actions for improvement in a timely manner. In conjunction with the university community, the Office of Academic Planning and Assessment has developed a meta-assessment process for providing qualitative feedback to units on their assessment plans. This process utilizes a rubric for evaluating the quality of a unit's assessment plan, while not impinging upon a unit's freedom to assess those objectives that are most important to them. This system serves several major purposes for SHSU: first, it provides formative feedback to units that can be used for the continuous improvement of their assessment processes; second, it provides a process of oversight of program-level assessment plans by their parent departments and colleges; and third, it provides the Office of Academic Planning and Assessment, and University leadership in general, a mechanism for monitoring the overall health and quality of institutional assessment at SHSU allowing them to take action and provide resources to areas that may need assistance with improving their assessment processes. The result of these efforts helps SHSU ensure that it is effectively monitoring the quality of its degree offerings, services, and operations, regardless of the location of their delivery.

In addition to institutional assessment, the PhD program will be evaluated in accordance with the graduate program standards of the Forensic Science Education Programs Accreditation Committee (FEPAC). 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. The program will be reviewed as part of the ongoing SHSU periodic academic program review process. This process involves an intensive self-study complemented by an external assessment conducted by disciplinary experts. The doctoral program will be subjected to this review every seven years.

Current graduate program evaluation activities within the Department of Forensic Science are highly inclusive and involve faculty, students, graduates and employers. At the program-level, the Director identifies deficiencies, corrective actions or areas of improvement and is responsible for implementing them. The program has developed an effective system for data collection, evaluation and a program-level planning process that includes an annual performance audit (annual quality review). The annual quality review involves a comprehensive review of mission, postgraduate surveys, curriculum surveys, employer satisfaction surveys, assessment data, teaching evaluations, OATDB performance measures, research outcomes, admission and recruiting, strategic planning, review of academic and non-academic support and safety. The new program will be incorporated into the existing system for planning, evaluation and assessment at the department level, and the evaluation framework for existing doctoral programs within the college to ensure that the new program is effective.

APPENDICES

Appendix I - Faculty Roster Form
Qualifications of Full-Time and Part-Time Faculty

Name of Institution: Sam Houston State University

Name of Primary Department, Academic Program, or Discipline: Doctor of Philosophy Degree in Forensic Science

Academic Term(s) Included: Courses to be Taught (beginning Fall 2015)

Date Form Completed: 05/14/2014

Name and Rank*	Courses to be Taught	Academic Degrees & Course Credits Earned	Other Qualifications & Comments Related to Courses to be Taught
Kerrigan, Sarah (Professor & Chair)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 5446 (Forensic Toxicology), FORS 5116 (Forensic Seminar), FORS 6371 (Forensic Internship), FORS 6014 (Forensic Science Research), 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)</p> <p><u>Courses taught in AY 2013-2014</u> FORS 6094.01 – Spring 2014 Capstone Research(G)</p> <p>FORS 6094.02 – Spring 2014 Questioned Documents(G)</p> <p>FORS 5446.01 – Fall 2013 Forensic Toxicology(G)</p> <p>FORS 5446.11 – Fall 2013 Forensic Toxicology LAB(G)</p> <p>FORS 6094.04 – Fall 2013 Capstone Research(G)</p>	<p>BSC CHEMISTRY THE UNIVERSITY OF HULL, ENGLAND (1992)</p> <p>PHD CHEMISTRY THE UNIVERSITY OF BRITISH COLUMBIA (VANCOUVER, CANADA) (1998)</p>	<ul style="list-style-type: none"> • Publication of 24 peer-reviewed publications in scientific journals, 13 book chapters, 47 proceedings scientific meetings. • Principal Investigator on externally funded grants totaling more than \$800,000. • Former State Crime Laboratory Director. • Laboratory Director of ABFT, ASCLD/LAB, ISO/IEC-17025 accredited laboratories. • Former Quality Assurance Manager, California Department of Justice. • Former President of the Society of Forensic Toxicologists, 2011. • Fellow of the American Academy of Forensic Sciences. • Secretary, Toxicology Section, American Academy of Forensic Sciences, 2014. • Editorial Advisory Board of the Journal of Analytical Toxicology, 2003 to present. • Editorial Advisory Board of the Journal of Forensic Sciences, 2009 to present. • Vice Chair, Texas Forensic Science Commission, 2012-present. • Appointed by the Texas Attorney General to the Texas Forensic Science Commission, 2007-present. • Appointed the Accreditation and Certification IWG of the NSTC Subcommittee on Forensic Science by the Executive Office of the United States President, 2010. • Former Commissioner, Forensic Science Education Programs Accreditation Commission, 2009-2011.

Bytheway, Joan (Associate Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 5333 (Forensic Anthropology), FORS 5116 (Forensic Seminar), FORS 6224 (QA and Ethics in Forensic Science), FORS 6014 (Forensic Science Research), FORS 7332 (Scientific Communications)</p> <p><u>Courses taught in AY 2013-2014</u> CRIJ 4377.06 – Spring 2014 Adv. Tech/For. Anthropology(U)</p> <p>CRIJ 4442.01 - Spring 2014 Intro to Forensic Anthropology(U)</p> <p>CRIJ 3331.01 – Fall 2013 Fnd Frns Anth 1: Phys Anthro(U)</p> <p>CRIJ 3420.01 – Fall 2013 Hum Osteol: Analys of Hum Bone(U)</p>	<p>BA ANTHROPOLOGY UNIVERSITY OF PITTSBURGH (1995)</p> <p>PHD ANTHROPOLOGY UNIVERSITY OF PITTSBURGH (2003)</p>	<p>Two years experience as a Forensic Anthropologist/Lab Analyst. Several publications and professional presentations in forensic science. Diplomate of the American Board of Forensic Anthropology.</p>
Drake, Jasmine (Assistant Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 5445 (Forensic Instrumental), FORS 5231 (CSI), FORS 5117 (Controlled Substances), FORS 5335 (Trace Evidence), FORS 6335 (Advanced Forensic Chemistry), FORS 6014 (Forensic Science Research)</p> <p><u>Courses taught in AY 2013-2014</u> CRIJ 3366.02 – Spring 2014 Forensic Science(U)</p> <p>FORS 5116.02 – Spring 2014 Seminar In Forensic Science(G)</p> <p>FORS 5117.01 – Spring 2014 Controlled Substance Analysis(G)</p>	<p>BS CHEMISTRY SOUTHERN UNIVERSITY AND A&M COLLEGE (2002)</p> <p>PHD CHEMISTRY LOUISIANA STATE UNIVERSITY (2007)</p>	<ul style="list-style-type: none"> • Former postdoctoral fellow at the National Institute of Standards and Technology (NIST) • Former Forensic Chemist for the United States Drug Enforcement Administration

