

**Detailed Assessment Report**  
**As of: 10/07/2013 10:58 AM EST**  
**2012-2013 Forensics BS**

**(Includes those Action Plans with Budget Amounts marked One-Time, Recurring, No Request.)**

**Mission / Purpose**

The Bachelor of Science in Forensic Science is designed to equip students with the theoretical, practical and fundamental tools necessary for employment in the many disciplines of Forensic Science. The nature of the program is designed for students to become knowledgeable in the forensic areas of DNA, toxicology, crime scene investigation, latent fingerprint identification, and drug identification.

**Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans**

**SLO 1: Historical Development, structure, and services**

Students completing the program will understand the historical development, structure and services provided by Forensic Scientists as their role applies to the various justice and law enforcement systems.

**Related Measures:**

**M 3: Student Survey**

A survey will be administered to all students in order to measure perceived knowledge from their college experience. The survey will request perceptions regarding the program's success at instilling a fundamental understanding of the basic scientific principles of forensic science, its advantages, limitations, and logical and technical expertise related to laboratory operations. This survey will be administered in the senior capstone course FSC 435.

Source of Evidence: Capstone course assignments measuring mastery

**Target:**

80% of the students will rate the experience as satisfactory (defined as 3 or higher on a scale from 1-5).

**Findings (2012-2013) - Target: Met**

Fall 2012: Five students were enrolled in FSC 435 course for Fall 2012 semester. Of the five students who took the survey, 100% (5/5) rated their experience as satisfactory or better regarding their perceived knowledge and college experience (3 or higher on a five point scale).

Spring 2013 semester: There were twenty three (23) students enrolled in the FSC 435 class in Spring 2013 semester. Of the 23 students, 22 students took the exit survey. Of the twenty two students who took the survey, twenty one students (95%) rated their experience as satisfactory at the program level as well as at the university level (3 or higher on a five point scale). 95% (22/23) of the students have indicated that they have comprehensive understanding of the basic scientific principles of forensic science, and technical expertise related to laboratory operations.

**M 6: Oral Presentations**

Each student is required to make two oral presentations in the senior capstone course FSC 435 (Policies and procedures). Students may choose topics related to laboratory test procedures, quality control methods, implementation of policies, instrumentation etc. The presentations are evaluated based on presentation skills such as clarity, eye contact with audience, use of language, scientific terminologies and knowledge. All the presentations must include a historical portion of the development of forensic science and/or the structure of a forensic laboratory and the types of services provided to law enforcement agencies and the public.

Source of Evidence: Presentation, either individual or group

**Target:**

75 % of the students will be expected to score 80% or better on both oral presentations in the FSC 435 course. The presentations must include materials covering one of the following: 1. historical development. 2. structure of forensic science departments and 3. the services provided by forensic scientists.

**Findings (2012-2013) - Target: Met**

Fall 2012: There were 5 students enrolled in FSC 435 capstone course for Fall 2012. All five students made both the oral presentations. Five out of five (100%) students received a score of 80% or higher in both the oral presentations.

Spring 2013: There were 23 students enrolled in FSC 435 capstone course for Spring 2013 semester. Of the 23 students, 22 students made their first oral presentation. Of the 22 students, 20 students ( 91%; 20/22) received a score of 80% or higher on the first oral presentations covering areas related to historical development and other areas related to forensic sciences. There were 23 students participated in the second oral presentation and 20 out of 23 students (87%) received a score of 80% or higher in the second oral presentation.

**Related Action Plans (by Established cycle, then alpha):**

For full information, see the *Details of Action Plans* section of this report.

**Action plan**

*Established in Cycle:* 2011-2012

If some of the students fail to achieve the proposed target, they will be given additional attention detailing the requirements ...

**SLO 2:Scientific principles**

Students completing the program will gain a strong theoretical understanding of the basic scientific principles of their respective discipline and how they relate to the practice of Forensic Science.

**Related Measures:**

**M 3:Student Survey**

A survey will be administered to all students in order to measure perceived knowledge from their college experience. The survey will request perceptions regarding the program's success at instilling a fundamental understanding of the basic scientific principles of forensic science, its advantages, limitations, and logical and technical expertise related to laboratory operations. This survey will be administered in the senior capstone course FSC 435.

