



Texas Southern University  
Assessment Plan 2010-2013

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## **Unit Assessment Plan**

College of Science and Technology

Bachelor of Science in Mathematics

## Introduction

### **Texas Southern University's Mission**

Texas Southern University is a comprehensive metropolitan university. Building on its legacy as a historically black institution, the university provides academic and research programs that address critical urban issues and prepare an ethnically diverse student population to become a force for positive change in a global society.

*In order to achieve this mission, Texas Southern University provides:*

- quality instruction in a culture of innovative teaching and learning
- basic and applied research and scholarship that is responsive to community issues
- opportunities for public service that benefit the community and the world.

### **Texas Southern University's Vision**

Texas Southern University will become one of the nation's pre-eminent comprehensive metropolitan universities. We will be recognized by the excellence of our programs, the quality of our instruction, our innovative research, and our desire to be a contributing partner to our community, state, nation, and world.

### ***Accreditation Standards***

Accreditation by Southern Association of Colleges and Schools Commission on Colleges (SACS) Commission on Colleges signifies that the institution: (1) has a mission appropriate to higher education, (2) has resources, programs, and services sufficient to accomplish and sustain that mission, and (3) maintains clearly specified educational objectives that are consistent with its mission and appropriate to the degrees it offers, and that indicate whether it is successful in achieving its stated objectives.

*Source: The Principles of Accreditation: Foundations for Quality Enhancement, 5<sup>th</sup> edition*

## Goal 1 Assessment Plan 2010-11 to 2012-13

### 1 Goal Description

#### Goal 1

The graduate will exhibit understanding of advanced mathematical concepts and analytical skills, and also utilize appropriate technology to develop models for solving problems and analyzing new situations, both in mathematics and in areas that use mathematics.

### 2 SLO Student Learning Outcomes/Objectives

#### â€ SLO 1.1

Students will demonstrate ability to apply knowledge relating to set theory, functions, and equivalence relation to advanced mathematics courses s by correctly answering embedded exam questions.

#### â€ SLO 1.2.

Students will demonstrate ability to Write mathematical proofs when required in upper level and advanced mathematics courses by correctly answering embedded exam questions.

#### â€ SLO 1.3

Understand the concepts of random variable, distribution functions, and theoretical versus, simulated probability and apply them to real world situations.

### 3 Metric

#### Metric 1.1

Final Exam or Assignment Embedded Questions (Math 331)

#### Metric 1.2

Final Exam or Assignment Embedded Questions (Math 439)

#### Metric 1.3

Final Exam or Assignment Embedded Questions (Math 473)

### 4 Target 2010-11

#### Target 1.1

70% of the students will score 50% or higher on embedded exam questions.

#### Target 1.2

70% of the students will score 50% or higher on embedded exam questions.

#### Target 1.3

70% of the students will score 50% or higher on embedded exam questions.

### 5 Findings 2010-11

#### Findings 1.1

NA since the data is not available.

#### Findings 1.2

Final Exam (Spring 2011) results indicate that 80% of the students scored 50% or higher on the embedded questions.

#### Findings 1.3

NA since the data is not available.

### 6 Action Plan 2010-11

The department faculty met to discuss the results of the voluntary senior exit exam and they made changes in the course

structures, and Goal 1 and SLO 1.1 are added in Spring 2011 semester to improve the desired course objectives and program outcomes for the next academic year.

The department faculty met to discuss the results of the voluntary senior exit exam and they made changes in the course structures, and Goal 1 and SLO 1.2 are added in Spring 2011 semester to improve the desired course objectives and program outcomes for the next academic year.

The department faculty met to discuss the results of the voluntary senior exit exam and they made changes in the course structures, and Goal 1 and SLO 1.3 are added in Spring 2011 semester to improve the desired course objectives and program outcomes for the next academic year.

## **7 Target 2011-12**

### Target 1.1

70% of the students will score 50% or higher on embedded exam questions.

### Target 1.2

70% of the students will score 50% or higher on embedded exam questions.

### Target 1.3

70% of the students will score 50% or higher on embedded exam questions.

## **8 Findings 2011-12**

### Findings 1.1

Final Exam (Fall 2011) results indicate that 78% of the students scored 50% or higher on the embedded questions.

### Findings 1.2

Final Exam (Spring 2012) results indicate that 56% of the students scored 50% or higher on the embedded questions.

### Findings 1.3

Final Exam (Fall 2011) results indicate that 66% of the students scored 50% or higher on the embedded questions.

## **9 Action Plan 2011-12**

The department faculty met to discuss the outcomes of the findings, and they decided to maintain and continue to improve the desired course objectives since the findings met the target.