	<p>FORS 5445.01 – Fall 2013 Forensic Instrumental Analysis(G)</p> <p>FORS 5445.11 – Fall 2013 Forensic Instrumental Anal LAB(G)</p> <p>FORS 5445.12 – Fall 2013 Forensic Instrumental Anal LAB(G)</p>		
Gangitano, David (Associate Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> 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 6014 (Forensic Science Research), FORS 7331 (Research Methods), FORS 8099 (Dissertation)</p> <p><u>Courses taught in AY 2013-2014</u> CRIJ 3366.01 – Spring 2014 Forensic Science(U)</p> <p>CRIJ 6394.03 – Spring 2014 Behavioral Genetics(G)</p> <p>FORS 5215.01 – Spring 2014 Stat Genetics for For Sci(G)</p> <p>FORS 6224.01 – Spring 2014 Quality Assurance-Forensic Sci(G)</p> <p>FORS 6333.01 – Spring 2014 Behavioral Genetics(G)</p> <p>CRIJ 3366.03 – Fall 2013 Forensic Science(U)</p>	<p>PhD Forensic Medicine & Toxicology, University of Buenos Aires, Argentina</p> <p>BS CHEMISTRY UNIVERSITY OF BUENOS AIRES, ARGENTINA (1992)</p> <p>PHD LEGAL MEDICINE AND TOXICOLOGY UNIVERSITY OF BUENOS AIRES, ARGENTINA (2004)</p>	<ul style="list-style-type: none"> • Forensic scientist (1993-2002). Federal Police (Argentina). Areas of expertise: DNA, CSI, Chemistry and Toxicology. • 9 peer-reviewed publications (international journals): Forensics, Neuroscience, Neurourology and Endocrinology. 5 non peer-reviewed publications in Journal of Forensic Sciences • a)Post-doctoral Associate. Dept. of Neuroscience. Baylor College of Medicine (Houston, TX)(2003-2005). b)Research Associate. Scott Department of Urology. Baylor College of Medicine (Houston, TX)(2006-2007) c)Adjunct Assistant Professor of Urology. Scott Department of Urology. Baylor College of Medicine (Houston, TX)(2008-Present) • Iberoamerican Working Group of DNA (GITAD). Founding member since 1998. American Academy of Forensic Sciences. Trainee affiliate since 2008.

	<p>FORS 5361.01 – Fall 2013 Advanced Forensic DNA(G)</p> <p>FORS 5361.11 – Fall 2013 Advanced Forensic DNA LAB(G)</p>		
<p>Hughes-Stamm, Sheree (Clinical Assistant Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 5440 (Forensic DNA), FORS 5116 (Forensic Seminar), FORS 5361 (Advanced Forensic DNA), FORS 5215 (Statistical Genetics), FORS 7332 (Scientific Communications)</p> <p><u>Courses taught in AY 2013-2014</u> FORS 5440.01 – Spring 2014 Forensic Biology(G)</p> <p>FORS 5440.02 – Spring 2014 Forensic Biology LAB(G)</p> <p>CRIJ 3366.04 – Fall 2013 Forensic Science(U)</p> <p>FORS 5333.01 – Fall 2013 Forensic Anthropology(G)</p> <p>FORS 5333.11 – Fall 2013 Forensic Anthropology LAB(G)</p>	<p>BS HUMAN ANATOMY UNIVERSITY OF QUEENSLAND (QUEENSLAND, AUSTRALIA) (1997)</p> <p>PHD FORENSIC GENETICS BOND UNIVERSITY (QUEENSLAND, AUSTRALIA) (2012)</p>	<ul style="list-style-type: none"> Principal Investigator on externally funded grants from the National Institute of Justice.
<p>Yu, Chi-Chung (Associate Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 5445 (Forensic Instrumental), FORS 5360 (Pattern Evidence), FORS 5117 (Controlled Substances), FORS 5335 (Trace Evidence), 6224 (QA and Ethics in Forensic Science); FORS 6014 (Forensic Science Research), FORS 7331 (Research Methods), FORS 6335 (Advanced</p>	<p>BS FORENSIC TECHNOLOGY AND CRIMINOLOGY CENTRAL POLICE UNIVERSITY, TAIWAN (1994)</p> <p>MS FORENSIC SCIENCE CENTRAL POLICE UNIVERSITY, TAIWAN (2000)</p>	<ul style="list-style-type: none"> Over Fifteen (15) peer-reviewed scientific research articles published in the field of Analytical Chemistry and Forensic Science. Over eight (8) years of working experience as a forensic crime scene investigator and a forensic scientist at Forensic Science Center, Taipei City, Taiwan. Associate member of the American Academy of Forensic Science (AAFS), International Association for Identification (IAI) and

	<p>Forensic Chemistry), FORS 8099 (Dissertation)</p> <p><u>Courses taught in AY 2013-2014</u></p> <p>FORS 5335.01 – Spring 2014 Trace Evidnc & Microscpc Anlys(G)</p> <p>FORS 5335.02 – Spring 2014 Trc Evidnc & Microscpc Anlys LAB(G)</p> <p>FORS 5335.03 – Spring 2014 Trc Evidnc & Microscpc Anlys LAB(G)</p> <p>FORS 6335.01 – Spring 2014 Advanced Forensic Chemistry(G)</p> <p>CRIJ 3366.02 – Fall 2013 Forensic Science(U)</p> <p>FORS 5360.01 – Fall 2013 Pattern & Phys Eviden Concepts(G)</p> <p>FORS 5360.11 – Fall 2013 Pattern & Phys Evidence LAB(G)</p>	<p>PHD CHEMISTRY CARLETON UNIVERSITY, CANADA (2006)</p>	<p>Taiwan Academy of Forensic Sciences (TAFS), Taiwan.</p> <ul style="list-style-type: none"> • Certificate of Physical Significance of Bloodstain Evidence, Herbert Leon MacDonell, Corning, New York, 2001. Certificate of Fatal Arson and Fire Investigation, Henry Lee, New Haven, Connecticut, 1996. • Diplomate of the American Board of Criminalistics.
<p>Armstrong, Todd (Associate Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u></p> <p>FORS 6333 (Behavioral Genetics)</p> <p><u>Courses taught in AY 2013-2014</u></p> <p>CRIJ 2362.02 – Spring 2014 Criminology(U)</p> <p>CRIJ 2362.04 – Spring 2014 Criminology(U)</p> <p>CRIJ 6394.03 – Spring 2014 Behavioral Genetics(G)</p>	<p>BA GOVERNMENT AND POLITICS UNIVERSITY OF MARYLAND, COLLEGE PARK (1992)</p> <p>MA CRIMINOLOGY AND CRIMINAL JUSTICE UNIVERSITY OF MARYLAND, COLLEGE PARK (1996)</p> <p>PHD CRIMINOLOGY AND CRIMINAL JUSTICE UNIVERSITY OF MARYLAND, COLLEGE PARK (2000)</p>	<p>Numerous peer-reviewed publications in the areas of criminology and criminal justice.</p>

	<p>FORS 6333.01 – Spring 2014 Behavioral Genetics(G)</p> <p>CRIJ 2362.04 – Fall 2013 Criminology(U)</p> <p>CRIJ 7337.01 – Fall 2013 Criminological Theory(G) – Fall 2013</p>	<p>Graduate Hours: Criminology (12 hrs)</p>	
<p>Boisvert, Danielle (Assistant Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 6333 (Behavioral Genetics)</p> <p><u>Courses taught in AY 2013-2014</u> CRIJ 6093.01 – Spring 2014 Special Readings In Crim Justc(G)</p> <p>CRIJ 6099.01 – Spring 2014 Thesis(G)</p> <p>CRIJ 6099.02 – Spring 2014 Thesis(G)</p> <p>CRIJ 6394.03 – Spring 2014 Behavioral Genetics(G)</p> <p>CRIJ 6398.01 – Spring 2014 Thesis Practicum(G)</p> <p>CRIJ 7070.01 – Spring 2014 Specialized Readings(G)</p> <p>CRIJ 7371.03 – Spring 2014 Teaching Practicum(G)</p> <p>CRIJ 8099.01 – Spring 2014 Dissertation IV(G)</p>	<p>BS BIOLOGY THE UNIVERSITY OF WESTERN ONTARIO (2001)</p> <p>MFS FORENSIC SCIENCE THE GEORGE WASHINGTON UNIVERSITY (2002)</p> <p>PHD CRIMINAL JUSTICE UNIVERSITY OF CINCINNATI (2009)</p>	<p>Numerous peer-reviewed publications in the areas of criminology and behavioral genetics.</p> <p>2012-2013 College of Criminal Justice Teaching Award.</p>