Source of Evidence: Capstone course assignments measuring mastery

**Target:**

70% of the students who take FSC 445 (Crime Doc.) are expected to rate their learning experience as a score of 3 or better on a scale from 1-5 on a student survey.

**Findings (2012-2013) - Target: Met**

No survey was administered for Fall 2012 semester. This survey will be administered in Spring 2012-13 semester.

Spring 2013: 100% of the students (17/17) rated their learning experience as satisfactory with a 3 or higher score in a scale of 1-5.

**M 4: Reflective Essay**

Students will write a reflective essay in FSC 445 (Crime Scene documentation) in order to demonstrate they have a fundamental knowledge of the scientific principles of their respective field of expertise as they relate to the practice of Forensic Science. These principles will cover the basics of crime scene documentation and preservation, evidence submission techniques, laboratory investigative techniques, and the role of the discipline in bringing about justice. Essays will be graded on 1) writing proficiency; 2) knowledge; 3) complexity of technical expertise; 4) conclusions drawn from scenarios (each component will count 25%). NOTE: FSC 445 is taught in the spring semesters only, thus there is no data to report for the fall semester of 2010.

Source of Evidence: Written assignment(s), usually scored by a rubric

**Target:**

80% of the students will score a total of at least 75% or higher in the following categories; 1. writing proficiency (20/25), 2. scientific knowledge (20/25), 3. complexity of technical expertise (20/25) and 4. conclusion drawn from scenarios (15/25). This score will demonstrate a fundamental knowledge of the scientific principles of their respective field of expertise as they relate to the practice of Forensic Science.

**Findings (2012-2013) - Target: Met**

Fall 2012: 100% of the students (11/11) received a score of 75% or higher on their reflective essays and/or writing assignment in FSC 445 course. Of the 11 students, 7 (64%) scored 90% or higher and 4 students (36%) scored 80-90% on their essays.

Spring 2013: 100% of the students (17/17) received a score of 75% or higher on their reflective essays and/or writing assignment in FSC 445 course. Of the 17 students, 15 (88%) scored 90% or higher and the remaining 2 students (18%) scored 80-90% on their essays.

**SLO 3: Technological skills**

Students completing the program will acquire the requisite level of technological skills necessary to compete within the modern employment or higher education arena.

**Related Measures:**

**M 1: Exit Survey**

Surveys will be administered in FSC 435 or FSC 445 to determine whether the student believes he/she has acquired adequate technological skills relevant to the demands of their anticipated career or graduate school aspirations. Using a five point scale (1-5), students will be asked to answer specific inquiries regarding proficiency in respective job dimensions and to identify particular problem areas, if possible.

Source of Evidence: Exit interviews with grads/program completers

**Target:**

80% of student respondents will rate the forensic science program as satisfactory (mean of 3 or more on the five-point scale) in learning technological and instrumental skills in laboratory classes and will identify particular problem areas.

**Findings (2012-2013) - Target: Met**

Fall 2012 semester: There were five students enrolled in the FSC 435 class in Fall 2012 semester and all five students took the exit survey. Of the five students who took the survey, all five students (100%) rated their experience as satisfactory or better (3 or higher on a five point scale).

Spring 2013 semester: There were 23 students enrolled in the FSC 435 class in Spring 2013 semester. Of the 23 students, 22 students took the exit survey. Of the twenty two students who took the survey, twenty one students (95%) rated their experience as satisfactory at the program level as well as at the university level (3 or higher on a five point scale).

**Related Action Plans (by Established cycle, then alpha):**

For full information, see the *Details of Action Plans* section of this report.

**Moot court room exercise**

*Established in Cycle: 2005-2006*

Students will be required to engage in a mock trial exercise as preparation for presenting forensic science expertise in a adver...

**M 7:Final exam in FSC 445 Lab**

All forensic science major students are required to take the FSC 445 lab final exam. There is a considerable amount of technological skills required to complete the lab final exam. All students taking this lab will learn about mapping the crime scene, photography, collecting, and preserving evidence under standard collection techniques. NOTE: FSC 445 is taught in the spring semesters only, thus there is no data to report for the fall semester of 2010.

