Unit Missions

MAT Mission Statement

Mission statement
The purposes of the Department of Mathematics are to prepare teachers of mathematics for the elementary and secondary schools, to provide a foundation for professional careers in mathematics, and to provide for the mathematical needs of the general student.

Learning Outcomes

BS-MAT 01: LO Proficiency in College Algebra

Start: 7/1/2014
End: 6/30/2015
Providing Department: Mathematics

Learning Outcome
Demonstrate proficiency in basic knowledge of College Algebra topics.

Data Collection (Evidence)
The final examination in MAT 104 College Algebra will be used to determine the level of mastery of the topics in College Algebra. The examination is written each semester by a committee of faculty members who do not teach the course during that particular semester, and the examination material covers specific course objectives which have been defined by a committee of departmental faculty. All college algebra students take this common final examination during an exam period that is dedicated solely to this course. Following the administration of the final exam, an item analysis will be performed to determine areas of weakness and strength.

Results of Evaluation
An analysis of the fall 2014 semester examination, given by objective, is shown in the following table. The objective number corresponds to the published objectives for College Algebra (MAT 104). The final examination questions were matched to these thirteen objectives. The number of students that demonstrated mastery of each objective was computed. (The list of the course objectives is included in the appendix.)

Objective Number	Mastery Percentage 2013	Mastery Percentage 2014	Number of exam questions for that objective
1	51	61	9
2	62	71	3
3	59	65	3
4	62	67	4
5	62	68	3

6	61	70	3
7	31	34	3
8	48	55	4
9	56	59	4
10	56	58	4
11	25	39	3
12	52	58	4
13	26	40	2

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Use of Evaluation Results

Based on the analysis from the 2008 – 2009 academic year, the final exam in the fall 2009 was completely reworked in terms of the number of questions, the number of questions which address each objective, and the directions for each question. Only minor changes were made for the fall 2014 exam. Each objective in this year's exam was tested with at least three questions with the exception of Objective 13. This objective incorporates a very particular type of problem and is a minor portion of the course as a whole. The directions and types of problems included in the exam came directly from the homework problem sets; this method of choosing exam questions was used so that the students would have problems to work which were identical to those which they had been used to seeing in their preparations for tests. In the spring semester 2013, the administration of the final exam on the computer was piloted. This was tried since all of the unit tests are given in this way. Most of the final examinations were taken in the computer lab in the fall semester 2014 (a few students requested a paper test).

When compared with the mastery level listed in the 2013 – 2014 report, the students appear to have done better on all of the thirteen objectives. The department made a concerted effort to increase the students' performance on each unit test during the semester. This was done by offering blocks of time on two days each week when students were encouraged to come to the computer labs for tutoring. Points were added to unit tests as incentive for coming to the tutoring labs on a weekly basis. Some students were faithful to come each week, but there were some students who came sporadically or not at all. In spite of offering points as an incentive, the labs saw a decline in attendance as the semester progressed – especially in the latter half of the term.

For the 2015 – 2016 school year, the department is hoping to be back in Walters Hall where there will be a computer lab solely for use of the Mathematics Department. The faculty anticipate requiring all students to spend time in the computer lab weekly. All sections of MAT 104 have retained much of the redesign proposed by this department to IHL and the National Center for Academic Transformation (NCAT). The students had some lecture time in which the course content was presented. The textbook and accompanying software package (Hawkes Learning System) were used by the students. All homework, quizzes, and unit tests were completed using the computer software. Before a student could take a unit test, the student had to complete a practice test covering the same topics and make the minimum required score. This was done to ensure that the students had prepared for the unit tests. The faculty noticed an improvement in the unit test scores for students who had prepared for the tests in this

way. The faculty are continuing to explore means of improvement of student performance in the coming academic year.

Related Items

GE 01: Critical and Creative Thinking

GE 03: Quantitative Skills

BS-MAT 02: LO Understanding fundamentals of mathematics

Start: 7/1/2014
End: 6/30/2015
Providing Department: Mathematics
Learning Outcome
Demonstrate understanding of fundamental ideas, concepts, and applications of mathematics.

Data Collection (Evidence)
The capstone course for students in the BS program is MAT 490. In this course, the students read a variety of articles which included but were not limited to biographical writings about contemporary mathematicians, research articles, and articles about current topics in mathematics.

Additionally, the students explored mathematical questions in a research setting to understand better what research mathematicians do.

The department requires that each student complete the PRAXIS II mathematics content test (5161).

PRAXIS II Content Areas:
1. Number & Quantity; Algebra; Functions; Calculus
2. Geometry; Probability & Statistics; Discrete Mathematics

Results of Evaluation
The students summarized four articles to be included in their portfolios. Each student made a presentation and led a class discussion on one of the chosen articles. The students learned skills in communicating complex ideas as well as learning how to approach new material with only limited knowledge of foundational ideas.

The students were engaged in trying to solve a problem about which they had no significant prior knowledge or justify an outcome of a problem about which they had no prior knowledge. The solution processes required the students to incorporate and integrate knowledge from several subject areas in order to resolve the problem.

After the completion of the 2013 – 2014 academic, the department ceased using the Major Field Test. The department decided that the content area test in the PRAXIS series was a more suitable measure of content knowledge for all of our majors. This examination is a requirement for teacher licensure in Mississippi, and the required minimum score is 160. This is the required score for all students in the Department of Mathematics. This score is slightly above the national median score of 152. Two BS students took the examination, and neither student passed it on the first attempt. For one student, the scores were 143 and 161. The other student's scores were 153, 156, and 141. (In spite of all coursework being completed, this student was not allowed to graduate in May 2015 because a passing score was not achieved prior to the graduation date.) Both students admitted that they had not prepared sufficiently prior to attempting the examination the first time. Study materials were available for the students to use.

Use of Evaluation Results

The students were successful in reading and summarizing the articles. In the future, articles will continue to be chosen based on the students' areas of interest.

Research-type questions will continue to be chosen based on the ability of the students as well as their interests and career goals. Connections between various branches of mathematics will continue to be stressed in the major content courses in the major.

This year is the first year that this examination has been required of all of the students, and the department is trying to determine the best time for students to take the test. The department decided to require the BS students to take the content area test in the Praxis series (Praxis II – 5161) and achieve an acceptable score (160) based on the Mississippi Department of Education requirements for candidates seeking licensure. This is the test which is required for the secondary mathematics teacher education candidates, and this will allow one assessment for both degree programs.

Related Items

- **SP1.Ind02: National / Standardized Test Scores**
- **GE 01: Critical and Creative Thinking**
- **GE 02: Communication**
- **GE 03: Quantitative Skills**
- **GE 04: Inquiry and Technology**
- **GE 08: Perspectives**

BS-MAT 03: LO Communication of mathematical ideas

Start: 7/1/2014
End: 6/30/2015
Providing Department: Mathematics
Learning Outcome
Demonstrate the ability to communicate mathematics.

Data Collection (Evidence)
In each of the 400-level mathematics content courses, the students will read an article from the area of content covered in that particular course. The articles will be chosen by a committee of the faculty who teach those courses. Each student will write a synopsis of the article and also include a critique. Approximately 50 – 75% of the summary should be devoted to the content of the article, and the remainder should be devoted to the critique. The summary should demonstrate that the reader understands the mathematical content and purpose of the article. The grading of the summaries will be done by a committee of faculty who teach the 400-level content courses as prescribed by a rubric developed by the faculty members on this committee.

