

Core Assessment Progress Report

Course Title & Number: **Math 1315- College Mathematics**

For Calendar Year: Fall 05- Spring 06

Date submitted to review committee:

By: Melissa Hardeman

Overall Rating: _____

(1) Student learning goal(s) addressed this year:

Core Competencies addressed - Mathematics, Critical Thinking, Verbal Literacy

Goal 1: Students will be able to analyze data, solve problems, and demonstrate knowledge of required course topics.

Goal 2: Consistency across sections will be maintained from year to year.

Goal 3: Students will achieve critical thinking and verbal literacy skills.

(2) Learning outcomes/objectives for those goals addressed this year:

Goal 1 Objectives

We expect at least 65% of the students to demonstrate mastery in each area showing gradual improvement over semesters.

1. Set Theory
2. Logic
3. Geometry
4. Probability
5. Counting Principle
6. Statistics: Graphs, Mean, Median, Mode, Midrange, Standard Deviation
7. Normal Distribution

Goal 2 Objectives

The standard deviations of the student success rates* for all sections will not exceed 22. For the department, the overall student success rate* will be at least 70%.

*The student success rate is defined to be the percentage of students who make a C or better in the course AND also score at least 65% on the common final exam.

Goal 3 Objectives

All students will solve problems by doing mathematical computations necessary to reach a conclusion and stating the logical conclusion with a success rate of at least 65%.

i.e. At least 65% of the students will display skills in both critical thinking and verbal literacy.

(3) Activities where assessed:

Curriculum Assessment Map for Course Assessment:

Goals	Objectives/Outcomes	Activity	Used for Assessment
Goal 1 Analyze data, solve problems, and demonstrate knowledge of required course topics	Demonstrate mastery in each area	Common final examination	Yes
Goal 2 Consistency across sections will be maintained	The standard deviations of the student success rates* for all sections will not exceed 22. For the department, the overall student success rate* will be at least 70%.	All teachers will submit to the Core Assessment Coordinator an analysis of their student's final exam scores and grades.	Yes
Goal 3 Critical thinking and verbal literacy skills	Solve problems by doing mathematical computations necessary to reach a conclusion and stating the logical conclusion	Students will solve at least one in class Classroom Assessment Technique problem designed to measure both verbal literacy and critical thinking skills.	Yes

(4) Methods used:

Goal 1 Objectives

We expect at least 65% of the students to demonstrate mastery in each area showing gradual improvement over semesters.

1. Set Theory
2. Logic
3. Geometry
4. Probability
5. Counting Principle
6. Statistics: Graphs, Mean, Median, Mode, Midrange, Standard Deviation
7. Normal Distribution

(a) Method

A Common final examination is given every semester to all students from 4-6 p.m. on Consultation Day. A committee of teachers from the department meets, designs and constructs the exam. The above methods ensure reliability and validity of the data. The data collected from this exam includes final exam average and student performance on the skills listed above. Data for this objective is collected in the Spring semesters only.

(b) Design

All students will take the final exam on the same day at the same time. The final exam is designed and constructed by a committee of teachers from the department. The results are analyzed by the Core Assessment Coordinator.

(c) Assessment cycle

All goals and objectives are measured and analyzed each year. Results are presented to the faculty so decisions regarding any revisions or changes to the plan can be made departmentally.

(d) Stakeholder involvement

The content in this course is mandated by the state which leaves little flexibility in making changes. College Mathematics is a course taken by non-science majors who are not required to take another mathematics course to graduate. We consider the stakeholders for this course to be all departments where this course fulfills the core math requirement such as Nursing, Education, Philosophy, English, Psychology, Radio TV, and Communications (as well as many others). At this point, no assessment findings have been disseminated to these departments. They have not been involved in any decision-making process regarding this course.

Goal 2 Objectives

The standard deviations of the student success rates* for all sections will not exceed 22. For the department, the overall student success rate* will be at least 70%.

***The student success rate is defined to be the percentage of students who make a C or better in the course AND also score at least 65% on the common final exam.**

(a) Method

All teachers will submit to the Core Assessment Coordinator an analysis of their student's final exam scores and grades at the end of every semester.

(b) Design

Data is collected from all teachers for each section taught. The Core Assessment Coordinator analyzes the data and reports the findings to the faculty.