	<p>CRIJ 8099.02 – Spring 2014 Dissertation IV(G)</p> <p>CRIJ 8396.01 – Spring 2014 Dissertation(G)</p> <p>CRIJ 8397.01 – Spring 2014 Dissertation II(G)</p> <p>CRIJ 8398.01 – Spring 2014 Dissertation III(G)</p> <p>FORS 6333.01 – Spring 2014 Behavioral Genetics(G)</p> <p>CRIJ 2362.02 – Fall 2013 Criminology(U)</p> <p>CRIJ 5392.01 – Fall 2013 Survey Of Research Methods(G)</p> <p>CRIJ 6093.03 – Fall 2013 Special Readings In Crim Justc(G)</p> <p>CRIJ 6099.01 – Fall 2013 Thesis(G)</p> <p>CRIJ 6099.02 – Fall 2013 Thesis(G)</p> <p>CRIJ 6398.01 – Fall 2013 Thesis Practicum(G)</p> <p>CRIJ 7070.01 – Fall 2013 Specialized Readings(G)</p>		
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<p>Boutwell, Brian (Assistant Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 6334 (Behavioral Genetics)</p> <p><u>Courses taught in AY 2013-2014</u> CRIJ 2362.01 – Spring 2014 Criminology(U)</p> <p>CRIJ 2362.05 – Spring 2014 Criminology(U)</p> <p>CRIJ 6394.03 – Spring 2014 Behavioral Genetics(G)</p> <p>FORS 6333.01 – Spring 2014 Behavioral Genetics(G)</p> <p>CRIJ 2362.01 – Fall 2013 Criminology(U)</p> <p>CRIJ 4377.02 – Fall 2013 Biosocial Criminology(U)</p>	<p>BS CRIMINOLOGY FLORIDA STATE UNIVERSITY (2006)</p> <p>MS CRIMINOLOGY FLORIDA STATE UNIVERSITY (2007)</p> <p>PHD CRIMINOLOGY FLORIDA STATE UNIVERSITY (2010)</p>	
<p>Bucheli, Sibyl (Assistant Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 5305 (Forensic Entomology)</p> <p><u>Courses taught in AY 2013-2014</u> BIOL 1108.08 – Spring 2014 Contemporary Biology Lab(U)</p> <p>BIOL 4361.01 – Spring 2014 Introductory Evolutionary Bio(U)</p> <p>BIOL 4410.01 – Spring 2014 General Entomology(U)</p>	<p>BA BIOLOGY HIRAM COLLEGE, HIRAM, OHIO (1996)</p> <p>MS ENTOMOLOGY THE OHIO STATE UNIVERSITY, COLUMBUS, OH (1999)</p> <p>PHD ENTOMOLOGY THE OHIO STATE UNIVERSITY, COLUMBUS, OH (2005)</p> <p>Graduate Hours: Entomology (24+ hrs)</p>	<p>3 peer reviewed publications in entomology journals.</p>

	<p>BIOL 4410.02 – Spring 2014 General Entomology LAB(U)</p> <p>HONR 2331.01 – Spring 2014 Honors Seminar II(U)</p> <p>BIOL 1108.01 – Fall 2013 Contemporary Biology Lab(U)</p> <p>BIOL 1108.06 – Fall 2013 Contemporary Biology Lab(U)</p> <p>BIOL 4096.04 – Fall 2013 Spcl Topics In Undergrad Bio(U)</p> <p>BIOL 4110.03 – Fall 2013 Undergraduate Seminar(U)</p> <p>BIOL 4361.01 – Fall 2013 Introductory Evolutionary Bio(U)</p> <p>BIOL 5305.01 – Fall 2013 Forensic Entomology(G)</p>		
<p>Choudhary, Madhusudan (Assistant Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> BIOL 5391 (Advanced Genetics)</p> <p><u>Courses taught in AY 2013-2014</u> BIOL 3450.01 – Spring 2014 Introductory Genetics(U)</p> <p>BIOL 3450.02 – Spring 2014 Introductory Genetics LAB(U)</p> <p>BIOL 3450.04 – Spring 2014 Introductory Genetics LAB(U)</p>	<p>BSC BOTANY PATNA UNIVERSITY (PATNA, INDIA) (1978)</p> <p>PHD BIOLOGY-GENETICS MCMASTER UNIVERSITY, ONTARIO, CANADA (1988)</p> <p>Graduate Hours: Genetics (24+ hrs)</p>	<ul style="list-style-type: none"> • Associate Professor: Department of Biological Sciences, Sam Houston State University, Huntsville, Texas (September 2014-Current) • Assistant Professor: Department of Biological Sciences, Sam Houston State University, Huntsville, Texas (September 2008-August 2014) • Assistant Professor (Research-track): Department of Microbiology and Molecular Genetics, University of Texas Medical School at Houston, Texas (January 1993-August 2008) • Huxley Research Fellow: Department of Evolutionary Biology, Rice University, Houston, Texas (September 1990-December 1992) • Research Associate: Department of Zoology, Duke University, Durham, North Carolina (September 1987- August 1990) • Graduate Teaching Assistant: Department of Biology, McMaster University, Hamilton, Canada (1982-1987) • Lecturer: Department of Botany, Patna University, Patna, India (1979-1982).

	<p>BIOL 4110.01 – Spring 2014 Undergraduate Seminar(U)</p> <p>BIOL 5371.01 – Spring 2014 Evolution(G)</p> <p>BIOL 3450.01 – Fall 2013 Introductory Genetics(U)</p> <p>BIOL 3450.04 – Fall 2013 Introductory Genetics LAB(U)</p> <p>BIOL 3450.05 – Fall 2013 Introductory Genetics LAB(U)</p> <p>BIOL 4096.01 – Fall 2013 Spcl Topics In Undergrad Bio(U)</p> <p>BIOL 4110.01 – Fall 2013 Undergraduate Seminar(U)</p> <p>BIOL 5391.01 – Fall 2013 Advanced Genetics(G)</p>		<ul style="list-style-type: none"> • 2012 - Prof. R. P. Roy Memorial Lecture, Dept of Botany, Patna University, India • 2012 - University Mentoring Award, Sam Houston State University, Texas, USA • 2012 - UNESCO-ASM Visiting Speaker, Patna University, India • 2012 - Biology Scholar, American Society of Microbiologists (ASM-NSF) • 2009 - Life time Service Award: Bihar Association of North America, USA • 2002 - Teacher Appreciation Award, Texas Academy of Mathematics and Science, University of North Texas, Denton, Texas, USA • 1987 - Yates Graduate Scholarship, McMaster University, Hamilton, Canada • 1986 - Graduate Student Travel Award: Genetics Society of America • 1977-1979: Junior Research Fellow: Council of Scientific and Industrial Research, Govt. of India • 1975-1977 - National Merit Scholarship: Government of India • 39 peer-reviewed publications
<p>Dowling, Jerry (Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 5226 (Law and Forensic Science)</p> <p><u>Courses taught in AY 2013-2014</u> CRIJ 2364.02 – Fall 2013 Fundamentals Of Criminal Law(U)</p> <p>CRIJ 6396.01 – Fall 2013 Legal Aspects Of CJ Management(G)</p> <p>CRIJ 6396.02 – Fall 2013 Legal Aspects Of CJ Management(G)</p>	<p>BS HISTORY THE UNIVERSITY OF TENNESSEE (1967)</p> <p>JD LAW THE UNIVERSITY OF TENNESSEE (1968)</p>	<ul style="list-style-type: none"> • Numerous publications and presentations. • Former FBI agent. • Excellence in Teaching Award, Sam Houston State University. 2001.

