

Criminal Justice, Forensic Science MS/PhD
Assessment Plan Summary

Criminal Justice, Forensic Science MS/PhD

Ability To Conduct Original Research

Goal Description:

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

RELATED ITEMS/ELEMENTS

RELATED ITEM LEVEL 1

Students Will Produce Research Of Publishable Quality

Learning Objective Description:

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

RELATED ITEM LEVEL 2

Preparation Of Research Materials For Publication/Presentation

Indicator Description:

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 Description:

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.

Findings Description:

In 2016 there were a total of sixteen MS students (12 graduating and 4 transitioning into the PhD program at SHSU at the end of the 2016 academic year). During the academic year (2015-2016) there were a total of sixteen publications involving forensic science MS students. Although this exceeds the criterion (50% external publication rate), it was the same number of publications as the previous academic year (with 12 students). Of these sixteen publications, six (25%) were published in peer reviewed scientific journals, twelve papers were presented at national/international scientific conferences (75%).

In 2016 there were a total of five students enrolled in the PhD program (all had transitioned from the MS program at SHSU at the end of the 2015 academic year). During the academic year (2015-2016) there were a total of twelve publications involving forensic science PhD students. Of these publications 75% were presented at national conferences and 3 (25%) were published in high ranking peer-reviewed journals.

In addition, two publications were in the form of federally funded technical reports (by faculty).

RELATED ITEM LEVEL 3

Capstone Research Performance

Action Description:

The department will continue to enforce a formalized timetable for submission of 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.

RELATED ITEM LEVEL 3

Publication Type

Action Description:

Additional emphasis must be placed on publications in peer reviewed scientific journals rather than conference proceedings. In relation to all doctoral students, strong emphasis has been placed on prompt publication of dissertation research in high impact scientific journals.

Challenges and strategies to improve publication type will be addressed during the 2016 Annual Quality Review.

Develop Specific Knowledge Base

Goal Description:

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

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Detailed Competence Of Core Course Material

Learning Objective Description:

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.

RELATED ITEM LEVEL 2

The Forensic Science Assessment Test (FSAT)

Indicator Description:

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 Description:

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

Findings Description:

All sixteen graduating students participated in the FSAT examination in the Spring of 2016. 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. SHSU did not meet the criteria, achieving an average score of 64% (falling below the median of all colleges nationally). Although the criteria was not met, it was just slightly below the median score of 67%. During the 2016 cycle, a total of 104 students from eight universities participated in the FSAT.

RELATED ITEM LEVEL 3

FSAT

Action Description:

During exit interviews with graduates who participated in the FSAT examination, it became apparent that students were not motivated to engage in preparation or review of materials prior to the exam. Students indicated there was no incentive to do so, since the examination was not tied to any assessment within the curriculum. The students expressed that they were not inclined to put forth the effort if there was no direct benefit to them in terms of grades.

FSAT results and opportunities to improve the curriculum will be addressed during the 2016 Annual Quality Review. One action will be to incorporate the FSAT as a graded piece of assessment into a core class within the MS program.

Integration Of Knowledge, Skills, And Abilities

Goal Description:

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.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Students Will Demonstrate Competency In Research

Learning Objective Description:

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.

RELATED ITEM LEVEL 2

Capstone Research Report Scoring Methodology

Indicator Description:

Consistent faculty-developed scoring methodology will be applied to the capstone research report for FORS 6094 – Forensic Science Research. The scholarly report will demonstrate advanced discipline-specific knowledge, investigation, and problem-solving

ability.

Criterion Description:

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).

Findings Description:

All students (100%) performed satisfactorily in their capstone research report in accordance with the faculty-developed rubric. Of the 12 graduating students, all received satisfactory final scores and satisfactory scores in their final technical report (which has consistently presented the greatest challenge to students). 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 41 reviews were received for the 12 graduating students, 13 of whom were external reviewers. Five were deemed satisfactory (acceptable) and seven were rated as excellent.

Laboratory or experimental 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.

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.

RELATED ITEM LEVEL 3

Capstone Research Performance

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Publication Type

Action Description:

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Job Readiness

Goal Description:

Graduates will possess the required theoretical knowledge and technical skill set to be effective in the workplace.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Graduates will have acquired the required workplace skills

Learning Objective Description:

Graduates will be have developed the necessary knowledge, skills and abilities for successful employment in a forensic setting.

RELATED ITEM LEVEL 2

Employer Survey

Indicator Description:

An Employer Satisfaction Survey is conducted twelve months after graduation. Employers are asked to assess whether SHSU graduates posses the appropriate workplace skills. Using a scale of 1 to 4, (1=very unsatisfactory, 2=unsatisfactory, 3=satisfactory, and 4=highly satisfactory), employers assess job readiness.

Criterion Description:

At least 90% of all responses must be ranked as 3 (satisfactory) or 4 (highly satisfactory).

Findings Description:

During the summer of 2016, surveys were sent to each employer of the 2015 forensic science graduates (7 total). The response rate for the survey was 100%. The results of the survey indicated that the criterion was met, with 100% of the employers indicating satisfactory (57%) or highly satisfactory (43%) on all aspects of the survey. Among the employers responding to the survey, 71% were public sector forensic

laboratories and 29% were private sector.

RELATED ITEM LEVEL 3

Employer Satisfaction

Action Description:

SHSU graduates in forensic science continue to meet the expectations of forensic science employers. The department attributes this in large part due to the hands-on, laboratory-based instructional focus of the current curriculum. Experience using scientific instrumentation (hardware and software) that is currently used by practitioners in the field is critical in terms of graduate success.

Update to Previous Cycle's Plan for Continuous Improvement

Previous Cycle's Plan For Continuous Improvement (Do Not Modify):

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.

Update of Progress to the Previous Cycle's PCI:

The Department of Forensic Science was successful acquiring one additional faculty member for the next academic year (16-17). One faculty member resigned during AY 15-16 and was successfully replaced (AY 16-17). The additional faculty member is expected to improve supervision of graduate research, despite increases in enrollment. During the 2016 Quality Review, the department established a Task Group to address publication types. Recommendations to address the issue are forthcoming.

Summary

Closing Summary:

Although the Department of Forensic Science was successful recruiting an additional faculty member for the Fall 2016 semester, increased enrollment in full-time MS and PhD students greatly exceeds the physical space limitations within the Chemistry and Forensic Sciences Building. Limitations in teaching laboratories, research laboratories and adequate support for operational costs and capital outlay present the greatest challenges to both the MS and PhD programs.