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## **10 Target 2012-13**

### Target 1.1

70% of the students will score 60% or higher on embedded exam questions.

### Target 1.2

70% of the students will score 50% or higher on embedded exam questions.

### Target 1.3

70% of the students will score 50% or higher on embedded exam questions.

## **11 Findings 2012-13**

### SLO 1.1:

Final Exam (Fall 2012) results indicate that 93% of the students scored 60% or higher on the embedded questions.

### SLO 1.2:

Course assessment results indicate that 57% of the students scored 60% or higher on the embedded questions.

SLO 1.3:

Final Exam (Fall 2012) results indicate that 18% of the students scored 60% or higher on the embedded questions.

## 12 Action Plan 2012-13

The department faculty met to discuss the outcomes of the findings, and they decided to maintain and continue to improve the desired course objectives since the findings met the target.

## 13 Additional Reference Documents

Final Exam results given during the Fall 2010 or Spring 2011 final exam period.

Embedded Questions results given during the Fall 2011 or Spring 2012 final exam period.

Embedded Questions results given during the Fall 2012 or Spring 2013 final exam period.

[Embedded Final Exam Questions Data and SEAM 2010-2013 03.04.2013](#) [XLSX 33 KB 10/2/15]

## Goal 2 Assessment Plan 2010-11 to 2012-13

### 1 Goal Description

Goal 2

The graduate will have developed learning skills and acquired a firm foundation of knowledge of fundamental mathematical concepts, methods, reasoning and language sufficient to support further academic work or a career in area that requires mathematical understanding.

### 2 SLO Student Learning Outcomes/Objectives

SLO 2.1:

Students will exhibit an understanding of advanced mathematical concepts and analytical skills by successfully completing the Voluntary senior exit examination.

SLO 2.2:

Students will demonstrate mastery of the essentials of calculus sufficiently to apply those skills in more advanced mathematics classes by successfully completing the Voluntary senior exit examination.

SLO 2.3:

Student will demonstrate ability to use mathematical modeling to solve problems from fields such as natural sciences, social sciences, business and engineering by successfully completing the Voluntary senior exit examination.

### 3 Metric

Metric 2.1:

Voluntary senior exit examination.

Metric 2.2:

Voluntary senior exit examination.

Metric 2.3:

Voluntary senior exit examination

### 4 Target 2010-11

Target 2.1:

70% of the students will score 60% or higher on the senior exit exam.

Target 2.2:

70% of the students will score 60% or higher on the senior exit

Target 2.3:

70% of the students will score 60% or higher on the senior exit

## **5 Findings 2010-11**

Finding 2.1:

42.9% of the students scored at least 60% on the senior exit exam.

Finding 2.2:

42.9% of the students scored at least 60% on the senior exit exam

Finding 2.3:

42.9% of the students scored at least 60% on the senior exit exam

## **6 Action Plan 2010-11**

The department faculty met to discuss the outcomes of the voluntary senior exit exam and they made changes in the course structures in order to improve the desired course objectives and program outcomes for the next academic year.

## **7 Target 2011-12**

Target 2.1:

70% of the students will score 60% or higher on the senior exit exam.

Target 2.2:

70% of the students will score 60% or higher on the senior exit

Target 2.3:

70% of the students will score 60% or higher on the senior exit

## **8 Findings 2011-12**

Finding 2.1:

25% of the students scored at least 60% on the senior exit exam.

Finding 2.2:

25% of the students scored at least 60% on the senior exit exam.

Finding 2.3:

25% of the students scored at least 60% on the senior exit exam.

## **9 Action Plan 2011-12**

The department faculty met to discuss the outcomes of the voluntary senior exit exam and they found out that three out of seven graduates took the exam since the exam is voluntary. So, the department decided to make the senior exit exam as an assignment in one of their senior level courses.

## **10 Target 2012-13**

Target 2.1:

70% of the students will score 60% or higher on the senior exit exam.

Target 2.2:

70% of the students will score 60% or higher on the senior exit

Target 2.3:

70% of the students will score 60% or higher on the senior exit

## **11 Findings 2012-13**

Finding 2.1:

33.33% of the students scored at least 60% on the senior exit exam.

Finding 2.2:

students scored at least 60% on the senior exit exam.

Finding 2.3:

33.33% of the students scored at least 60% on the senior exit exam.

## **12 Action Plan 2012-13**

The senior exit exam was given as an assignment in one of the senior level courses but still the exam was voluntary. The department is going to review the questions in the senior exam to improve program outcomes for the next academic year.

## **13 Additional Reference Documents**

Voluntary senior exit exam report