Source of Evidence: Writing exam to assure certain proficiency level

**Target:**

75% of the students who take the FSC 445 lab final exam are required to score 80% or higher.

**Findings (2012-2013) - Target: Met**

Fall 2012: 100% of the students (10/10) received a score of 80% or higher on their final exam in FSC 445 lab course. Of the 10 students, 10 (100%) scored 90% or higher on their final lab exam in FSC 445.

Spring 2013: 94% of the students (16/17) received a score of 80% or higher on their final exam in FSC 445 lab course.

#### **SLO 4:Communication of Scientific Principles**

Students will acquire the ability to thoroughly communicate scientific principles and analytical results in a class room setting.

#### **Related Measures:**

##### **M 2:Writing Assignments**

The students are expected to write two assignments in FSC 445 for a minimum of about 5000 words. The assignment will cover topics related to forensic science crime scene evidence collection, policies, procedures on best ways of collections and preservation of evidence, documentation of the crime scene and diagrams, sketches, photos, technical report writing etc.The scientific principles and analytical results discussed in the assignment as well as contents, clarity of writing, writing skills, language, grammer etc will be used for evaluation.

Source of Evidence: Written assignment(s), usually scored by a rubric

##### **Target:**

80% of students will achieve a score of 75% or better on their final oral presentation of the mock crime scene investigation in FSC 445.

##### **Findings (2012-2013) - Target: Met**

Fall 2012: 100% of the students (11/11) received a score of 75% or better on their oral presentation of the mock crime scene investigation in FSC 445 course. Of the 11 students, 7 (64%) scored 90% or higher and 4 students (36%) scored 80-90% on their oral presentation.

Spring 2013: 100% of the students (17/17) received a score of 75% or better on their organizational and structural component of the writing assignment in the FSC 445 crime scene documentation class. Of the 17 students, 15 (88%) received 90% or higher and the remaining 2 students (12%) received a score of 80% or higher.

##### **M 8:Senior capstone writing assignments**

The students are expected to write two assignments in their senior capstone course (FSC 435) for a minimum of about 5000 words. The assignment will cover topics related to forensic science policies, procedures, other methods or a review of literature.One of the two assignments that is used to upload to blackboard will be used for evaluation. The scientific principles and analytical results discussed in the assignment will be used as an evaluating tool. The evaluations will be based on topics chosen, contents, clarity of writing, writing skills, language, grammer etc. The analytical procedures or policies covered in the assignments must address all legal standards, requirements and limitations as set forth by the accrediting bodies.

Source of Evidence: Capstone course assignments measuring mastery

##### **Target:**

75 % of the students who submit their writing assignment will score 75% or higher.

##### **Findings (2012-2013) - Target: Met**

Fall 2012: There were five students enrolled in FSC 435 capstone course in Fall 2012

semester. Of the five students who submitted their writing assignments, four out of five (80%) scored 75% or higher in their writing assignments.

Spring 2013: There were 23 students enrolled in FSC 435 capstone course in Spring 2013 semester. Of the 23 students, 22 submitted their second writing assignment and 20 out of 22 (91%) scored 75% or more on their writing assignment.

### **SLO 5:Communication Skills**

Students completing the program must be able to demonstrate competency in written and oral communication skills.

#### **Related Measures:**

##### **M 2:Writing Assignments**

The students are expected to write two assignments in FSC 445 for a minimum of about 5000 words. The assignment will cover topics related to forensic science crime scene evidence collection, policies, procedures on best ways of collections and preservation of evidence, documentation of the crime scene and diagrams, sketches, photos, technical report writing etc. The scientific principles and analytical results discussed in the assignment as well as contents, clarity of writing, writing skills, language, grammar etc will be used for evaluation.

Source of Evidence: Written assignment(s), usually scored by a rubric

##### **Target:**

80% of students will achieve a score of 75% or better on final writing assignment required in FSC 445.

##### **Findings (2012-2013) - Target: Met**

Fall 2012: 100% of the students (11/11) received a score of 75% or better on their writing assignment in FSC 445 course. Of the 11 students, 7 (64%) scored 90% or higher and 4 students (36%) scored 80-90% on their writing assignment.