Results of Evaluation
Article summaries were written in six classes during the 2014 – 2015 year (MAT 405, 411, 415, 425, 442, and 443). The committee read a total of twenty-six summaries during the course of the year and graded them according to the rubric. On a scale of 0 to 5, the scores ranged from 1.5 to 4.5. The average was 3.18. Twenty of the students scored 3 or higher on this assignment. The committee noted that the students who have had experience with this type of assignment tended to produce a higher quality paper. The

committee also noted that the type of article given to the classes is a major factor in the overall class scores for one of these assignments. (See the appendix for the rubric.)

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Use of Evaluation Results
The department will continue to use this type of writing assessment by gathering data in all 400-level courses each semester. We will track those who made below 3 on the first assessment and look for improvement in later assignments. We are now using this assignment in all 400-level courses. It was noted again this year in the capstone course (MAT 490) that this type of assignment in the prior courses made the writing more manageable when creating documents to be included in the students' portfolios.

Related Items
GE 01: Critical and Creative Thinking
GE 02: Communication

BSE-MAT 01: LO Proficiency in College Algebra

Start: 7/1/2014
End: 6/30/2015
Providing Department: Mathematics
Learning Outcome
Demonstrate proficiency in basic knowledge of College Algebra topics.

Data Collection (Evidence)
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students who had prepared for the tests in this way. The faculty are continuing to explore means of improvement of student performance in the coming academic year.

Related Items

GE 01: Critical and Creative Thinking

GE 03: Quantitative Skills

BSE-MAT 02: LO Understanding fundamentals of mathematics

Start: 7/1/2014
End: 6/30/2015
Providing Department: Mathematics
Learning Outcome
Demonstrate understanding of fundamental ideas, concepts, and applications of mathematics.

Data Collection (Evidence)
Each student in the BSE program must pass the Praxis Math Content Test.
PRAXIS II Content Areas:
1. Number & Quantity; Algebra; Functions; Calculus
2. Geometry; Probability & Statistics; Discrete Mathematics

The department has stopped using the Major Field Test as a common content assessment for all the majors.

Results of Evaluation
As of the fall semester 2013, the required test for licensure in Mississippi is 5161. The minimum score which must be achieved is 160. This score is slightly above the national median score of 152. Only one student in the program has taken this version of the test at this time. This student passed it on the second attempt. The scores for both attempts were 146 and 160. The student admitted that there was insufficient preparation prior to taking the test the first time.

Use of Evaluation Results
Based on the mathematics content published at the ETS web site in the preparation materials, the content included on the examination is addressed in the courses that are taught to the majors. The department will assist students in reviewing the content courses taken early in their program prior to the taking of the test.

Related Items

SP1.Ind02: National / Standardized Test Scores

GE 01: Critical and Creative Thinking

GE 02: Communication

GE 03: Quantitative Skills

GE 04: Inquiry and Technology

GE 08: Perspectives

BSE-MAT 03: LO Communication of mathematical ideas

Start: 7/1/2014
End: 6/30/2015
Providing Department: Mathematics
Learning Outcome
Demonstrate the ability to communicate mathematics.

Data Collection (Evidence)
In each of the 400-level mathematics content courses, the students will read an article from the area of content covered in that particular course. The articles will be chosen by a committee of the faculty who teach those courses. Each student will write a synopsis of the article and also include a critique. Approximately 50 – 75% of the summary should be devoted to the content of the article, and the remainder should be devoted to the critique. The summary should demonstrate that the reader understands the mathematical content and purpose of the article. The grading of the summaries will be done by a committee of faculty who teach the 400-level content courses as prescribed by a rubric developed by the faculty members on this committee.

Results of Evaluation
Article summaries were written in six classes during the 2014 – 2015 year (MAT 405, 411, 415, 425, 442, and 443). The committee read a total of twenty-six summaries during the course of the year and graded them according to the rubric. On a scale of 0 to 5, the scores ranged from 1.5 to 4.5. The average was 3.18. Twenty of the students scored 3 or higher on this assignment. The committee noted that the students who have had experience with this type of assignment tended to produce a higher quality paper. The committee also noted that the type of article given to the classes is a major factor in the overall class scores for one of these assignments. (See the appendix for the rubric.)

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Use of Evaluation Results
The department will continue to use this type of writing assessment by gathering data in all 400-level courses each semester. We will track those who made below 3 on the first assessment and look for improvement in later assignments. We are now using this assignment in all 400-level courses. It was noted again this year in the capstone course (MAT 490) that this type of assignment in the prior courses made the writing more manageable when creating documents to be included in the students' portfolios.

Related Items
GE 01: Critical and Creative Thinking
GE 02: Communication

BSE-MAT 04: LO Teaching mathematics

Start: 7/1/2014
End: 6/30/2015
Providing Department: Mathematics
Learning Outcome
Performs appropriate mathematics teaching skills.

Data Collection (Evidence)

This year the department continued the use of the Teacher Intern Assessment Instrument, the IHL mandated scoring instrument. TIAI scores by both the supervisor and cooperating teacher were examined. These scores are based on written lesson plans for an entire unit as well as observation of the teaching of actual lessons throughout the spring semester. The possible scores were:
0 - unacceptable
1 - emerging
2 - acceptable
3 – target
When the cooperating and supervising teacher differed in their scores, the candidate was awarded the higher score.
Also considered were the scores in the Teacher Work Sample (TWS). This instrument allows the teacher intern not only to record both his efforts to develop lesson plans that meet the needs of all students, but also to reflect on the impact on student learning and to explore possibilities for future lessons. The possible scores were
1 - indicator not met
2 - indicator partially met
3 - indicator met

Only the supervising teacher scored this rubric.

A Mathematics Specific Addendum was added in the 2011 – 2012 school year in which nineteen indicators, specific to the teaching of mathematics, were used to assess the candidates during the internship.
The possible scores were
1 – unacceptable
2 – acceptable
3 – target

Because of the low number of students who have matriculated through the program since the Addendum was put into place, there is not much data that can be used for comparison purposes.

Results of Evaluation
One intern was evaluated for the 2014-2015 school year during the spring semester. On all five sections of the TIAI [planning and preparation (indicators 1 - 6), assessment (indicators 7 and 8), instruction (indicators 9 - 19), learning environment (indicators 20 – 24); professional responsibility (indicator 25), and management addendum (indicators 26 – 27)] the intern's scores were 2 (acceptable) and 3 (target). On the eight rubrics of the TWS (contextual factors, learning goals, assessment plan, design for instruction, instructional decision making, analysis of student learning, reflection and self-evaluation, and design for instruction in secondary education), the intern's scores were 2's and 3's. The intern was assessed using the Mathematics Specific Addendum. The intern scored at least 2 (acceptable) on all nineteen of the indicators with a couple of exceptions.

Use of Evaluation Results
For the TIAI:
The department continues to use the IHL mandated Teacher Intern Assessment Instrument to evaluate our teacher interns. The scores on all indicators of the final draft of the TIAI tell us that we are preparing our candidates to be excellent teachers. The fact that none of the scores were unacceptable or emerging indicates that we are preparing the interns to make a difference in their classrooms in all areas measured by the TIAI (see above). Our graduates continue the tradition of meeting the performance goals set for teacher candidates,

that is, the scores for the past years on the TIAI are fairly constant. This same data is reported in the SPA report for the university's report to NCATE. The data is monitored on an annual basis, and if there are indicators on which most of our interns score a 2, or acceptable score, the department will need to make changes in its courses to enable the candidates to earn a 3, that is, a target score. The intern did score an unacceptable (0) or emerging (1) on indicators during some of the five observations made by the supervising teacher. These unacceptable scores were generally in areas in which almost all interns struggle, such as differentiating instruction, providing students with cooperative learning opportunities, varying their instructional activities and assessments, incorporating diversity and multiculturalism into the classroom, making consistent contact with parents, and using community resources. The supervising and cooperating teachers worked with the interns to remedy all of these deficiencies.