	FORS 5226.01 – Fall 2013 Law And Forensic Sciences(G)		
Haines, Donovan (Assistant Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> CHEM 5372 (Advanced Biochemistry I)</p> <p><u>Courses taught in AY 2013-2014</u> CHEM 1407.02 – Fall 2013 Intro Organic and Biochemistry(U)</p> <p>CHEM 3438.02 – Fall 2013 Introductory Biochemistry(U)</p> <p>CHEM 3438.11 – Fall 2013 Introductory Biochemistry LAB(U)</p> <p>CHEM 3438.12 – Fall 2013 Introductory Biochemistry LAB(U)</p> <p>CHEM 3438.13 – Fall 2013 Introductory Biochemistry LAB(U)</p> <p>CHEM 1412.17 – Spring 2014 General Chem II LAB(U)</p> <p>CHEM 1412.18 – Spring 2014 General Chem II LAB(U)</p> <p>CHEM 1412.19 – Spring 2014 General Chem II LAB(U)</p> <p>CHEM 1412.20 – Spring 2014 General Chem II LAB(U)</p> <p>CHEM 2325.01 – Spring 2014 Organic Chemistry II: Lecture(U)</p>	<p>BS BIOCHEMISTRY WICHITA STATE UNIVERSITY, WICHITA, KS (1993)</p> <p>PHD CHEMISTRY WICHITA STATE UNIVERSITY, WICHITA, KS (1998)</p>	<ul style="list-style-type: none"> • Author of 22 peer reviewed journal articles in Chemistry, Biochemistry, and Medical Journals • Postdoctoral Researcher in the Julian A. Peterson Laboratory in the Department of Biochemistry at the University of Texas Southwestern Medical Center at Dallas (1999-2001) • Member of the American Chemical Society (ACS), The American Society for Biochemistry and Molecular Biology (ASBMB), The Society of Toxicology (SOT), and The American Society for Microbiology (ASM)

	CHEM 3339.01 – Spring 2014 Metabolism(U)		
King, William (Associate Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 7334 (Social Science of Forensics)</p> <p><u>Courses taught in AY 2013-2014</u> CRIJ 7340.01 – Fall 2013 Administration of Justice(G)</p> <p>CRIJ 2368.01 – Spring 2014 Criminal Investigation(U)</p>	<p>BS CRIMINAL JUSTICE UNIVERSITY OF MASSACHUSETTS, LOWELL (1992)</p> <p>MS CRIMINAL JUSTICE UNIVERSITY OF CINCINNATI (1993)</p> <p>PHD CRIMINAL JUSTICE UNIVERSITY OF CINCINNATI (1998)</p>	<ul style="list-style-type: none"> • Published 28 peer-reviewed journal articles, 11 book chapters, and two books. Has secured more than \$1.15 million in research grants, including service as the PI on an NIH funded grant (2010-2013). • Gave an invited presentation to the National Research Council, National Academy of Sciences, 2002. • Secretary of the Academy of Criminal Justice Sciences (ACJS), 2004-2006. • Editorial board, Journal of Crime and Justice, 2003-2008. • Participated in two funded projects that sought to improve the functioning of a forensic crime lab in a Caribbean nation (2005-2008). Also worked with homicide investigators to improve the criminal investigation process. • Served as PI on an NIH funded grant to study and improve the process of ballistic imaging in the U.S. This grant examined the functioning of ATF's NIBIN program via multiple methods. The report and later work helped ATF improve the functioning of NIBIN in the U.S.
Petrikovics, Ilona, (Associate Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 7389 (Warfare Agents)</p> <p><u>Courses taught in AY 2013-2014</u> CHEM 1407.11 - Fall 2013 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.12 - Fall 2013 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.13 - Fall 2013 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.14 - Fall 2013 Intro Organic and Biochem LAB(U)</p>	<p>MSC CHEMISTRY UNIVERSITY OF DEBRECEN, HUNGARY (1979)</p> <p>PHD ORGANIC CHEMISTRY KOSSUTH LAOS UNIVERSITY, DEBRECEN, HUNGARY (1982)</p> <p>PHD PHARMACOLOGY AND MICROBIOLOGY UNIVERSITY OF MEDICINE, DEBRECEN, HUNGARY (1985)</p>	<ul style="list-style-type: none"> • NIH-DOD Award (2006-Present): Co-PI in the Project of “Efficacy Testing of Next Generation Cyanide Antidotes and Development and Evaluation of Improved Cyanide Diagnostic Strategies”. Research has been carried out in the Army Med. Research Institute of Chem. Defense, APG, MD. Catalytic Bio-Scavengers with Broad Specificity Against OP Nerve Agents, NIH Funding, 5 UG1 NS058035-02. Principal Investigator: Wild, James, R. Texas A & M University (TAMU), 10/01/06 – 09/30/11, Sub-Award with TAMU-SHSU (2007-Present), Principal Investigator: Petrikovics, I., Sub-Award#: 570376. • Over 35 peer-reviewed publications in scientific journals, 7 book chapters, 6 proceedings and over 70 presentations at National and International Scientific Meetings • (2004-2005) Associate Research Scientist, TAMU, Department of Biochemistry-Biophysics. (2003-2004) Research Analytical Chemist, Clinical Pharmacology and Anal. Chem. Laboratory,

	<p>CHEM 1407.15 - Fall 2013 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.16 - Fall 2013 Intro Organic and Biochem LAB(U)</p> <p>CHEM 3438.01 - Fall 2013 Introductory Biochemistry(U)</p> <p>CHEM 1407.11 – Spring 2014 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.12 – Spring 2014 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.13 – Spring 2014 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.14 – Spring 2014 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.15 – Spring 2014 Intro Organic and Biochem LAB(U)</p> <p>CHEM 1407.16 – Spring 2014 Intro Organic and Biochem LAB(U)</p> <p>CHEM 5385.01 – Spring 2014 Selected Topics In Adv Chem(G)</p>		<p>TAMU Department of Veterinary Physiology and Pharmacology. (2002-2003) National Research Council Senior Fellow, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen, MD. (1990 - 2002) Assistant Research Scientist, TAMU, Department of Medical Pharmacology and Toxicology. (1988 - 1990) Laboratory Head, Biogal Pharmaceutical Company Debrecen, Hungary, Europe. (1985 - 1988) Research Fellow, Research Group of Antibiotics of the Hungarian Academy of Sciences, Debrecen, Hungary.</p> <ul style="list-style-type: none"> • Full Member of the American Society of Toxicology
<p>Randle, Chris (Assistant Professor)</p>	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> BIOL 5391 (Advanced Genetics)</p> <p><u>Courses taught in AY 2013-2014</u> BIOL 1311.02 – Fall 2013 General Botany(U)</p>	<p>BA BIOLOGY HIRAM COLLEGE (1995)</p> <p>PHD EVOLUTIONARY BIOLOGY THE OHIO STATE UNIVERSITY (2004)</p>	

	<p>BIOL 4480.01 – Fall 2013 Molecular Biology(U)</p> <p>BIOL 4480.02 – Fall 2013 Molecular Biology LAB(U)</p> <p>BIOL 1311.02 – Spring 2014 General Botany(U)</p> <p>BIOL 5350.01 – Spring 2014 Plant Evolutionary Biology(G)</p> <p>HONR 3375.01 – Spring 2014 Honors Dialogues Seminar(U)</p>		
Williams, Darren (Associate Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> FORS 7381 (Explosive Analysis and Detection), CHEM 5368 (Analytical Spectroscopy)</p> <p><u>Courses taught in AY 2013-2014</u> CHEM 1411.04 – Fall 2013 General Chemistry I(U)</p> <p>CHEM 4448.01 – Fall 2013 Physical Chemistry I(U)</p> <p>CHEM 4448.11 – Fall 2013 Physical Chemistry I LAB(U)</p> <p>CHEM 4448.12 – Fall 2013 Physical Chemistry I LAB(U)</p> <p>CHEM 4448.13 – Fall 2013 Physical Chemistry I LAB(U)</p>	<p>BS CHEMISTRY THE UNIVERSITY OF TEXAS AT AUSTIN (1992)</p> <p>PHD CHEMISTRY OREGON STATE UNIVERSITY (1997)</p> <p>Graduate Hours: Quantum, Atomic, and Molecular Spectroscopy and Analysis (15 hrs)</p> <p>Electronics and Circuits for Scientists (3 hrs)</p> <p>Computer Interfacing for Scientists (3 hrs)</p>	<ul style="list-style-type: none"> • More than 15 peer-reviewed publications in physical chemistry, inorganic chemistry, environmental chemistry, and spectroscopy in the last 11 years. Managed over a million dollars of research funding and capital purchases over 11 years for the betterment of chemical research and education. • Sectional Scientist (2001-2004) with the Department of Energy/National Nuclear Security Administration's Pantex Production Plant. Roles and responsibilities were to develop analysis methods and instrumentation for the analysis of powdered and plastic-bonded explosives used in or associated with nuclear weapons, improvised explosive devices, and shaped charges.