(c) Assessment cycle

All goals and objectives are measured and analyzed each year. Results are presented to the faculty so decisions regarding any revisions or changes to the plan can be made departmentally.

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Goal 3 Objectives

All students will solve problems by doing mathematical computations necessary to reach a conclusion and stating the logical conclusion with a success rate of at least 65%. i.e. At least 65% of the students will display skills in both critical thinking and verbal literacy.

(a) Method

Students in all sections will solve at least one in class Classroom Assessment Technique problem designed to measure both verbal literacy and critical thinking skills. All students solve the same problem. The data collected from each teacher includes the number of students displaying critical thinking skills and/or verbal literacy skills as well as those who displayed neither skill.

(b) Design

Data is collected from all teachers for each section taught. The Core Assessment Coordinator analyzes the data and reports the findings to the faculty.

(c) Assessment cycle

All goals and objectives are measured and analyzed each year. Results are presented to the faculty so decisions regarding any revisions or changes to the plan can be made departmentally.

(d) Stakeholder involvement

The content in this course is mandated by the state which leaves little flexibility in making changes. College Mathematics is a course taken by non-science majors who will not need another mathematics course to graduate. We consider the stakeholders for this course to be all departments where this course fulfills the core math requirement such as Nursing, Education, Philosophy, English, Psychology, Radio TV, and Communications (as well as many others). At this point, no assessment findings have been disseminated to these departments. They have not been involved in any decision-making process regarding this course.

(5) What are the assessment findings? How did you analyze them?

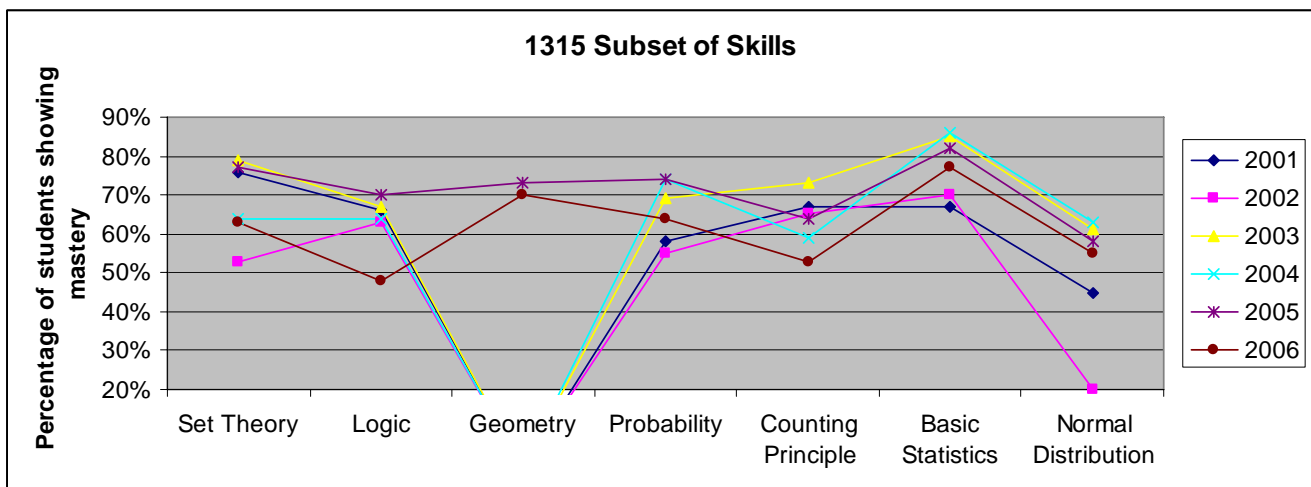
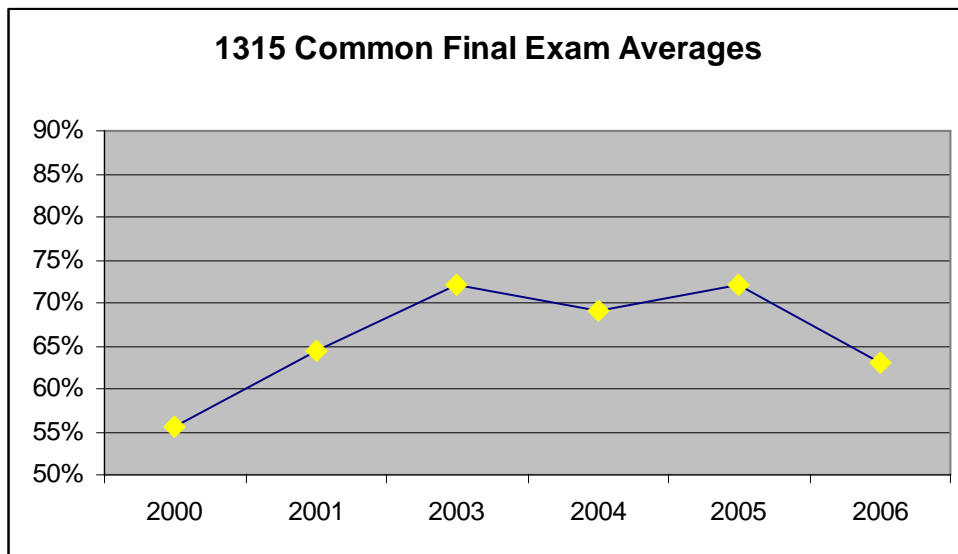
Goal 1 Objectives