For the TWS:
Again, the scores indicate that we are preparing our interns to be successful teachers. The intern was able to analyze the students' needs and the environment and use this data to prepare meaningful lessons that integrate content from other areas of mathematics as well as other subject areas. The intern demonstrated "a positive impact on student learning," that is, the differences in the pre- and post-test scores of their students indicated that learning occurred. The candidate was also able to analyze his assessment results to inform future lessons and his own professional development. The indicator that requires the use of research results remains an area that we need to emphasize.

The scores received on the indicators for the Mathematics Specific Addendum indicate that the intern was able to communicate the mathematics content effectively to the students in the classroom. This instrument is still relatively new, and the department does not have much historical data to be used for comparison. Data over the next few years will be important for comparison purposes.

Related Items

- **GE 01: Critical and Creative Thinking**
- **GE 02: Communication**
- **GE 04: Inquiry and Technology**
- **GE 07: Cultural Awareness**
- **GE 09: Cross-disciplinary Appreciation**
- **GE 10: Values**

Gen Ed Learning Outcomes

MAT_103_GE 01: Critical and Creative Thinking

Start: 7/1/2014
End: 6/30/2015

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically, solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
The final examination in MAT 103 Quantitative Reasoning will be used to determine the level of mastery of the topics in this course. The examination is a comprehensive assessment of the course content. All questions on the examination are linked to the specific course objectives which have been defined by the departmental faculty. Following the administration of the final exam, an item analysis will be performed to determine areas of weakness and strength. (The course objectives are found in the Appendix.)

Results of Evaluation
An analysis of the fall 2014 semester examination, given by course objective, is shown in the following table. The objective number corresponds to the published objectives for Quantitative Reasoning (MAT 103). The final examination questions were matched to these nine objectives (with the exception of Objective 7). The number of students, expressed as a percentage, who demonstrated mastery of each objective was computed. (The list of course objectives is included in the appendix. Course objectives 1 – 6, 8, and 9 address General Education Competency 01.

Objective Number	Mastery Percentage 2013	Mastery Percentage 2014	Number of exam questions for that objective (2013/2014)
1	71.13	77.02	23/18
2	71.38	78.39	13/13
3	38.00	42.86	2/1
4	58.22	58.54	18/17
5	50.77	58.93	13/16
6	62.67	79.37	3/3
7	0	0	0/0
8	32.00	35.71	4/4
9	48.62	50.79	13/12

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Use of Results
Each course objective that was on this year's exam was tested with at least three questions with the exception of objective 3. This objective incorporates a particular type of problem and is a minor portion of the course content as a whole. When compared with the performance on the examination in the fall of 2013, improvement was shown on all of the assessed objectives. While some improvements were very small and are possibly statistically insignificant, those objectives where the mastery percentage was below fifty percent in 2013 did show improvement in 2014. Those objectives for which the mastery level continues to be below fifty percent will be examined for possible revision of course content and teaching methodology for the 2015 – 2016 school year. Additional stress will be placed on the teaching of these specific objectives in order to improve the performance of the students in these areas.

Related Items

GE 01: Critical and Creative Thinking

MAT_103_GE 03: Quantitative Skills

Start: 7/1/2014
End: 6/30/2015

Gen Ed learning outcome (competency)
Enhancing abilities for symbolic and numeric reasoning and the ability to use and understand statistical and other quantitative techniques to interpret data

Data Collection
The final examination in MAT 103 Quantitative Reasoning will be used to determine the level of mastery of the topics in this course. The examination is a comprehensive assessment of the course content. All questions on the examination are linked to the specific course objectives which have been defined by the departmental faculty. Following the administration of the final exam, an item analysis will be performed to determine areas of weakness and strength. (The course objectives are found in the Appendix.)

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Related Items
GE 03: Quantitative Skills

MAT_104_GE 01: Critical and Creative Thinking

Start: 7/1/2014
End: 6/30/2015
Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically, solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
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Related Items

GE 01: Critical and Creative Thinking

MAT_104_GE 03: Quantitative Skills

Start: 7/1/2014
End: 6/30/2015
Gen Ed learning outcome (competency)
Enhancing abilities for symbolic and numeric reasoning and the ability to use and understand statistical and other quantitative techniques to interpret data

Data Collection
The final examination in MAT 104 College Algebra will be used to determine the level of mastery of the topics in College Algebra. The examination is written each semester by a committee of faculty members who do not teach the course during that particular semester, and the examination material covers specific course objectives which have been defined by a committee of departmental faculty. All college algebra students take this common final examination during an exam period that is dedicated solely to this course. Following the administration of the final exam, an item analysis will be performed to determine areas of weakness and strength.

Results of Evaluation
An analysis of the fall 2014 semester examination, given by objective, is shown in the following table. The objective number corresponds to the published objectives for College Algebra (MAT 104). The final examination questions were matched to these thirteen objectives. The number of students that demonstrated mastery of each objective was computed. (The list of the course objectives is included in the appendix.)

Objective Number	Mastery Percentage 2013	Mastery Percentage 2014	Number of exam questions for that objective
1	51	61	9
2	62	71	3
3	59	65	3
4	62	67	4
5	62	68	3
6	61	70	3
7	31	34	3
8	48	55	4
9	56	59	4
10	56	58	4
11	25	39	3
12	52	58	4
13	26	40	2

- APPENDIX to Annual Report_14-15

Use of Results
Based on the analysis from the 2008 – 2009 academic year, the final exam in the fall 2009 was completely reworked in terms of the number of questions, the number of questions which address each objective, and the directions for each question. Only minor changes were made for the fall 2014 exam. Each objective in this year's exam was tested with at least three questions with the exception of Objective 13. This objective incorporates a very particular type of problem and is a minor portion of the course as a whole. The directions and types of problems included in the exam came directly from the homework problem sets; this method of choosing exam questions was used so that the students would have problems to work which were identical to those which they had been used to seeing in their preparations for tests. In the spring semester 2013, the administration of the final exam on the computer was piloted. This was tried since all of the unit tests are given in this way. Most of the final examinations were taken in the computer lab in the fall semester 2014 (a few students requested a paper test).

When compared with the mastery level listed in the 2013 – 2014 report, the students appear to have done better on all of the thirteen objectives. The department made a concerted effort to increase the students' performance on each unit test during the semester. This was done by offering blocks of time on two days each week when students were encouraged to come to the computer labs for tutoring. Points were added to unit tests as incentive for coming to the tutoring labs on a weekly basis. Some students were faithful to come each week, but there were some students who came sporadically or not at all. In spite of offering points as an incentive, the labs saw a decline in attendance as the semester progressed – especially in the latter half of the term.

For the 2015 – 2016 school year, the department is hoping to be back in Walters Hall where there will be a computer lab solely for use of the Mathematics Department. The faculty anticipate requiring all students to spend time in the computer lab weekly. All sections of MAT 104 have retained much of the redesign proposed by this department to IHL and the National Center for Academic Transformation (NCAT). The students had some lecture time in which the course content was presented. The textbook and accompanying software package (Hawkes Learning System) were used by the students. All homework, quizzes, and unit tests were completed using the computer software. Before a student could take a unit test, the student had to complete a practice test covering the same topics and make the minimum required score. This was done to ensure that the students had prepared for the unit tests. The faculty noticed an improvement in the unit test scores for students who had prepared for the tests in this way. The faculty are continuing to explore means of improvement of student performance in the coming academic year.