	<p>CHEM 1406.22 - Spring 2014 Inorganic & Envir Chem LAB(U)</p> <p>CHEM 1406.23 - Spring 2014 Inorganic & Envir Chem LAB(U)</p> <p>CHEM 4380.01 - Spring 2014 Forensic Chemistry(U)</p> <p>CHEM 4449.01 - Spring 2014 Physical Chemistry II(U)</p> <p>CHEM 4449.11 - Spring 2014 Physic Chemistry II LAB(U)</p> <p>CHEM 4449.12 - Spring 2014 Physic Chemistry II LAB(U)</p>		
Williams, Justin (Associate Professor)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u> BIOL 5340 (Electron Microscopy)</p> <p><u>Courses taught in AY 2013-2014</u> BIOL 1301.02 – Fall 2013 Environmental Science(U)</p> <p>BIOL 1311.01 – Fall 2013 General Botany(U)</p> <p>BIOL 1311.04 – Fall 2013 General Botany(U)</p> <p>BIOL 1108.07 – Spring 2014 Contemporary Biology Lab(U)</p> <p>BIOL 1108.14 – Spring 2014 Contemporary Biology Lab(U)</p>	<p>BA BOTANY THE UNIVERSITY OF TEXAS AT AUSTIN (1992)</p> <p>PHD BIOLOGICAL SCIENCES- BOTANY THE UNIVERSITY OF TEXAS AT AUSTIN (1999)</p> <p>Graduate Hours:</p> <p>Scanning Electron Microscopy (3 hrs) Botany (24+ hrs)</p>	<ul style="list-style-type: none"> • 9 years work experience in GIS. Including the production of vegetation maps for the Military and USGS. In addition, have attend supplemental GIS training courses. • Structural Pest Control Board License. • Over 25 peer reviewed publications in the field of Plant Systematics utilizing several techniques including GIS and Scanning Electron Microscopy. • 14 years work experience in Wetlands delineation, Floristic Inventories and Endangered Species Surveys. • 14 years Management Experience: including Botanical Garden Director, Environmental Center Director, Assistant Curator of Herbarium, Nursery Manager, and Editor of Scientific journal.

	BIOL 1111.04 – Spring 2014 General Botany Laboratory(U) BIOL 1311.03 – Spring 2014 General Botany(U) BIOL 3364.01 – Spring 2014 Plant Taxonomy(U) BIOL 3364.02 – Spring 2014 Plant Taxonomy LAB(U) BIOL 5340.01 – Spring 2014 Electron Microscopy(G)		
Wilson, Chris (Professor and Chair)	<p><u>Courses eligible to be taught in the Forensic Science PhD</u></p> <p>PSYC 5361 (Neuropsychopharmacology)</p> <p><u>Courses taught in AY 2013-2014</u></p> <p>PSYC 4075.01 – Fall 2013 Problems(U)</p> <p>PSYC 5360.01 – Fall 2013 Adv Physiological Psychology(G)</p> <p>PSYC 5361.01 – Fall 2013 Neuropsychopharmacology(G)</p> <p>PSYC 6099.02 – Fall 2013 Thesis II(G)</p> <p>PSYC 4075.01 – Spring 2014 Problems(U)</p> <p>PSYC 5035.01 – Spring 2014 Special Problems in Psychology(G)</p>	<p>BA PSYCHOLOGY FLORIDA PRESBYTERIAN COLLEGE (1972)</p> <p>MA PSYCHOLOGY TEXAS CHRISTIAN UNIVERSITY (1975)</p> <p>PHD PSYCHOLOGY TEXAS CHRISTIAN UNIVERSITY (1976)</p> <p>Graduate Hours: Physiological Psychology including physiological psychology, psychopharmacology, biochemistry, organic chemistry, neuroanatomy, research methods (24+ hrs)</p>	<ul style="list-style-type: none"> • Publications in Tier-I peer-reviewed journals in Psychology. • Peer-reviewed publications in various topics related to mother-infant interactions, effects of psychoactive agents on developing animals, neurotransmitter mechanisms in developing animals. • Consultant for the Houston Police Department on Gangs and on Prescription Drug Abuse. • Nominated and voted as a full-member of the Psychonomic Society (Spring 1988) • Numerous presentations at national and international conferences on various topics related neurotransmitter mechanisms in mammals.

	PSYC 5035.03 – Spring 2014 Special Problems in Psychology(G) PSYC 5361.01 – Spring 2014 Neuropsychopharmacology(G) PSYC 6098.01 – Spring 2014 Thesis I(G) PSYC 6099.01 – Spring 2014 Thesis II(G) PSYC 6099.03 – Spring 2014 Thesis II(G)		
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*Full-time forensic faculty (shaded).

Appendix II - Summary of External Funding (Interdisciplinary Forensic Activities 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 ENCRYPT). 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
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), 2013.	\$195,435
United States Army Medical Research Institute of Chemical Defense (USAMRICD). Investigations on Advanced Formulated Cyanide Antidotes; Blood-Brain Barrier (BBB) Penetration, Brain Targeting. Dr. Ilona Petrikovics, Principal Investigator (Chemistry), 2014	\$190,000
National Science Foundation. CIF: Small: RUI: Novel Detection Methods with Comprehensive Hybrid Detection Systems for Multimedia Forensics. Dr. Quingzhong Liu, Principal Investigator (Computer Science), 2013.	\$249,997

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
Department of Justice, Office of Justice Programs, National Institute of Justice. Long-Term Stability of Synthetic Cathinones in Forensic Toxicology Samples. Dr. Sarah Kerrigan, Principal Investigator (Forensic Science/Criminal Justice), 2014.	\$180,384
Department of Justice, Office of Justice Programs, National Institute of Justice. Preservation & High Throughout Methods for Human Tissue Samples in Tropical Climates; An Improved DVI Approach. Dr. Sheree Hughes-Stamm, Principal Investigator (Forensic Science/Criminal Justice), 2014.	\$170,889
Texas Education Agency. Development/revision of CTE Forensic Science project. Dr. David Webb, David Gangitano, Principal Investigators (Criminal Justice), 2011, 2012.	\$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 Farris. 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

Appendix III - Direction of MS-Level Student Research (Full-Time Forensic Faculty)

Joan Bytheway, PhD

The Postmortem Interval Formula for Southwest Texas Using Total Body Score and Accumulated Degree Days on Human Cadavers - Kristen Burkes (2014).

Jasmine Drake, PhD

Analysis and Rapid Detection of Cannabimimetic Materials using Ion Mobility Spectrometry - Shastazia White (2014).

David Gangitano, PhD

Using SNP's to Determine the Association Between OXT, OXTR and SERT Genotypes and Aggressive Behavior - Peyton Gandy BS (2014).

Optimization and Validation of a Rapid PCR Method for the PowerPlex® 16 HS System for Forensic DNA Profiling - James White (2014).

Forensic botany: Persistence of pollen DNA in fabrics - Cassandra Schield (2014).

Pollen DNA: Application of STR profiling to discriminate pollen at the regional and local levels - Cassandra Campelli (2013).

Composition of the Maggot Mass Determined by Sequencing Data - Brittany Disiere (2013).

