







***Online Assessment Tracking Database***

Sam Houston State University (SHSU)  
2014 - 2015

**Criminal Justice, Forensic Science MS/PhD**

---

Goal	<b>Integration Of Knowledge, Skills, And Abilities</b>  Students completing the Master of Science in Forensic Science will demonstrate integration of knowledge, skills and abilities through an independent research project conducted in an environment conducive to research and scholarly inquiry.
Objective (L)	<b>Students Will Demonstrate Competency In Research</b>  Students completing the Master of Science in Forensic Science will demonstrate integration of knowledge, skills and abilities through an independent research project conducted in an environment conducive to research and scholarly inquiry.
Indicator	<b>Capstone Research Report Scoring Methodology</b>   Consistent faculty-developed scoring methodology will be applied to the capstone research report for FORS 6094 – Forensic Science Capstone Research. The scholarly report will demonstrate advanced discipline-specific knowledge, investigation, and problem-solving ability.
Criterion	<b>At Least 70% Of Students Will Score Satisfactory Or Higher</b>  At least 70% of students will be assessed as “satisfactory” or higher using the uniform faculty-developed rubric. The final report will be scored by each member of the committee, consisting of a minimum of three individuals (one of whom must be external to the department).
Finding	<b>Capstone Research Performance</b>  All students (100%) performed satisfactorily in their Capstone Research in accordance with the faculty-developed rubric. Of the twelve graduating students, all received satisfactory final scores and satisfactory scores in their final technical report. Scores were assigned by a capstone research committee consisting of at least three members, one of whom was external to the department in accordance with accreditation standards (Forensic Science Education Programs Accreditation Commission). A total of forty reviews were received for the twelve graduating students, twelve of whom were external reviewers. Four (33%) were deemed satisfactory (acceptable) and eight (67%) were rated as excellent. Performance has been effectively managed using a formal evaluation system consisting of interim evaluations at three strategic points during the project and faculty are expected to provide formal and timely feedback to students with respect to technical writing and the final report. This year the timetable for receipt of the draft reports was formalized and documented in the syllabus. Additionally, faculty were required to document the date of receipt and return of the draft reports due to student feedback regarding the timeliness and scope of the reviews. Due to limited faculty, some professors are responsible for directing a large

number of students, which presents additional challenges in terms of the quality and timeliness of the reviews.

### Action

#### Capstone Research Performance 🔑

The department will continue to enforce a formalized timetable for submission of draft capstone reports and faculty will continue to document the receipt and return of drafts reports. Doing so ensures that the responsibilities of faculty and students to submit and review reports, respectively, are well-understood. Additional emphasis will be placed on external publication in peer-reviewed scientific journals.

### Goal

#### Develop Specific Knowledge Base 🔑

Develop specific knowledge base in forensic science to prepare graduates for future success.

### Objective (L)

#### Detailed Competence Of Core Course Material 🔑

Students will command detailed competence of core course material in forensic science. The Forensic Science Education Programs Accreditation Commission (FEPAC) defines the core forensic science topics that must be incorporated into the graduate curriculum. These include analytical chemistry and instrumental methods of analysis, drug chemistry/toxicology, microscopy and trace evidence, forensic biology, and pattern evidence. This objective specifically addresses student learning, development and outcomes associated with the core forensic disciplines.

### Indicator

#### Forensic Science Assessment Test (FSAT) 🔑

The Forensic Science Assessment Test (FSAT) was developed as an assessment tool for forensic science academic programs in the United States and is administered by the American Board of Criminalistics (ABC). The content and administration of the examination were modeled on ABC certification exams and is used by the program to assess trends which may indicate strengths and weaknesses within the curriculum and to evaluate its relevance. The FSAT exam covers a wide variety of forensic disciplines including some that are not part of the core FEPAC curriculum, such as firearms, toolmarks and questioned documents.

### Criterion

#### FSAT Performance 🔑

The overall FSAT ranking for SHSU shall be above the median for all participating graduate programs in forensic science nationally.

