Graduate Program Review
Texas Tech University

Program Reviewed: Forensic Science (Master of Science)

Onsite Review Dates: March 1, 2015
Name of Reviewer:

External:
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I. Academic Unit Description and Strategic Plan

Please evaluate the following by marking an X in one of the blanks for each item:

Vision, Mission and Goals
___ Excellent   ___ Very Good   ___ Good   _X__ Needs Improvement

Strategic Plan
___ Excellent   ___ Very Good   _X__ Good   ___ Needs Improvement

Please comment on the positive components and suggested areas of improvement.
The Forensic Sciences graduate Programs mission to provide quality graduate education is commendable. The vision
to pursue excellence in research, teaching and service is also noteworthy. Some key areas of success are:
1. The program has connections with the local law enforcement agencies such as Lubbock and Odessa Police
departments providing valuable opportunities for students to become familiar with new methods utilized by
law enforcement in the collection and assessment of evidence.
2. Most noteworthy is the ability of students to be employed by the Lubbock Police Department, the Louisiana
State Crime Lab and the US border Patrol.

The report suggests that the program would like to seek accreditation from the American Academy of Forensic Science
(AAFS, FEPAC). This goal would require the inclusion of a “forensic science” track to the program.
1. The “forensic science” track would require the hire of faculty at the Assistant/Associate Professor level who
would be able to develop courses in forensic science: forensic biology, forensic chemistry etc.
2. These faculty members would also pursue scholarly activities including obtaining grants, write research
publications etc.
3. This would ensure that the students would be able to pursue a “thesis” based program.
4. This would enable students to seek employment in forensic laboratories or pursue future research in a PhD
program.
The program review does not mention the mission/vision of the University and how the program aligns with that mission/vision which needs to be included.

II. Program Curriculum

Please evaluate the following:

Alignment of program with stated program and institutional goals and purposes
___ Excellent  ___ Very Good  ___ Good  __X_ Needs Improvement

Curriculum development coordination and delivery
___ Excellent  ___ Very Good  ___ Good  _X__ Needs Improvement

Program learning outcomes assessment
___ Excellent  ___ Very Good  ___ Good  X___ Needs Improvement

Program curriculum compared to peer programs
___ Excellent  ___ Very Good  ___ Good  _X__ Needs Improvement

Please evaluate the following by marking an X in one of the blanks for each item:

The Program Curriculum offers course work in the areas of forensic investigation. Students have the option of a thesis or non-thesis based curriculum. The thesis based curriculum requires the students to complete 24 credit hours of coursework plus 6hrs of thesis. Students pursuing a non-thesis option are required to complete 33 hours of coursework plus 6 hours of internship. Core courses include statistics, research method and law courses. The inclusion of an internship is noteworthy followed by an assessment in the form of a paper.

There are two tracks: the scientist track and the investigative track.

The scientist track requires the student to take 21 hours of core curriculum (including statistics, research methods and a law course). The investigative track requires the students to complete 15 hours from the core curriculum. The students from the scientist track are “strongly encouraged” to complete a research thesis. Students opting for the non-thesis track must complete an internship.

Areas of improvement:
1. The review does not state how the program is aligned with institutional goals and purposes.
2. A 2 year degree completion map with prerequisites would be useful for students to determine their courses of study.
3. The learning outcomes and assessment plan needs to be included.
4. The comparison with other peer programs needs to include information about the number of credit hours, the specific courses that are included in other Peer institutions.
5. An assessment plan needs to be included to measure student learning.
6. If the goal is to obtain accreditation from Forensic Science Education Programs Accreditation Commission (FEPAC) for MS in Forensic Science, then the coursework should follow FEPAC guidelines which would include courses in Forensic Biology and Forensic Chemistry.
III. Faculty Productivity

Please evaluate the following by marking an X in one of the blanks for each item:

**Qualifications**
___ Excellent ___ Very Good ___ Good _X__ Needs Improvement

**Publications**
___ Excellent ___ Very Good ___ Good X___ Needs Improvement

**Teaching Load**
___ Excellent ___ Very Good _X_ Good ___ Needs Improvement

**External Grants**
___ Excellent ___ Very Good ___ Good ___ Needs Improvement None included

**Teaching Evaluations**
___ Excellent ___ Very Good ___ Good ___ Needs Improvement None included

**Professional Service**
___ Excellent ___ Very Good _X__ Good ___ Needs Improvement

**Community Service**
___ Excellent ___ Very Good ___ Good ___ Needs Improvement (None included)

Please comment on the positive components and suggested areas of improvement.
The graduate program in forensic science is seeking to obtain accreditation from the American Academy of Forensic Science. In the process, new faculty lines are being requested which will result in hiring of quality faculty with research experience in the area of forensic science. This will result in increase in applications for external grants which would eventually provide students with increased research opportunities. The teaching load should ensure that the incoming faculty have enough time to devote to research based activities. Also, professional development activities could be provided to the faculty to grow in their careers while at the University. These may include travel grants to the American Academy of Forensic Science annual meetings or the regional Southwest Forensic Scientist meetings.