Optimization and Validation of a rapid PCR Method for the PowerPlex® S5 System for Forensic DNA Profiling - Sarah Bahlmann (2013).

Developmental Validation of the LINE - 1 Marker for Use in a Sensitive Real - Time PCR Quantification Method - Jackie Kenline (2012).

Using SNPs to Determine the Association between MAO, COMT, and DBH and Aggressive or Violent Behavior - Jessica Motl (2012).

Association between Aggressive Behavior and the Androgen Receptor, Monoamine Oxidase A, and Serotonin Transporter Polymorphisms - Mary Symonds (2012).

A Molecular Approach: Species Composition of the Maggot mass in Human Cadavers in the Pineywoods Ecoregion of Southeastern Texas - Ashleigh Faris (2012).

Allele and Genotype Frequencies of DXS10074, DXS10075, and DXS10079 Markers in Buenos Aires Population (Argentina) - Mike Hernandez (2012).

Validation of DNA Extraction from Tissue Samples for Forensic Casework on the Automated QIASymphony SP Platform - Mounir Moudouni (2012).

Population Study for Three Closely Linked X-Chromosome STR Markers in an Argentinean Population - Brittney Gonzalez (2011).

Phenotype Informative SNPs as Predictor of Pigmentation Features - Kelly Anders (2011).

Development of a 10 Multiplex System of Pigmentation-Prediction SNP Markers for Forensic Casework -Jordan Williams (2011).

Genetic Analysis of a Short Tandem Repeat in the Androgen Receptor Gene and a Variable Number Tandem Repeat in the Monoamine Oxidase A Gene for a Male Inmate Population in Texas - Shahida Flores (2011).

Population Study for Three Unlinked X-Chromosome STR Markers in an Argentinean Population - Samantha Manning (2011).

Application of a Handheld Vacuum-Filter Device for Differential Sperm Separation - Kristina Scott (2011).

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 (2010).

Study on SNPs relating to Ethnicity and Hair/Eye Pigmentation in a population of Texas - Bree Mead (2010).

Application of mini-STRs to Low Copy Number Forensic Samples - Nicole Paes (2010).

Pollen DNA: A New Tool for Forensic Investigations - Jennifer Sycalik (2010).

Who is Chas Turner? (Onderdonk historical case) - Jessica McClure (2010).

Developing a Sensitive Real-Time PCR Method for Quantitation of DNA in Low Copy Number Forensic Samples - Lauren Bouse (2010).

Application of AmpFISTR® Minifiler™ to Low-Copy Number - Kristen Cossota (2009).

Pollen DNA: A New Tool for Forensic Investigations - Jamie Jouett (2009).

Application of Single Nucleotide Polymorphisms (SNPs) in Forensic Casework - Chelsy Wingate (2009).

Developmental Validation of - A Extensions by AmpFISTR Identifiler PCR Amplification Kit - Adriana Perez (2008).

Validation of the AmpFISTR® MiniFiler™ PCR Amplification Kit and Its Application to Identify Human Remains from a 1992 Helicopter Crash - Coral Luce (2008).

Validation of the MiniFiler Kit: Stability Studies using UV and Other Environmental Factors - Hayley Beason (2008).

Molecular Characterization of Forensically Significant Insects with Applied Molecular Identification of Skeletal Remains in Southern Texas - Angela Johnson (2008).

Sheree Hughes-Stamm, PhD

DNA Preservation of Forensically Relevant Insects without Refrigeration - Joseph Cox (2014).

Evaluation of Decontamination and DNA Extraction Methods for Teeth - Kourtni Woods (2014).

Evaluation of Tissue Damage, STR Profiling Success and DNA Extraction Efficiencies for Incinerated Human Teeth - Samantha Tippen (2014).

Preservation and High Throughput Methods for Human Tissue Samples in Tropical Climates; An Improved DVI

Approach - Amy Sorensen (2014).

Sarah Kerrigan, PhD

Detection of Synthetic Cathinones by GC/MS using Novel Derivatization Methods - Rebecca McCullough (2014).

Analysis of Non-Derivatized Synthetic Cathinones in Biological Samples by GC/MS - Megan Savage (2014).

Determination of Salvinorin A and Salvinorin B in Forensic Toxicology Samples - Tracy Gastineau (2014).

Stability of Synthetic Cathinones: Implications for Forensic Analysis - Cassandra Cavazos (2014).

Detection of the "Legal High" Kratom (Mitragnine) In Biological Samples - Sarah Sims (2013).

Stability of Δ^9 -Tetrahydrocannabinol (THC) and 11-Nor-9-carboxy- Δ^9 -tetrahydrocannabinol (THC-COOH) in Whole Blood - Jesus Zavala (2013).

Improved Detection of Synthetic Cathinone Designer Drugs in Forensic Toxicology Samples Using Gas Chromatography/Mass Spectrometry (GC/MS) - Paige Hinnners (2013).

Analysis of Designer Amphetamines in Blood by LC/MS/MS - Sarah Martin (2012).

Detection of Beta-Keto Amphetamines in Biological Samples - Kayla Ellefsen (2012).

Determination of Endogenous Gamma-Hydroxybutyrate (GHB) in Human Hair - Mackenzie Willis (2012).

Simultaneous Detection of Psychedelic Amphetamines in Urine by LC/MS/MS - Francisco Ortiz (2011).

Detection of Synthetic Cannabinoids in Biological Samples - Emily Young (2011).

Determination of Psychedelic Amphetamines in Urine and Blood by GC/MS - Laura Perrella (2011).

Psychedelic Amphetamines in Blood and Urine by GC/MS - Stephanie Banuelos (2010).

Determination of Psychedelic Amphetamines in Blood and Urine by LC/MS/MS - Breanna Jatzlau (2010).

Quantitative Analysis of Salvinorin A (Salvia) in Biological Samples by LC/MS/MS - Lyndsi Ayers (2010).

Endogenous GHB in Human Hair: Comparison of Chemical and Enzymatic Digestion - Colby Shemesh (2010).

Determination of Designer Amphetamines in Urine using LC/MS/MS - Ashley Mullings (2009).

Determination of Designer Amphetamines in Urine using GC/MS - Brittany Hardy (2009).

Quantitative Analysis of Salvinorin A (Salvia) in Biological Samples and Dietary Supplements using GC/MS - Ridhima Rao (2009).

Determination of Endogenous GHB Concentrations in Human Hair using LC/MS/MS - Preston Wong (2009).

The Development and Employment of an Analytical Scheme to Determine the Discrimination Value between Automotive Paint Samples - Jennifer Howard (2008).

Determination of Endogenous GHB Concentrations in Human Hair - Phillip Stout (2008).

Effects of Alternative Sources of Alcohol on the SCRAM Device - Jessica Ayala (2008).

Screening and Quantitation of 24 Common Drugs of Abuse in Whole Blood - Delisa Downey (2008).

Analysis of New Designer Amphetamines in Urine Using Immunoassay, GC-MS and LC-MS-MS - Crystal Arndt (2008).

Investigation of Stability and a Novel Derivatization of GHB using CI-GC-MS - Ayodele Collins (2008).

Quality Assurance/Quality Control Issues Arising with Fingerprint Evidence in a Post-Daubert World - Stephanie Rollins (2007).

Driving Behavior and Impairment Symptoms in Cannabinoid Positive Subjects Arrested for Driving Under the Influence of Drugs (DUID) - Anna Leggett (2007).

Tramadol: Analysis and Interpretation in Human Performance and Death Investigation Casework - Amy Carlson (2007).

Current Practices and Advances in Crime Scene Investigation - Jamie Lee (2007).

Methamphetamine Intoxication: Case Studies of Impaired Drivers and Related Fatalities - Wendi Sanders (2007).