Related Items

GE 03: Quantitative Skills

Unit Goals

MAT 2015_01: Improvement of Writing Skills

Start: 7/1/2014
End: 6/30/2015

Unit Goal
To improve the writing skills of all mathematics majors.

Evaluation Procedures
The department will monitor the pass/fail rate on the Writing Proficiency Exam and on the writing component of the Praxis.

Actual Results of Evaluation

	2007 – 2008	2008 – 2009	2009 - 2010	2010 – 2011	2011 – 2012	2012 – 2013	2013 – 2014	2014 – 2015
Test	Pass Fail	Pass Fail	Pass Fail	Pass Fail	Pass Fail	Pass Fail	Pass Fail	Pass Fail
WPE	1 2	3 0	3 4	1 2	1 1	2 0	1 2	Not available
Praxis Writing	3 0	2 0	2 0	4 1	0 0	2 1	1 0	0 1

Data for the writing proficiency exam is incomplete; it has not been provided by Institutional Research. In the 2014 – 2015 academic year, one student is known to have taken the exam, and this student passed this assessment. When looking at the data for the past five years, there is no trend in the pass/fail numbers for the writing proficiency exam. In one year, each student failed the test, but in

another year, each student passed. In the current academic year, one student took the writing portion of CORE (formerly Praxis I). This student did not pass this examination.

Use of Evaluation Results
The Department of Mathematics will continue to make a more concerted effort to implement the following plans to try to improve the writing ability of our students.

1. Each faculty member will include at least one question on each test in upper level classes that requires students to provide written explanations of concepts. Evaluation of the answers to such questions will include mathematical content and also spelling, grammar, and sentence construction.

2. All classes above the 200 level that are taken by mathematics majors will require writing in the form of written projects and essay portions of the exams. The written projects will concern an important concept in the course and may include reading and summarizing mathematics articles. Students should turn in a rough draft, receive feedback from the instructor, and then turn in a final draft. These projects will be graded for content and writing. A comparison of samples collected in the classes will be made to determine if individual students are improving.

We expect to see continued improvement in the writing skills of our majors as we continue to stress the importance of writing in our classes over the course of the semesters in which our majors are enrolled. If there is no improvement, we will work with the writing lab to try to assist our students in improving their writing skills.

Related Items
SP1.Ind02: National / Standardized Test Scores

MAT 2015_02: Using Technology

Start: 7/1/2014
End: 6/30/2015
Unit Goal
Prepare students to teach using appropriate technology and prepare students who will enter the work force in non-teaching jobs to function in today's technology dependent society.

Evaluation Procedures
MAT 099 (Intermediate Algebra) was taught using a traditional teaching method with classroom lectures and practice problems and some in-class examples coming from the textbook. Other examples are presented in a manner comparable to methods unique to the Hawkes Learning System program if different from traditional methods or examples from the text. Mandatory quizzes and tests were assigned online using the Hawkes Learning Systems Course Management System software. With the HLS software, the students become more actively engaged in their learning experience because they are required to interact with the learning software to successfully complete assignments. In addition to completing assignments, the students can listen to and watch lectures on the topics if they are still having difficulty after class. It also provides consistency for all the MAT 099 sections offered at DSU. HLS requires students to demonstrate "mastery" learning in doing the homework. Success is based on 80% mastery, and 80% mastery is achieved by completing the homework without getting 20% of the answers incorrect. If a student answers more than 20% of the problems incorrectly, the program will force that student to start

over. For tests and quizzes, the grade is immediately entered electronically into the instructor's grade book giving the student immediate credit for the assignment. At the end of a test, students can check incorrect answers and review the correct answers to the problems they solved incorrectly. In some sections of this class, PowerPoint presentations were posted online on CANVAS so that students could review the slides at a later time. Survey Monkey was used to administer several surveys related to the class. Clickers were used in class for students to respond to questions related to the lecture.

MAT 104 (College Algebra) was taught with a traditional teaching method with classroom lectures and practice problems and some in-class examples coming from the textbook. Other examples were presented in a manner comparable to methods unique to the Hawkes Learning System program if different from traditional methods or examples from the text. Mandatory homework, quizzes, and tests were assigned online using the Hawkes Learning Systems Course Management System software. With the HLS software, the students become more actively engaged in their learning experience because they are required to interact with the learning software to successfully complete assignments. Further discussion of MAT 104 and the results are contained under Goal #4.

Although we still use the textbook for some of the assignments in MAT 105 (College Trigonometry), our department uses MyMathLab for online homework assignments in this courses. We started using MyMathLab during the 2011 fall semester. The average from homework assignments and quiz grades has the same weight as a major test grade in the computation of the final grade. No unit tests were given using the software component.

MAT 215, Mathematics Technology, is a course designed to further mathematics students' knowledge of technology and the uses of technology. The instructor's assignments were such that the students gained proficiency in using learning management systems, electronic survey software, web-page creation tools, word processing tools, drawing tools, presentation tools, screen-casting and pod-casting tools, spreadsheet tools graphing calculators, computer algebra systems, statistical computing systems, geometric visualization tools, virtual manipulative tools, NCTM Illuminations interactive tools, apps for mathematics education, software for mathematics education, games for mathematics education, and websites for mathematics education. Assignments related to these topics were assigned to the students to complete using the available technology and comprised a virtual portfolio.

In MAT 252, Calculus II, graphing calculators were used to perform numerical integration in addition to performing tedious computations. The students were tested on these methods and concepts on one of the course assessments.

In MAT 300, Applied Probability and Statistics, lab assignments utilizing Microsoft Excel were part of the course. The focus of these labs were 1) constructing frequency distributions and drawing graphs, 2) computing measures of central tendency from frequency tables and computing standard deviation and coefficient of variation. Within the course, the first lab assignment was graded and was part of the student's overall quiz average which counted as a major test grade. The second lab was demonstration only.

MAT 322 is a course in differential equations. Early in the semester, this class meets in our department's computer lab for a DERIVE 5 demonstration. DERIVE 5 is a computer algebra program. It processes algebraic variables, expressions, equations, and functions. It can perform numeric and symbolic computations, algebra, trigonometry, calculus, and plot graphs in 2 and 3 dimensions. Individual homework problems assigned in MAT 322 constitute 50% of the grade in the class. Due to the nature of the problems assigned in this class, the verification of answers to homework questions often entails tedious

computations involving derivatives and algebraic processes. Students are required to verify answers to homework problems before submitting them for grading. For students who fail to verify answers and who consequently get incorrect answers, papers are returned to the student with no credit awarded. The student then gets the opportunity to resubmit a corrected version of the problem for a maximum of 80% credit. The software is also used to create graphs for solution functions in this course.

In MAT 405, History of Mathematics, students used Geometers Sketchpad and Microsoft Excel to complete assignments which included the construction of inscribed and circumscribed polygons and the convergence of ratios to the number pi. The students also used appropriate technologies in making presentations to the class.

In MAT 411, Geometry, the students investigated basic geometric constructions using Geometers Sketchpad.

In MAT 415, Discrete Mathematics, some complex computations come into play in the course. The use of a computer algebra system such as DERIVE 5 aids in performing the computations while allowing the students to focus on the main concept which is how the solution is obtained and where the solution is located. The students had an activity in which they solved some difficult problems through the use of generating functions with the program DERIVE 5 performing the computations.

Actual Results of Evaluation

Students' grades in MAT 099 are shown for the past nine academic years. After showing some improvement in the passing rates, there was again an improvement in the fall semester of the current academic year. Improvement in the passing rate returned to the normal range for the spring semester. It should be noted that the spring enrollment in this class was unusually low (24 students) when compared with the enrollment in previous spring semesters.