The data indicates that in 4 of 7 areas measured, students are not meeting the goal of demonstrating mastery at the 65% level or above. We continue to tailor the exam questions to match those they are assigned in homework questions. We have provided extensive final exam review materials for the students. Full time instructors teach the majority of these courses, but a significant decrease in student demand has reduced our offerings to 3 or 4 courses per semester. There are approximately 70 students enrolled in the 3 sections offered this semester.

The significant decrease in student enrollment makes meaningful statistical analysis difficult and has motivated the department to begin reassessing offering this course and/or revising the course syllabus (within state guidelines). Students with weaker mathematics skills usually enroll in this course.

The assessment coordinator will continue to work with all 1315 instructors and departmental committees to remedy deficiencies indicated by these assessments and to revise the syllabus if necessary.

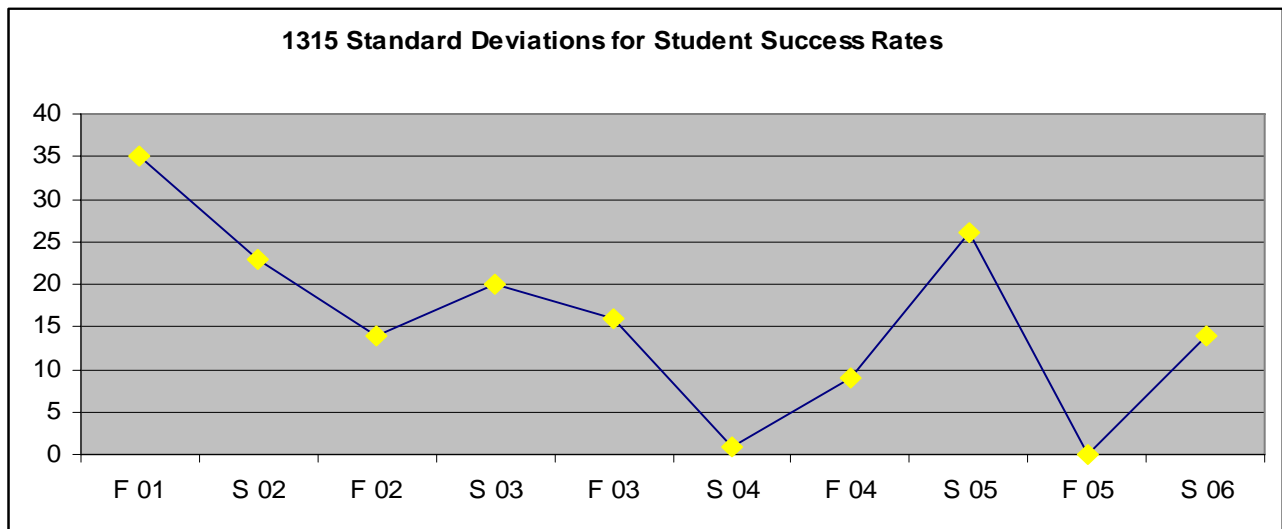
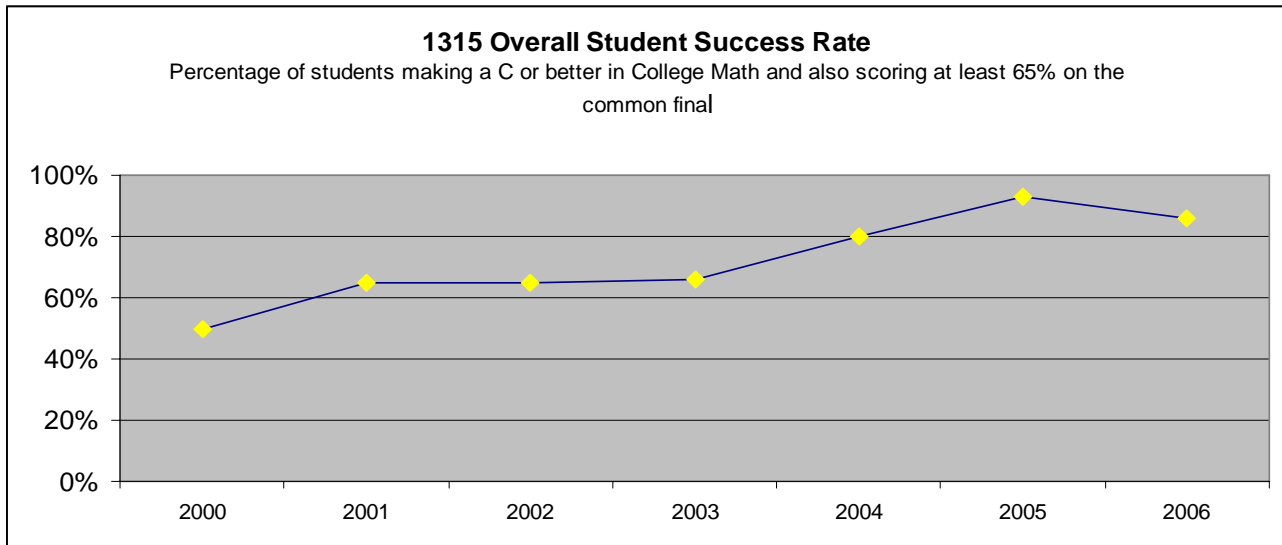
From the graph of the common final exam averages we see that the average is 63.6%, a decrease from the 72.5% of last year.



(5) What are the assessment findings? How did you analyze them?

Goal 2 Objectives

Data indicates an overall departmental success rate of 86% with a standard deviation of 14. We see a general decline in the standard deviation among courses. These results indicate successful implementation of the assessment feedback loop in the course.



(5) What are the assessment findings? How did you analyze them?

Goal 3 Objectives