Spring 2013: 100% of the students (17/17) received a score of 75% or better on the grammatical and mechanical components of the writing assignment in the FSC 445 crime scene documentation class.

##### **M 6:Oral Presentations**

Each student is required to make two oral presentations in the senior capstone course FSC 435 (Policies and procedures). Students may choose topics related to laboratory test procedures, quality control methods, implementation of policies, instrumentation etc. The presentations are evaluated based on presentation skills such as clarity, eye contact with audience, use of language, scientific terminologies and knowledge. All the presentations must include a historical portion of the development of forensic science and/or the structure of a forensic laboratory and the types of services provided to law enforcement agencies and the public.

Source of Evidence: Presentation, either individual or group

##### **Target:**

The structure of the presentation, and scientific terminologies used by the students are used to evaluate the communication skills during the oral presentation. 75% of the students will make a score of 3 or better in a 1-5 scale.

### **Findings (2012-2013) - Target: Met**

Fall 2012: There were 5 students enrolled in FSC 435 capstone course for Fall 2012. All five students made both the oral presentations, one in the class room and the other, a video recording in the speaking center. Five out of five (100%) students received a 3 or better grading in a scale of 1-5.

Spring 2013: There were 23 students enrolled in FSC 435 capstone course for Spring 2013 semester. Of the 23 students, 22 students made their first oral presentation. Of the 22 students, 20 students ( 91%; 20/22) received a 3 or higher score in a scale of 1-5 on the first oral presentations covering areas related to the structure of the presentation and scientific terminologies. There were 23 students participated in the second oral presentation and 20 out of 23 students (87%) received a 3 or higher score in a scale of 1-5 in the second presentations covering areas related to the structure of the presentation and scientific terminologies.

### **Details of Action Plans for This Cycle (by Established cycle, then alpha)**

#### **Moot court room exercise**

Students will be required to engage in a mock trial exercise as preparation for presenting forensic science expertise in an adversarial cross examination setting.

**Established in Cycle:** 2005-2006

**Implementation Status:** Terminated

**Priority:** Low

**Relationships (Measure | Outcome/Objective):**

**Measure:** Exit Survey | **Outcome/Objective:** Technological skills

**Implementation Description:** Spring 2007

**Responsible Person/Group:** Dr. Bala

#### **Revise exit survey**

The student exit survey has been revised to incorporate questions regarding the outcomes/objectives originally measured by the employer survey.

**Established in Cycle:** 2007-2008

**Implementation Status:** In-Progress

**Priority:** High

**Implementation Description:** Fall 2008

**Responsible Person/Group:** FSC faculty, AJ Chair

#### **Action plan**

If some of the students fail to achieve the proposed target, they will be given additional attention detailing the requirements of the course. This will include provide additional reading material, help with writing and speaking assignments and have them use the speaking and writing centers.

**Established in Cycle:** 2011-2012

**Implementation Status:** Planned

**Priority:** Medium

**Relationships (Measure | Outcome/Objective):**

**Measure:** Oral Presentations | **Outcome/Objective:** Historical Development, structure, and services

**Implementation Description:** Students will be monitored on their performance in writing and speaking assignments. Any time the target is not met, this action plan will be implemented as described in the 'Description' section

**Responsible Person/Group:** Faculty teaching the capstone course.

**Additional Resources Requested:** none

**Budget Amount Requested:** \$0.00 (no request)

**Action plan to improve communication skills**

If some of the students fail to achieve the proposed target in communication skills, they will be given additional attention detailing the requirements of the course. This will include provide additional reading material, help with writing and speaking assignments and have them use the speaking and writing centers.

**Established in Cycle:** 2011-2012

**Implementation Status:** Planned

**Priority:** High

**Analysis Questions and Analysis Answers****What specifically did your assessments show regarding proven strengths or progress you made on outcomes/objectives?**

The data from objectives and outcomes indicate that all objectives, for assessments where data was gathered, were met. These data provide measures that the BS forensic science program is accomplishing what it was designed to do. The survey and the information provided by the students indicate the overall satisfaction of the students in different components of the Forensic Science program. Several students graduate each semester, indicating the success of the program and the Forensic Science program shows continued improvement in student enrollment and graduation. This is accomplished by the rigorous standards and quality set forth in the program plan.