MAT 099	Pass	Fail		Pass	Fail
Fall 2006	63.08%	36.92%	Spring 2007	45.95%	54.05%
Fall 2007	49.66%	50.34%	Spring 2008	33.85%	66.15%
Fall 2008	51.85%	48.15%	Spring 2009	42.55%	57.45%
Fall 2009	38.98%	61.02%	Spring 2010	48.94%	51.06%
Fall 2010	36.61%	63.39%	Spring 2011	67.92%	32.08%
Fall 2011	47.22%	52.78%	Spring 2012	51.72%	48.28%
Fall 2012	57.58%	42.42%	Spring 2013	41.94%	58.06%
Fall 2013	61.11%	38.89%	Spring 2014	82.50%	17.50%
Fall 2014	69.14%	30.86%	Spring 2015	58.33%	41.67%

The use of the online system, MyMathLab, in MAT 105 (College Trigonometry) began in the fall semester of 2011. This system was used for the delivery of homework assignments to the students. The table below shows a comparison of the course grades (pass = grade of D or better; fail = grade of F or W) in the years since the software component was implemented. More data will be gathered in the next year for comparison purposes.

MAT 105	Pass	Fail
2010 – 2011	68.5%	31.5%
2011 – 2012	69.1%	30.9%
2012 – 2013	77.1%	22.9%
2013 – 2014	77.0%	23.0%
2014 – 2015	77.3%	22.7%

In MAT 215, Mathematics Technology, the students learned about the various programs which can be used in teaching mathematics to students through using these technologies in problem solving. The grades on the assignments indicate that the students mastered the use of the software packages for use in this way. All students earned a course grade of A.

In MAT 252, Calculus II, the students performed numerical integration on one of the course tests. The results indicated that the students made fewer calculation errors in the use of the numerical methods.

In MAT 300, Applied Probability and Statistics, the three concepts defined above were assessed individually. In the fall semester, the class average on assignment 1) was 7.99 out of 10, and in the spring semester, the class average on assignment 1) was 7.81 out of 10 on the first concept.

For MAT 322, Differential Equations, even though DERIVE 5 has the capability of solving differential equations, students are not allowed to use the software for this purpose. The students are required to show every detail of the work involved in solving the differential equations. They use DERIVE 5 to verify their answers to homework problems. They must also indicate on each problem exactly how the answer was verified. Those who decide to verify answers by hand typically have calculation errors in their work and therefore do not earn as much credit as they would have earned if they had used technology to verify the answer. When the technology is used and an answer cannot be verified, this is an indication to the student that there are errors in the problem solution. At this point, students are forced to analyze their work and employ critical thinking and problem solving skills to find the errors and correct them. The grade in the class for the spring 2015 semester (only one student was enrolled in the course) indicates that the student was successful in using technology in the class. The student received an A in the course. The results can be used to conclude that the use of DERIVE 5 was effective.

In MAT 405, History of Mathematics, most students who completed the assignments did so with few or no flaws indicating that the technology was mastered and was used proficiently in completing the assignments. One student did not complete the assignment. Overall, the performance of the class shows that the technological tools are beneficial in solving and verifying the solution to the problems presented in the class.

In MAT 411, Geometry, all students who completed the assignments did so with no flaws indicating that the technology was mastered and was used proficiently in completing the assignments.

The technology-dependent activity in MAT 415 was graded, and the range of grades was 36 – 100 with a class average of 58 for those students who completed the assignment. Because the students had difficulty with setting up the problems with pencil and paper prior to entering formulas into the software to be solved, the grades on this activity were low. Once the students had a formula, whether right or wrong, they were able to use the technology correctly. This indicated that the students had an above average grasp of the technology being used even though the solutions were incorrect for the assigned problems.

Use of Evaluation Results
Because this course is of concern statewide, MAT 099 will continue to be monitored closely. More emphasis on the students completing their homework assignments and actually using the tutorial portions of the Hawkes Learning Systems software will continue. Evidence shows that students who completed at least 60% of the homework achieved a degree of success in the class.

In MAT 105, College Trigonometry, the initial results indicate improvement in grades after the implementation of the online system, MyMathLab. Because of this, the system will continue to be employed in the next academic year in this course as the faculty continue to find ways to improve student learning in the course.

In MAT 215, Mathematics Technology, the students gained knowledge of various software programs and electronic tools needed to complete the various assignments, and further, the students demonstrated a mastery of this software and tools as it related to the problems being solved.

In MAT 252, the grades on the course assessment indicate that the students are learning both how to use the technology and the basic concepts behind the methods. Implementation of the technology, whether with a handheld device or with some other computing technology will continue to be integrated in the course as a means for assisting the students in mastering some of the course concepts.

For MAT 300, the above averages are considered as well as the comments from student evaluations to determine whether adjustments need to be made in the teaching/grading of the lab assignments.

The students in differential equations, MAT 322, in previous semesters have indicated on their course evaluations the value of using the computer software to assist in the problem solving. The use of the software will continue in this class, and the students will be encouraged to apply the techniques in other classes.

In MAT 405, History of Mathematics, the integration of technology proved to be beneficial in aiding the students master the concepts. Similar assignments will be incorporated in the course in the future.

In MAT 411, Geometry, because all students did not complete the assignments, more weight will be given to the assignments in the future and all students will be encouraged to complete them. The students who did complete the assignments indicate that the technology is a beneficial tool when integrated in the course.

The students in MAT 415 benefited from the use of the computer algebra system in solving problems. They understood better after the assignment the importance of correctly setting up problems; the computer took care of the complex computations involved. Similar activities will be incorporated in this class the next time that the class is taught.

Related Items
SP1.Ind07: Resources: access to appropriate library and learning resources

MAT 2015_03: High School Mathematics Event

Start: 7/1/2014
End: 6/30/2015
Unit Goal
Host an annual mathematics event to be held each year on our campus and sponsored by the Department of Mathematics.

Evaluation Procedures
Because of the ongoing renovations to Caylor/White/Walters Halls and the displacement of the Department of Mathematics, the annual mathematics tournament for high school students was not held. The loss of classroom space in addition to the relocation of faculty and materials would have made preparations and hosting the event very difficult.

Actual Results of Evaluation
There are no results to report.

Use of Evaluation Results
There are no results to report. The Department of Mathematics is considering alternative ideas for the future. The Department recognizes the importance of hosting an annual event as a means for challenging young students, encouraging the study of mathematics, and recruiting students who are strong in mathematics to programs on this campus.

Related Items
SP2.Ind01: Enrollment

MAT 2015_04: College Algebra

Start: 7/1/2014
End: 6/30/2015
Unit Goal
Revise the MAT 104, College Algebra, course that includes a technology component.

Evaluation Procedures
Evaluation will be made based on completed computerized homework assignments, student course grades, and course evaluations.

During the 2014 – 2015 academic year, the college algebra instructors continued to use the computer package provided by Hawkes Learning Systems for student homework, online quizzes, and online testing. The classes, originally modeled after the emporium model prescribed by the National Center for Academic Transformation, have been modified to include more lecture time. Mandatory homework assignments were required for each section of the textbook which was covered. The instructors selected the homework exercises, and the students completed these assigned problems on the computer. The student responses were graded by the computer system which provided immediate feedback to the students after each problem by indicating that the problem was solved correctly or allowing the student to see a step-by-step solution to the problem or see a detailed solution to the problem with annotated comments if the

problem was solved incorrectly. All unit tests were taken in the computer lab. The software system assessed the answers and posted grades immediately to the instructors' grade books.