The results on the Classroom Assessment Technique problems indicate that 40% of the students exhibited both Critical Thinking and Verbal Literacy Skills. We feel this type of problem accurately assesses Critical Thinking and Verbal Literacy skills and we will continue to design and administer these in this course. We hope to see improvements in these results in the coming semesters.

Of the 82 students that were given the quizzes:

33/82=40% exhibited both verbal literacy and critical thinking skills

49/82=60% exhibited verbal literacy or critical thinking skills

(6) What conclusions were drawn and what decisions were made as a result? How were stakeholder groups involved?

1. Continue to administer the common final exams on consultation day. This is the best way to determine student's knowledge of the course subject matter. The average has fluctuated over the years. Continue to develop supplemental handouts on topics where students performed poorly. Develop an online practice final exam.
2. Critical Thinking and Verbal Literacy scores are not where we would like. We will continue to assess critical thinking and verbal literacy through Classroom Assessment Technique problems but do it more often during the semester.
3. Consistency across sections is better. Continue the Assessment feedback loop by informing all teachers of assessment outcomes, reviewer's comments, and materials available. Place the assessment report on the departmental web page.
4. Facilitate departmental discussions on the relevance of the 1315 course including content and existence.
5. Institute a mentoring program for teaching assistants and part time instructors which includes classroom visits and feedback.
6. Continue to properly place students in the correct courses.
7. Communicate results with "stakeholders" by placing the results on the departmental website and making an announcement, through FacFocus, where the results can be viewed.