Driving Under the Influence of Methamphetamine: Comparison of Driving Behavior and Impairment Symptoms in Subjects Arrested for Driving While Intoxicated (DWI) - Sharla McCloskey (2007).

Validation Study to Determine the Highest Observed Stutter Peaks for Short Tandem Repeats (STRs) - Katie Born (2007).

Analysis, Use and Effects of Sedative Hypnotics - Forensic Implications - Monica Brady (2007).

Glyphosate: Analytical and Forensic Implications of a Common Herbicide - James Warkentine (2007).

An Analysis of Literary and Judicial Challenges on the Credibility and Admissibility of Evidence Submitted by Firearm Identification Laboratories - Ryan Mudd (2007).

Jorn Yu, PhD

Marijuana Profiling Using Headspace Solid Phase Microextraction Coupled with Gas Chromatography/Mass Spectrometry - Ashley Konarik (2014).

Elemental Soil Analysis of the Cadaver Island Using Inductively Coupled Plasma-Optical Emission Spectrometry - Megan Konarik (2014).

The Ability of the UV-IR Camera to Capture Latent Print Detail Following Chemical Enhancement - Laurissa Pilkington (2014).

Differentiating Between Antemortem and Postmortem Blood: A Comparison Study via Headspace Solid-Phase Microextraction Methodology - Tiffany McCann (2013).

Extraction of Methamphetamine and Amphetamine from Postmortem samples using a Molecularly Imprinted Polymer for Solid Phase Extraction (MIP-SPE) - Ashley Pipkin (2012).

The Detection of ATCA in Human Liver autopsy samples by Using LC/MS/MS - Yuanwei Gao (2012).

A Comparison of Alprazolam Concentrations in the Blood and Urine Using Solid Phase Microextraction - Danielle Dela Cruz (2012).

Analysis of postmortem hair banding by Raman microscopy - Angela Rippley (2012).

Analysis of Trace Condom Material with the use of Pyrolysis Gas Chromatography/Mass Spectrometry - Kristen Mack (2012).

Monolithic Material Assisted Liquid Phase Microextraction - Kaitlyn Schorr (2012).

The Use of Infrared Imaging to Facilitate Fired Cartridge Case and Bullet Comparisons - Mallory Foster (2011).

Implications of Chemical Detergents in Fire Debris Analysis - Patricia Contreras (2011).

The Separation of Chiral Psychedelic Amphetamine by Molecular Imprinted Monolithic Polymer - Seongshin Gwak (2011).

Assessment of Headspace SPME-GC-NPD in Determining Organic Gun Shot Residues in Different Matrices - Essence Brice (2010).

Who is Chas Turner? (Onderdonk historical case) - Jessica McClure (2010).

Capillary Electrophoresis Screening Method Development for the Identification of Tetrahydrozoline Hydrochloride in Various Specimens - Jennifer Hogue (2009).

Forensic Analysis of HID (Xenon) Headlights: Determining On/Off State and Identifying Illegal Vehicle Modifications - Ross Ehmann (2009).

LC/MS/MS Analysis of Hair for Personal Hair Care Products Utilizing a Soft Wash Extraction Method - Colin Anderson (2009).

Hollow Fiber Membrane-Liquid-Liquid-Liquid Microextraction (HFM-LLLME) Utilizing Ionic Liquid Membrane Transport for Benzodiazepines from Biological Samples - Nicole Harre (2009).

Rapid Identification of the Cyanide Metabolite 2-Aminothiozoline-4-carboxylic Acid Using Molecular Imprinted Polymer Stir Bar Sorption Extraction - Randy Jackson (2009).

Forensic Analysis of Non-Toxic Ammunition by Double Shot Pyrolysis Gas Chromatography/Mass Spectrometry (PY-GC/MS) - Jeff Kelly (2009).

Identification of Ammunition Based on Quantitative Determination of Gun Powder Particles Using GC/MS - Garrett Burleson (2008).

Probing Single Stranded DNA Using Bioconjugated Quantum Dots - Shannon Gross (2008).

Appendix IV – Discipline-Specific Refereed Journals

1. AAPS PharmSciTech
2. Academic Journal of Entomology
3. ACS Applied Materials and Interfaces
4. ACS Nano
5. American Anthropologist
6. American Journal of Clinical Pathology
7. American Journal of Epidemiology
8. American Journal of Human Biology
9. American Journal of Human Genetics
10. American Journal of Pathology
11. American Journal of Pharmacology and Toxicology
12. American Journal of Physical Anthropology
13. American Journal of Physics
14. American Journal of Psychiatry
15. American Journal of Public Health
16. Analytica Chimica Acta
17. Analytical Chemistry
18. Anatomical Science International
19. Angiogenesis
20. Anil Aggrawal's Internet Journal of Forensic Medicine and Toxicology
21. Annals of Anatomy
22. Annals of Diagnostic Pathology
23. Annals of Laboratory Medicine
24. Annual Review of Entomology
25. Annual Review of Genetics
26. Annual Review of Pathology
27. Annual Review of Pharmacology and Toxicology
28. Anthropological Science
29. APMIS: Acta Pathologica, Microbiologica et Immunologica Scandinavica
30. Archives of Pathology and Laboratory Medicine
31. Australasian Journal of Disaster and Trauma Studies
32. Australian Journal of Forensic Sciences
33. Autopsy and Case Reports
34. Biochemistry
35. Bioethics
36. Biomedicine and Aging Pathology
37. BioScience
38. Bone
39. Brain & Behavior
40. Brain Pathology
41. Brain Tumor Pathology
42. British Journal of Criminology
43. British Journal of Pharmacology and Toxicology
44. Canadian Journal of Pathology
45. Cardiovascular Pathology
46. Cardiovascular Toxicology

47. Cell Biology and Toxicology
48. Chemical Research in Toxicology
49. Chemical Reviews
50. Chemical Toxicology: The Official Journal of the American Academy of Clinical Toxicology and European Association of Poison Centres and Clinical Toxicologists
51. Clinical Anatomy
52. Clinical Risk
53. Comparative Clinical Pathology
54. Crime and Delinquency
55. Criminal Justice and Behavior
56. Croatian Medical Journal
57. Cytometry
58. Cytometry Part A
59. Cytometry Part B: Clinical Cytometry
60. Diagnostic Histopathology
61. Diagnostic Pathology
62. Differentiation
63. Disease Markers
64. Drug & Chemical Toxicology
65. Egyptian Journal of Forensic Sciences
66. Electrophoresis
67. Endocrine Pathology
68. Environmental Science and Technology
69. Environmental Toxicology
70. Eplasty
71. Experimental and Molecular Pathology
72. Fetal & Pediatric Pathology
73. FOCUS
74. Forensic Entomology: The Utility of Arthropods in Legal Investigations
75. Forensic Examiner
76. Forensic Magazine
77. Forensic Medicine and Anatomy Research
78. Forensic Science
79. Forensic Science Forum / Forum Criminalistic
80. Forensic Science International
81. Forensic Science International Supplement Series
82. Forensic Science International: Genetics
83. Forensic Science International: Genetics Supplement
84. Forensic Science Policy & Management: An International Journal
85. Forensic Science, Medicine, and Pathology
86. Forensic Toxicology
87. Genes, Brain and Behavior
88. Genetics
89. Gut Pathogens
90. Hastings Center Report
91. Heredity
92. Histopathology
93. Human & Experimental Toxicology
94. Human Biology