Practice tests were made available to the students before each unit test, and the students were encouraged to take the practice tests as many times as possible in order to improve their chance of passing the scheduled test. In some sections, the students were required to take the practice test and achieve a score in a predetermined range before taking a unit test. Complete data is not available for this intervention, but preliminary results indicate that students did better on the actual tests after they had taken the practice test and were required to achieve a minimum score.

Actual Results of Evaluation

The data in the table below show the pass/fail rates for students on the Delta State campus in MAT 104 for the past nine academic years.

	Pass	Fail		Pass	Fail
Fall 2004	54.98%	45.02%	Spring 2005	31.79%	68.21%
Fall 2005	51.03%	48.97%	Spring 2006	52.57%	47.43%
Fall 2006	49.80%	50.20%	Spring 2007	39.02%	60.98%
Fall 2007	47.27%	52.73%	Spring 2008	27.98%	72.02%
Fall 2008	39.36%	60.64%	Spring 2009	32.84%	67.16%
Fall 2009	36.64%	63.36%	Spring 2010	34.13%	65.87%
Fall 2010	38.25%	61.75%	Spring 2011	33.58%	66.42%
Fall 2011	40.00%	60.00%	Spring 2012	35.22%	64.78%
Fall 2012	48.34%	51.66%	Spring 2013	31.48%	68.52%
Fall 2013	36.57%	63.43%	Spring 2014	28.39%	71.61%
Fall 2014	46.88%	53.12%	Spring 2015	29.33%	70.67%

Because of the ongoing renovation of Caylor/White/Walters Halls, the Department of Mathematics was moved out during the summer of 2013. Because of this, faculty offices are not located in the building where the classes are held. This, combined with the loss of dedicated computer lab space, has contributed to the students not performing at the levels achieved in previous years. Computer lab space was not available on a regular basis for students to work on homework assignments and quizzes in a supervised setting during the 2013 – 2014 school year. During the 2014 – 2015 school year, the department borrowed lab space for two hours in Broom Hall on Tuesday afternoons and in School of Nursing for three hours on Wednesday afternoons. Individualized tutoring of students was more accessible, but many students did not take advantage of the opportunity for additional assistance.

Use of Evaluation Results

The data above clearly indicate a disturbing trend over the past ten years. The passing rate in the fall semesters for the six years represented by the data for 2004 to 2009 continued to decline in spite of the implementation of the computer component and the emporium model for delivery of the course content. The passing rate was increased slightly in the fall semester 2010 for the first time in the reporting

period, and the rate was again increased in the fall semester 2011 and in the fall semester 2012. The higher failure rate is attributed in part to the loss of partial credit on quizzes and tests. The instructors also feel that the students are not as prepared for the level of competence required for success in the course with the newer delivery methods. The failure rate in the spring semesters has begun to decrease since the Spring semester of 2008 although it did increase slightly in the Spring 2011 and again in the Spring 2013 semesters, and it is believed that this is in part due to the fact that a number of the students who were unsuccessful in the fall semester have passed on a subsequent attempt in the spring semester. Also, students who have successfully completed MAT 099 (Intermediate Algebra) in the fall semester have been introduced to the same software in that course and are more comfortable with that type of learning environment as a result. The department is concerned about the disturbing trend in the data and is continuing to look for ways to make course revisions to assist the students in being successful in completing this course. The use of cooperative study groups was implemented in some sections of the course during the year as a means for aiding students in their understanding and mastery of the concepts. Additionally in the 2014 – 2015 school year while the department has still been displaced, lab space was reserved on a weekly basis for students so that they could have access to tutors as they worked assignments for homework. The quizzes were also taken in a supervised setting with this setup. Other options are being explored for increasing the students' mastery of the content in the next year.

MAT 2015_05: Recruitment and Retention

Start: 7/1/2014
End: 6/30/2015
Unit Goal
Recruit students to the university and to the mathematics programs and retain students in our programs.

Evaluation Procedures
Departmental faculty will recruit by attending college fairs and other events, engage our students in their educational endeavors through advising and classroom activities, and encourage students to take full advantage of educational opportunities.

Actual Results of Evaluation
For recruitment, the faculty participated in college and majors fairs both on campus and off campus. Examples of campus events include DSU Day in September, Career Discovery Day in October, HOSA Majors Fair in February, and Go Green Weekend in March. Examples of off campus events include participation at college fairs in DeSoto County in September, Memphis at the Agricenter in September, and DSU Night in Memphis in February. Five of the six faculty members in the department actively participated in these types of events. The faculty also met with prospective students when they were on campus for a visit. The department has been working with Admissions to accommodate those students who want to visit with a faculty member in the department when they come for a visit. For retention, the faculty have seen improvements in the number of students who continue to stay in classes and try to complete the courses as a result of the interventions that have been put in place. Attitudes of some students are better as a result of the additional opportunities for assistance.

The faculty advisors work diligently with our majors to ensure that the students are staying on track to graduate in a timely manner with the courses they select for each semester. The advisors in the department also work with the students on a regular basis and encourage them to get assistance if they are having

difficulties with their academics or with areas of their personal lives. In terms of working with students who are not majoring in mathematics, the faculty in the department hold regular help sessions for the students in their classes especially prior to major tests in order to provide the needed assistance to the students. Another instance of the faculty providing assistance to students was the staffing of tutoring labs on two afternoons each week. The labs were open for two hours on Tuesday afternoons and three hours on Wednesday afternoons to allow students who were having difficulty in courses, especially college algebra, to get additional help.

Use of Evaluation Results
The faculty will continue to participate in college and career fairs when given the opportunity. The faculty will continue to provide opportunities for the students to get assistance and be successful in their educational pursuits. We will monitor recruitment and retention efforts to determine the effectiveness of these practices.

Related Items
SP2.Ind01: Enrollment
SP2.Ind02: Retention

MAT 2015_06: Data Standards and Data Integrity

Start: 7/1/2014
End: 6/30/2015
Unit Goal
The faculty members in the Department of Mathematics will attend technology training sessions.

Evaluation Procedures
Faculty activity reports will reflect participation in on-campus training sessions involving technology.

Actual Results of Evaluation
Some members of the faculty participated in training sessions dealing with the use of CANVAS and Hawkes Learning Systems (a mathematics specific computer applications). Training sessions using respondus, screenr, remind, goanimate, and fotobabble tools training by OIT were attended by a faculty member. Google educator tools training was another resource explored by a faculty member. Additionally, the department chair attended training for additional use of Banner (EPAF) for administrative purposes. Some faculty also attended the Technology in Teaching Symposium sponsored by OIT in April.

Use of Evaluation Results
The training sessions in which the faculty participated helped each one to enhance his teaching or enhance his performance. Not every faculty member participated in any one training event, but most faculty member participated in at least one training event during the year. By allowing the faculty to participate in events that are most appropriate for the courses that they teach has allowed the faculty to choose and incorporate technologies that are more appropriate for their teaching areas. The faculty will continue to participate in training sessions dealing with technologies that enhance teaching and delivery of course content in the future.

Related Items
SP3.Ind04: Technology training
SP4.Ind10: Data Integrity

Section IV.a

Brief Description
Narrative

The purposes of the Department of Mathematics are to prepare teachers of mathematics for the elementary and secondary schools, to provide a foundation for professional careers in mathematics, and to provide for the mathematical needs of the general student.

The Department offers a major in mathematics in the B.S. degree and a major in mathematics education in the B.S. in Education degree. The Department also offers a program of pre-engineering designed for the student who wishes to complete a portion of an engineering curriculum before attending an engineering school.

The Department has no active degree granting graduate program, however, graduate hours are offered through institutes and special courses.

Section IV.b
Comparative data

Enrollment, CHP, majors, graduation rates, expenditures, trends, etc.