### Finding

#### FSAT Performance 🔑 🔑

All twelve graduating students participated in the FSAT examination in the Spring of 2015. Due to scheduling of the examination, students at SHSU participate in the FSAT before all of their coursework is completed, placing them at a slight disadvantage. However, SHSU met the criteria,

ranking third among the ten participating graduate programs in the United States. A total of 101 graduate students participated in the FSAT in 2015 from ten universities.

**Action****FSAT Performance 🔑**

Although SHSU ranked third among participating universities, this reflected the overall student score on the examination (all topics). Individual scores (by topic) will be used to identify strengths and weaknesses within the curriculum (e.g. Fire Debris and Pattern Evidence, where 53% and 65% of the questions were correct). FSAT results and opportunities to improve the curriculum will be addressed during the 2015 Annual Quality Review.

**Goal****Ability To Conduct Original Research 🔑**

Students engaged in faculty-sponsored research are encouraged to publish or present results externally.

**Objective (L)****Students Will Produce Research Of Publishable Quality 🔑**

Students actively engaged in research projects sponsored by program faculty will publish their findings in journals or present their data at scientific meetings.

**Indicator****Preparation Of Research Materials For Publication/Presentation 🔑**

Students will contribute to the knowledge base of forensic science and produce research directed at improving the practice of forensic science. This may be demonstrated by publication of research in a peer-reviewed scientific journal or national/international conference proceeding (e.g. American Academy of Forensic Sciences Annual Meeting). Publication of student research in journals and at national or international conferences serves to demonstrate the value and quality of the work to the forensic science and/or scientific community.

**Criterion****Research Materials Accepted For External Publication/Presentation 🔑**

At least 50% of capstone course research or other program-sponsored research is accepted for external publication in either a peer-reviewed scientific journal or national/international conference proceeding.

**Finding****Published Research 🔑**

In 2015 there were a total of twelve graduating students. During the academic year (2014-2015) there were a total of sixteen publications involving forensic science graduate students. Although this exceeds the criterion (50% external publication rate), it was considerably fewer than the previous academic year (twenty-four in AY 13-14). Of these sixteen publications, six (38%) were published in peer reviewed scientific journals, nine papers were

presented at national/international scientific conferences (56%) and one publication was in the form of a federally funded technical report.

#### Action

#### Publication Type

Additional emphasis must be placed on publications in peer reviewed scientific journals rather than conference proceedings. Challenges and strategies to improve publication type will be addressed during the 2015 Annual Quality Review.

### Previous Cycle's "Plan for Continuous Improvement"

The program must secure sufficient administrative support to maintain existing academic programs in addition to those that are anticipated in the near future, such as the doctoral program in forensic science. Continued emphasis will be placed on research productivity, publications and maintaining a rigorous and industrially-relevant curriculum in forensic science.

Additionally, a mid-year review of action items following the Annual Quality Review is recommended. This interim review will specifically identify outstanding action items in an effort to improve outcomes and follow through related to the review.

**Please detail the elements of your previous "Plan for Continuous Improvement" that were implemented. If elements were not implemented please explain why, along with any contextual challenges you may have faced that prevented their implementation.**

The department secured additional administrative support in mid-January and although this was much later than expected, this new position has vastly improved our administrative functions.

Faculty have been productive and highly successful with respect to externally funded research. We continue to place a great deal of emphasis on teaching and curriculum and implemented a new course (Fire Debris) to address improvements in this area of the curriculum during the Annual Quality Review in 2014. This new course goes into effect Fall 2015 and will impact FSAT results for the graduating class of 2017.

A mid-year review of action items in the Annual Quality Review was conducted and the 2015 review is anticipated in late September.

**Plan for Continuous Improvement - Please detail your plan for improvement that you have developed based on what you learned from your 2014 - 2015 Cycle Findings.**

The Department of Forensic Science is in need of additional faculty to support both the MS and doctoral level programs. The overall quality and supervision of graduate research can be improved significantly as a result. This will also allow faculty more time to focus on external publications in peer-reviewed journals rather than scientific meetings.

During the 2015 Annual Quality Review faculty will critically evaluate publication output, identify challenges and propose solutions that will allow us to improve external publications in high-impact journals.