95. Human Pathology
96. Indian Journal of Forensic Medicine and Pathology
97. Indian Journal of Forensic Medicine and Toxicology
98. Indian Journal of Pathology and Microbiology
99. Industrial and Engineering Chemistry Research
100. Inhalation Toxicology
101. International Journal of Burns and Trauma
102. International Journal of Clinical and Experimental Pathology
103. International Journal of Experimental Pathology
104. International Journal of Legal Medicine
105. International Journal of Osteoarchaeology
106. International Journal of Paleopathology
107. International Journal of Pathology
108. International Journal of Physiology, Pathophysiology and Pharmacology
109. International Journal of Surgical Pathology
110. Internet Journal of Forensic Sciences
111. Internet Journal of Law, Healthcare and Ethics
112. Internet Journal of Pathology
113. Investigative Genetics
114. JAMA: Journal of the American Medical Association
115. Journal of Agricultural and Food Chemistry
116. Journal of Analytical Toxicology
117. Journal of Anthropological Archaeology
118. Journal of Applied Entomology
119. Journal of Applied Toxicology
120. Journal of Chemical Education
121. Journal of Chemical Information and Modeling
122. Journal of Child Sexual Abuse
123. Journal of Chromatography A
124. Journal of Chromatography B
125. Journal of Clinical Pathology and Forensic Medicine
126. Journal of Criminal Law and Criminology
127. Journal of Cutaneous Pathology
128. Journal of Entomology
129. Journal of Forensic and Legal Medicine
130. Journal of Forensic Biomechanics
131. Journal of Forensic Dental Sciences
132. Journal of Forensic Identification
133. Journal of Forensic Investigation
134. Journal of Forensic Medicine and Toxicology
135. Journal of Forensic Practice
136. Journal of Forensic Radiology and Imaging
137. Journal of Forensic Sciences
138. Journal of Heredity
139. Journal of Indian Academy of Forensic Medicine
140. Journal of Interdisciplinary Histopathology
141. Journal of Investigative Medicine High Impact Case Reports
142. Journal of Medical Entomology
143. Journal of Medical Toxicology

144. Journal of Medicinal Chemistry
145. Journal of Neurodevelopmental Disorders
146. Journal of Neuropsychiatry & Clinical Neurosciences
147. Journal of Oral and Maxillofacial Pathology
148. Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology
149. Journal of Oral Pathology and Medicine
150. Journal of Organic Chemistry
151. Journal of Pathology
152. Journal of Pharmaceutical and Biomedical Analysis
153. Journal of Physical Chemistry A
154. Journal of Physical Chemistry B
155. Journal of Physical Chemistry C
156. Journal of Proteome Research
157. Journal of Punjab Academy of Forensic Medicine & Toxicology
158. Journal of Quantitative Criminology
159. Journal of Research in Crime and Delinquency
160. Journal of Substance Use
161. Journal of the American Chemical Society
162. Journal of the American College of Toxicology
163. Journal of the American Society of Cytopathology
164. Journal of the Anatomical Society of India
165. Journal of the Forensic Science Society
166. Journal of Toxicologic Pathology
167. Journal of Toxicology
168. Justice Quarterly
169. Korean Journal of Pathology
170. Laboratory Investigation
171. Laboratory Medicine
172. Lancet
173. Langmuir
174. Legal Medicine
175. Medical Molecular Morphology
176. Medicine and Law
177. Medico-Legal Update
178. Modern Pathology
179. Molecular and Cellular Toxicology
180. Nature
181. Neuropathology
182. New England Journal of Medicine
183. Open Forensic Science Journal
184. Open Journal of Pathology
185. Open Pathology Journal
186. Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology
187. Paleoanthropology
188. Particle & Fibre Toxicology
189. Pathobiology : Journal of Immunopathology, Molecular and Cellular Biology
190. Pathogens
191. Pathology and Oncology Research
192. Pathology International

193. Pathology Research and Practice
194. Pathology Research International
195. Pathophysiology
196. Physics Today
197. PloS Pathogens
198. Proceedings of the National Academy of Sciences of the United States of America
199. Psychiatric News
200. Psychiatric Services
201. Radiography
202. Regulatory Toxicology and Pharmacology
203. Research and Reports in Forensic Medical Science
204. Romanian Journal of Forensic Science
205. Science
206. Science and Justice
207. Sri Lanka Journal of Forensic Medicine, Science & Law
208. Talanta
209. Theoretical Criminology
210. Tissue Antigens
211. Toxicologic Pathology
212. Toxicology
213. Toxicology International
214. Toxicology Letter
215. Violence and Victims
216. Virchows Archiv
217. Wounds

Appendix V – Itemized List of Capital Equipment (Department of Forensic Science)

1	Allegra x-22 Centrifuge (01/03/2007)	\$5,875
2	Varian FTIR Spectrometer (06/12/2007)	\$32,532
3	Carl Zeiss Polarizing Light Microscope Axio Imager (08/07/2007)	\$41,500
4	Applied Biosystems PCR system 9700 (08/03/2007)	\$8,051
5	Agilent Gas Chromatograph NPD/FID (08/31/2007)	\$43,821
6	Applied Biosystems API 3200 LCMSMS (06/14/2007)	\$172,332
7	Applied Biosystems Fast Real Time PCR system (08/03/2007)	\$24,808
8	Allegra 64A Beckman Refrigerator Centrifuge (08/01/2007)	\$9,365
9	Frontier Pyrolyzer (01/30/2008)	\$45,260
10	Keyence Microscopic Imaging System (10/01/2007)	\$45,900
11	Thermo Gas Chromatograph Mass Spectrometer DSQ II (01/10/2008)	\$108,877
12	Leica Comparison Microscope (10/16/2008)	\$69,864
13	Leica Steromicroscope (10/16/2008)	\$11,765
14	Agilent Gas Chromatograph Mass Spectrometer (10/07/2009)	\$49,992
15	TurboVap LV Workstation (01/05/2010)	\$7,854
16	Eppendorf Gradient PCR Thermal Cycler (01/04/2010)	\$6,875
17	Applied Biosystems 3500 Genetic Analyzer (02/25/2011)	\$100,880
18	Leica DM750p Polarizing Microscope (10/01/2009)	\$7,436
19	Leica EC3 Microscope (10/19/2009)	\$10,373
20	Nicolet 6700 FTIR Spectrometer (12/01/2009)	\$71,749
21	Agilent Gas Chromatograph Mass Spectrometer (11/04/2009)	\$65,940
22	Thermo Scientific UV-Visible Spectrometer (09/29/2010)	\$5,887
23	QiaCube Robotic DNA extraction station (11/30/2012)	\$19,760
24	Cold Vault Walk in Freezer (07/07/2009)	\$15,210
25	John Deere 4x2 Gator (08/11/2008)	\$5,417
26	Bobcat Compact Excavator (01/25/2009)	\$15,239
27	Speckfinder HD Digital Computer Microscope (07/06/2009)	\$7,158
28	Konica Minolta Digital X-Ray System (07/29/2009)	\$59,825
29	Isomet 1000 Precision Saw (10/31/2011)	\$7,470
30	Disk Array Enclosure (08/10/2010)	\$29,400
31	Portable Cadaver Scissor Lift (12/05/2011)	\$7,311
32	Bone Digitizer (08/31/2012)	\$6,695
33	Autoclave (06/06/2012)	\$6,088
34	Fast PCR Thermal Cycler (05/29/2012)	\$6,983
35	Upright -80 Freezer (02/18/2014)	\$11,293
36	DNA/RNA Bioanalyzer (02/13/2014)	\$21,635
37	ION Chef Automatic DNA Preparation Station for Deep Sequencing (02/14/2014)	\$24,545
38	ION One Touch 2 Automatic DNA Preparation Station for Deep Sequencing (02/14/2014)	\$9,597
39	Deep Sequencer (02/14/2014)	\$30,308
40	HID Real Time PCR Power System (02/14/2014)	\$29,194
41	SPME Autosampler System (04/07/2014)	\$51,807

42	Peak Genius 3040 Nitrogen Generator (03/18/2014)	\$34,370
43	Shimadzu Gas Chromatograph Mass Spectrometer (06/02/2014)	\$61,461
44	Agilent 7890A/59975C Gas Chromatograph Mass Spectrometer (06/02/2014)	\$78,992
	Total	\$1,486,694