Narrative

	S 07	F 07	Sp 08	S 08	F 08	Sp 09	S 09	F 09	Sp 10	S 10	F 10	Sp 11	S 11	F 11	Sp 12	S 12	F 12	Sp 13	S 13	F 13	Sp 14	S 14	F 14	Sp 15
Total credit hours, undergraduate	159	2248	1776	81	2226	1348	96	2032	1395	102	1814	1442	114	1728	1506	87	1587	1315	81	1515	1238	51	1701	1124
Total credit hours, graduate	72	0	0	78	0	0	72	0	0	66	0	0	78	0	0	0	0	0	0	0	0	0	0	0
Totals	231	2248	1776	159	2226	1348	168	2032	1395	168	1814	1442	192	1728	1506	87	1587	1315	81	1515	1238	51	1701	1124
Number of Majors																								
Mathematics	3	22	19	3	18	17	6	25	17	0	24	20	3	15	19	5	22	18	1	15	11	4	21	20
Mathematics Education	2	20	18	2	17	14	3	27	20	5	23	18	5	20	14	2	12	5	0	11	9	2	10	8
Total	5	42	37	5	35	31	9	52	37	5	47	38	8	35	33	7	34	23	1	26	20	6	31	28
Grade distribution																								
A	16	95	56	6	91	64	8	55	70	10	74	63	10	62	98	0	67	68	0	70	52	0	93	60
B	12	123	84	10	107	76	7	104	78	6	96	114	5	90	102	3	102	99	0	91	83	3	122	86
C	6	162	120	3	123	91	9	120	112	6	106	95	10	126	102	6	121	95	2	98	104	3	110	85
D	9	101	70	4	90	55	6	62	78	5	71	53	2	58	51	1	55	54	2	68	57	1	62	49
F	13	213	201	6	167	124	5	168	116	4	114	92	8	163	107	4	103	104	8	91	76	2	99	73
W	6	41	20	3	35	37	5	56	59	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Other (I, IP, AU)	0	2	1	0	29	2	0	1	7	0	4	3	0	3	4	0	2	3	0	2	4	0	0	0

Delta State University FY2015 Unit level report
Department: Mathematics

There are two courses that are taught in the mathematics department that do not appear on the printout of faculty load or credit hour production—MAT 099 and CUR 487. The following table indicates the enrollment in those courses.

Enrollment	F 07	Sp 08	F 08	Sp 09	F 09	Sp 10	F 10	Sp 11	F 11	Sp 12	F 12	Sp 13	F 13	Sp 14	F 14	Sp 15
MAT 099	143	65	109	56	117	47	112	53	72	37	98	28	91	42	80	23
CUR 487	9	0	3	0	4	0	7	0	3	0	0	0	2	0	1	0

Students who are required to take MAT 099 must pass the course in their freshman year. Those students who are unsuccessful in the course in the fall semester or who were not able to register for the class in the fall must be enrolled in the course in the spring.

Number of Graduates

	2005 – 06	2006 – 07	2007 – 08	2008 – 09	2009 – 10	2010 – 11	2011 – 12	2012 – 13	2013 – 14	2014 – 15
BS degree	1	4	2	2	4	4	1	4	3	2
BSE degree	5	4	5	6	3	3	3	3	0	1

Advisees per Faculty Member*

	2005 – 06	2006 – 07	2007 – 08	2008 – 09	2009 – 10	2010 – 11	2011 – 12	2012 – 13	2013 – 14	2014 – 15
Cope										2
Hebert	1	1	3	4	?	6	9	6	5	7
Horton					11	9				
Norris	9	16	11	8	14	16	10	5	5	2
Strahan	14	12	15	7						
Virden			2	6	8	6	9	6	3	7
Wear	12	12								
Wingard	16	14	12	15	15	15	17	17	17	15

*The numbers reflect students majoring in mathematics and those students with an undecided major assigned advisors in this department

Writing Proficiency Exam

	2005 – 06	2006 – 07	2007 – 08	2008 – 09	2009 – 10	2010 – 11	2011 – 12	2012 – 13	2013 – 14	2014 – 15
Credit	6	0	1	3	3	1	1	2	1	1
No credit	1	3	2	0	4	2	1	0	2	0

Praxis / CORE

	2006 – 07		2007 – 08		2008 – 09		2009 – 10		2010 – 11		2011 – 12		2012 – 13		2013 – 14		2014 – 15	
PPST / CORE	Pass/Fail		Pass/Fail		Pass/Fail		Pass/Fail		Pass/Fail		Pass/Fail		Pass/Fail		Pass/Fail		Pass/Fail	
Math	2	0	0	0	0	0	2	0	5	0	1	0	3	0	1	0	1	0
Reading	0	1	0	0	0	0	2	0	4	2	2	0	2	0	1	0	1	0
Writing	2	0	3	0	2	0	2	0	4	2	1	2	2	1	1	0	0	1
PLT	2	1	6	0	2	0	3	0	3	1	3	1	0	1	0	1	1	0
Math content area test	3	0	6	4	3	0	4	0	3	1	5	2	1	1	2	0	1	0
Math content area test (non teaching route)																	1	1

Section IV.e

Grants, Contracts, Partnerships, Other Accomplishments

Narrative

The Department of Mathematics partnered with the College of Education to secure an NSF-funded mathematics/science partnership grant for the training of mathematics teachers of the middle grades in the Delta region. Campus workshops began in June 2013 for two 20-member cohorts. The grant was extended for the 2014 – 2015 school year and for the 2015 – 2016 school year. Summer workshops on campus were again held in June 2015 for two 20-member cohorts.

Section IV.g

Strategic Plan Data

Only use this section if you have strategic plan info to report that is not covered in other areas of your report

Narrative

Indicators	Baseline FY 2009 (08 – 09)	FY 2010 (09 –10)	FY 2011 (10 – 11)	FY 2012 (11 – 12)	FY 2013 (12 – 13)	FY 2014 (13 – 14)	FY 2015 (14 – 15)
3.11 Number of professional development activities by FT faculty	5	8	9	4	7	13	6
3.12 Number of scholarly contributions by FT faculty	5	8	9	6	5	9	11
3.13 Number of service activities by FT faculty	11	5	9	17	26	28	68

Section IV.h
Committees Reporting To Unit

Each unit includes in the annual plan and report a list of the committees whose work impacts that unit or any other aspect of the university; along with the list will be a notation documenting the repository location of the committee files and records. Committee actions affecting the unit's goals may be noted in other applicable sections of the annual reports. Not required to be included in the unit's annual plan and report, but required to be maintained in the repository location, will be a committee file that includes, for each committee: Mission and by-laws, Membership, Process, Minutes.

Narrative

The Curriculum Committee of the Department of Mathematics files are housed in Walters 270I (now Broom 280).
The Tenure and Promotion Committee of the Department Mathematics files are housed in Walters 270A (now Broom 281).