IV. Students and Graduates

Please evaluate the following by marking an X in one of the blanks for each item:

**Time to degree**
___ Excellent ___ Very Good X___ Good ___ Needs Improvement

**Retention**
___ Excellent ___ Very Good ___ Good _X_ Needs Improvement

**Graduate rates**
___ Excellent ___ Very Good ___ Good _X_ Needs Improvement
Enrollment
___ Excellent  ___ Very Good  ___ Good  ___ Needs Improvement

Demographics
___ Excellent  ___ Very Good  ___ Good  ___ Needs Improvement  Not available

Number of degrees conferred annually
___ Excellent  ___ Very Good  ___ Good  ___ Needs Improvement

Support Services
___ Excellent  ___ Very Good  ___ Good  ___ Needs Improvement (Not provided)

Job Placement
___ Excellent  ___ Very Good  ___ Good  ___ Needs Improvement

Student/ Faculty Ratio
___ Excellent  ___ Very Good  ___ Good  ___ Needs Improvement (Not provided)

Please comment on the positive components and suggested areas of improvement

The Program review provides a chart for the time to degree in years. The Average time is between 2.03 and 2.52 years for the three years reported. The trend however indicates that it is taking longer for students to complete the program. It would be useful for students to obtain a 2year map of study from the program that clearly indicates the courses needed to be taken in each semester to complete the program in 2 years.

Retention: The program review mentions that over the time period (2008-2013), 21 (20%) of the students withdrew or transferred to a different program. Effective advising could be used to help students navigate through the program and would probably result in higher retention of students in the program.

Graduating rates: The table provided in the program review indicates that the % students graduating increased from 19% in 2009 to 53 % in 2013. This is a good trend and should continue to increase.

Enrollment: The table provided in the program review indicates that the number of students enrolled in the program was steadily increasing from 18 in 2008 to 38 in 2012.

Number of degrees conferred annually: The number of students graduating from the table provided were 1(2010), 14(2011), 19(2012) and 10 (2013).

Job Placement: Based on the table provided, the students graduating from the program obtained jobs with a variety of employers including crime labs from Louisiana State, Lubbock PD, and Garland PD among other employers. However, the type of job was not specified and whether the degree was appropriate for the job obtained. Student comments indicated that the transition has been difficult, students need to have advisors assigned to them so that they can discuss their options as well as be sure that they are pursuing the right degree for the professional goals.
V. Facilities and Resources

Please evaluate the following by marking an X in one of the blanks for each item:

**Facilities**

___ Excellent     ___ Very Good     _x__ Good     ___ Needs Improvement

**Facility Support Resources**

___ Excellent     ___ Very Good     _x__ Good     ___ Needs Improvement

**Financial Resources**

___ Excellent     ___ Very Good     __x_ Good     ___ Needs Improvement

**Staff Resources**

___ Excellent     ___ Very Good     _x__ Good     ___ Needs Improvement

Please comment on the positive components and suggested areas of improvement

Based on the goals of the program of seeking accreditation from the American Academy of Forensic Science, there is need for providing additional resources in the following areas: additional faculty (Assistant/Associate Prof), additional laboratory space, additional startup funding for incoming faculty.

VI. Overall Ranking

Please provide summative conclusions based on the overall review.

The Graduate Program in forensic science at Texas Tech University is striving to quality graduate education while seeking accreditation from the American Academy of Forensic Science. The Program in the past 6 years has successfully placed graduating students in several local and external agencies which is noteworthy. The program is now proposing to make changes to the scientist track to provide students with access to research based opportunities by hiring research based faculty. These research based faculty will in turn seek external funding, write publications and provide students with students the skills needed for pursuing careers in crime laboratories.

A congressionally mandated report from the National Research Council found serious deficiencies in the nation’s forensic science system and called for major reforms and new research in 2009 (Strengthening forensic science in the United States: a path forward). The National Research Council and the National institute of Justice have recently recommended that undergraduate and graduate programs in forensic science include a more rigorous and integrated scientific approach to this discipline (National Research Council, 2009). Specifically it states that “Depending on the specialty track of interest, graduate students should take advanced courses in specialty areas of interest—drug analysis, toxicology, criminalistics, forensic biology, and forensic DNA analysis (including mtDNA sequencing, low copy number techniques, and SNPs). The criminalistics and forensic biology courses should be advanced beyond those seen at the undergraduate level. If the student has not had those lower-level courses, they should be taken first. Graduate students also should take a hands-on crime scene investigation class that covers investigation techniques and evidence association, including its examination, collection, and preservation. In addition, in-service work with a collaborating institution can provide significant practical training. “(National Research Council 2009, Strengthening forensic science in the United States: a path forward. Washington, DC: National Academies Press).
In order to meet these requirements, the MS in Forensic Science degree would need to include coursework in the areas of drug analysis, toxicology, criminalistics and forensic biology.

**Please provide summative recommendations based on the overall review.**

Based on the review and the goals of the Graduate program, the following recommendations are suggested:

1. Hiring research based faculty at the Assistant/associate Professor level in forensic science disciplines to support thesis work for the graduate students.
2. Revamping the scientist track course work to include more forensic chemistry and biology based courses to meet FEPAC accreditation standards. Additional coursework should include seminar/capstone courses along with courses involving crime scene investigation, ethics and courtroom testimony, photography and scientific process/writing. Additional electives could include Forensic Anthropology, Forensic Behavioral Analysis, Court room Techniques etc.
3. Separating the investigative track from the scientist track. While initially the two tracks could continue while substantial changes are made to the scientist track, eventually, the investigative track would need to be separated from the scientist track to obtain accreditation for the MS in forensic science.
4. Collaborating with the state crime labs to support internships in forensic biology and chemistry.
5. Collaboration with the Analytical and instrumental chemists and biochemists at Texas Tech chemistry and biology department to support additional thesis for students in the forensic scientist track. These faculty may be able to have joint appointments in the two departments.