**What specifically did your assessments show regarding any outcomes/objectives that will require continued attention?**

There were no issues observed related to the objectives/outcome in the BS Forensic Science program. However, we continue to monitor and improve the student performance in the class room and in the laboratories. Special attention is given to the FSC 435 (Forensic Science Policies and Procedures - senior capstone) and FSC 445/L (Crime Scene documentation/lab) classes. Both courses are writing and speaking intensive and we encourage the students to make use of the speaking center for their oral presentations and the writing center for improving their writing skills. Both the speaking and the writing centers play a vital role in improving the student's performance. We continue to monitor the performance of students in other areas as well.

**Annual Report Section Responses****Program Summary**

The BS Forensic Science program is unique in the State of Mississippi, that this is the only program that offers a multidisciplinary approach that covers multiple areas of Forensic Science with different

emphasis plan. The data collected during this academic year, and the analysis indicate that the program is accomplishing the objectives as specified in the assessment process. The BS program in Forensic Science is continuing to grow with students pursuing degrees in the Criminal Justice, Chemistry/Biochemistry, Anthropology, and Biological Sciences emphasis areas. Very few students have chosen Physics and Polymer emphasis areas. The enrollment and the graduation rate of the students in this program continue to grow and attracts several out of state students. Targets set in all Outcome/Objectives are being met which calls for reevaluation of the criteria used to judge students in these areas. Given the complexity and fast changing technology in forensics, students must be challenged to a higher standard for our program to continue to grow and meet the needs of employers looking to hire our students.

### **Continuous Improvement Initiatives/Additional Action Plans**

One of the most important qualities a forensic science student must possess is the ability to communicate both in writing and speaking. The need to look at the curriculum for all areas and ensure that these qualities are emphasized in each area is going to be a critical component of the program. A reduction in the number of students per class (so as not to take time away from the lecture material) will be required in order to allow students to present both written and oral works. This may mean that classes have to be taught each semester rather than every other semester so that students have the opportunity to complete their degree within a reasonable time frame.

Special attention is given to the FSC 435 (Forensic Science Policies and Procedures - senior capstone) and FSC 445/L (Crime Scene documentation/lab) classes. Both courses are writing and speaking intensive and we encourage the students to make use of the speaking center for their oral presentations and the writing center for improving their writing skills. Both the speaking and the writing centers play a vital role in improving the student's performance. We continue to monitor the performance of students in other areas as well. Speaking and writing assignments are introduced in other Forensic Science courses such as FSC 301 (Forensic Biology I) and FSC 321 (Forensic Biology II). The forensic faculty will meet to assess the logistics of this proposal keeping in mind our MS program as well.

### **Closing the Loop/Action Plan Tracking**

The School of Criminal Justice (Forensic Science program) made numerous revisions to the Forensic Science baccalaureate assessment plan. Several initiatives were implemented to address deficiencies which persisted earlier in areas such as oral communication and writing skills. Action plans were constructed for FSC 435 (Forensic Science policies and procedures) and FSC 445 (Crime Scene documentation).

Even though the target for outcomes/objectives are met this year, we will continue to monitor the performance of the students in all areas related to the outcome and see if raising the target will achieve better quality in the overall performance of the students. Besides the speaking and writing intensive sources (FSC 435 and FSC 445), we have introduced speaking and writing assignments in other courses as part of the syllabus to improve the writing and speaking skills of the students in the program. We will continue to monitor the areas that need improvement and make every effort to achieve the target. The results from this assessment indicate the program is meeting or exceeding those objectives and standards measured in this analysis.

The future of the Forensic Science program depends on the successful recruitment of high school seniors from local, outside, and out of state schools. Additional scholarships, tuition waiver, and financial aid to the students are some of the means of increasing student enrollment in the program. We believe the strength of our program is measured in the success of our students. The employment

market for the Forensic Science students is very strong and several students who have graduated have secured positions with private and public entities including law enforcement agencies.