Section V.a
Faculty (Accomplishments)

Noteworthy activities and accomplishments

Narrative

Dr. Liza Cope presented a session, *Nailing Math*, at the meeting of the Mississippi Council of Teachers of Mathematics in Clinton, MS, in September 2014.
Dr. Cope presented a poster, *The Use of Task Analysis and Implementation Model in DMSP M3*, at the Math Science Partnership annual meeting in Washington, DC, in October 2014.
Dr. Cope along with student, Dominic Veiga, presented *Introduction to GeoGebra* at the Louisiana/Mississippi Section Meeting of the MAA in March, 2015.
Dr. Cope had papers published: *Math Manipulatives: Making the Abstract Tangible* (Delta Journal of Education, Spring 2015), *Task Analysis and Implementation Activities as Vehicles for Middle School Math Teacher Growth* (Delta Journal of Education, Fall 2014)
Dr. Cope provided faculty development workshops for mathematics teachers at Presbyterian Day School in Cleveland, MS.
Dr. David Hebert presented a session, *Nets to Surface Area & More* at the meeting of the Mississippi Council of Teachers of Mathematics in Clinton, MS, in September 2014.
Dr. Hebert served as President of the Faculty Senate at Delta State University.
Dr. Paula Norris presented a session, *Hands-On Factoring*, at the meeting of the Mississippi Council of Teachers of Mathematics in Clinton, MS, in September 2014.
Dr. Lee Virden presented a session, *Nailing Math – Part Two*, at the meeting of the Mississippi Council of Teachers of Mathematics in Clinton, MS, in September 2014.
Dr. Virden serves as president of the Delta State University chapter of Phi Kappa Phi Honor Society.
Dr. Cope and Dr. Virden led a session, *Bring your 'A' Game*, at the AAUW Tech Savvy Conference in March 2014.
Dr. Clifton Wingard presented a session, *Geometric Transformations: Past, Present, and Future?*, at the meeting of the Mississippi Council of Teachers of Mathematics in Clinton, MS, in September 2014.
Dr. Wingard presented a session, *The Transformers are Coming*, at the annual meeting of the National Council of Teachers of Mathematics in Boston, Massachusetts, in April 2015.
Dr. Wingard served on the Section NExT Committee for the Louisiana/Mississippi Section of the Mathematical Association of America.
Dr. Wingard was elected Secretary of the Louisiana/Mississippi Section of the Mathematical Association of America for a three-year term (2015 – 2018).
Dr. Wingard was a member of the People to People Delegation to Cuba (November 7 – 15, 2014) which was a cultural and information exchange program focused on education in the STEM areas in Cuba.
Dr. Wingard was Delta State University's nominee for the Dr. Dave Pariser Faculty Mentor Award. He was selected as the Gulf South Conference nominee for this award to NCAA.

Section V.e
Recommended Change(s) of Status
Narrative

None.
Note: Mrs. Felicia Brinkley, secretary, left the Department of Mathematics in April 2014. She and her family relocated to a different town in Mississippi. Mrs. LaTonya Ingram has been hired as the new secretary for the department, and she will assume her new responsibilities on July 1, 2015.

Section VI.a
Changes Made in the Past Year
Narrative

Changes made in the past year:
The departmental curriculum committee recommended that changes in the degree program be made as a result of the changes to the General Education Curriculum. Since the number of hours and courses in the General Education Curriculum was reduced, the Department of Mathematics added a course, MAT 305 (Foundations of Mathematics), to the major in both the BS and the BSE degree programs. This course is designed to assist the students as they transition from the lower level courses to the upper level courses which require more abstract thinking.

Recommended changes for the coming year(s):
None

APPENDIX

Objectives for Quantitative Reasoning (MAT 103):

1. Define key terms related to sets, Venn diagrams, algebraic models, probability, statistics and finance. (GE 1, 3)
2. Use Venn diagrams to solve problems related to surveys and probabilities. (GE 1, 3)
3. Use counting techniques as methods of problem solving. (GE 1, 3)
4. Calculate and interpret probabilities, including probabilities from frequency tables, graphs, and probability distributions. (GE 1, 3)
5. Compute and interpret statistics pertaining to data sets. (GE 1, 3)
6. Gather, organize, describe, and analyze data to make and support decisions. (GE 1, 3)
7. Communicate results using the language of probability and statistics. (GE 2)
8. Solve personal finance problems related to savings and interest, taxes, discounts, credit, and other purchases, such as homes and automobiles. (GE 1, 3)
9. Apply a variety of problem-solving techniques to real-world problems. (GE 1, 3)

Objectives for College Algebra (MAT 104):

1. Simplify algebraic expressions.
2. Solve linear equations.
3. Solve quadratic equations.
4. Solve inequalities.
5. Solve applied problems.
6. Describe and define a function.
7. Find the equation for a linear function satisfying given conditions.
8. Identify the domain and range.
9. Find the intercepts of an equation or graph.
10. Sketch the graph of a function.
11. Verify that a function has an inverse and compute the inverse of a function.
12. Simplify exponential and logarithmic expressions and solve equations.
13. Solve systems of equations.

Rubric for Scoring Student Learning Outcome 3:

5 demonstrates knowledge of all main ideas; ideas are carefully explained, applied, extended, and appropriate connections made
4 demonstrates knowledge of most of main ideas
3 demonstrates knowledge of some main ideas
2 demonstrates little knowledge of main ideas, disconnected ideas, or idea does not apply to article
1 demonstrates no understanding of main ideas
0 no response or paper poorly written and demonstrates no understanding of main ideas

Note: Mistakes in grammar and spelling will be applied to each level.

DELTA STATE UNIVERSITY

Institutional Research & Planning
Kent Wyatt Hall 161
(662) 846-4052

To: Dr. Clifton Wingard, Chair; Department of Mathematics

From: Office Institutional Research & Planning

Date: July 24, 2015

Subject: Academic Year Report Information for the Department of Mathematics

The following information contains Summer 2014, Fall 2014, and Spring 2015 credit hours produced, enrollment, and graduates for academic year 2014/15. If you need additional information, or have any questions regarding this information, please contact IRP at x4052.

CREDIT HOUR PRODUCTION							
	Summer 2014			Fall 2014		Spring 2015	
	UG	GR		UG	GR	UG	GR
MAT	51	0		1701	0	1124	0

ENROLLMENT BY MAJOR							
	Summer 2014			Fall 2014		Spring 2015	
	UG	GR		UG	GR	UG	GR
Math	4	0		21	0	20	0
Math Education	2	0		10	0	8	0
Total	6	0		31	0	28	0

2014-15 Graduates	
Mathematics	
BS	2
Mathematics Education	
BSE	1

Credit Hour Production							
	Summer		Fall		Spring		
	UG	GR	UG	GR	UG	GR	Total
Math							
AY 2015	51	0	1701	0	1124	0	2876
AY 2014	81	0	1515	0	1238	0	2,834
AY 2013	87	0	1,587	0	1,315	0	2,989
AY 2012	114	78	1,728	0	1,506	0	3,426
AY 2011	102	66	1,814	0	1,442	0	3,424
AY Totals							
AY 2015	51	0	1701	0	1124	0	2876
AY 2014	81	0	1,515	0	1,238	0	2,834
AY 2013	87	0	1,587	0	1,315	0	2,989
AY 2012	114	78	1,728	0	1,506	0	3,426
AY 2011	102	66	1,814	0	1,442	0	3,424

Graduates			
	Math	Math Ed	
	BS	BSE	Total
AY 2015	2	1	3
AY 2014	3	0	3
AY 2013	4	3	7
AY 2012	1	3	4
AY 2011	4	3	7

Enrollment by Major						
	Summer		Fall		Spring	
	UG	GR	UG	GR	UG	GR
Math						
AY 2015	4	0	21	0	20	0
AY 2014	1	0	15	0	11	0
AY 2013	5	0	22	0	18	0
AY 2012	3	0	15	0	19	0
AY 2011	0	0	24	0	20	0
Math Education						
AY 2015	2	0	10	0	8	0
AY 2014	0	0	11	0	9	0
AY 2013	2	0	12	0	5	0
AY 2012	5	0	20	0	14	0
AY 2011	5	0	23	0	18	0
AY Totals						
AY 2015	6	0	31	0	28	0
AY 2014	1	0	26	0	20	0
AY 2013	7	0	34	0	23	0
AY 2012	8	0	35	0	33	0
AY 2011	5	0	47	0	38	0