

**ASSESSMENT RECORD FOR
DEPARTMENT
OF**

Mathematics

(Academic Department Name)

June 1, 2005 – May 31, 2006

November 15, 2006

(Assessment Period Covered)

(Date Submitted)

Includes Assessment Reports for those Instructional Programs listed below:

Title of Instructional Degree Program

Degree Level

(Associate, Bachelors,
Master's, etc.)

Mathematics

BA

Mathematics

BS

Submitted By: William M. Sliva

(Departmental Chair or Faculty Assessment Representative)

ASSESSMENT REPORT FOR

Mathematics

(Instructional Degree Program)

BA

(Degree Level)

June 1, 2005 – May 31, 2006

(Assessment Period Covered)

November 15, 2006

(Date Submitted)

Expanded Statement of Institutional Purpose Linkage:

Institutional Mission Reference: As a university committed to the liberal arts as fundamental to education and committed to our affiliation with the Presbyterian Church (U.S.A.), Schreiner is dedicated to excellence in preparing students to live purposeful, humane and productive lives in their work, faith groups, families and communities.

College/University Goal(s) Supported: Schreiner is dedicated primarily to educating undergraduate students in the liberal arts, sciences, and professional disciplines, preparing them for entry into specific careers and graduate or professional programs.

Purpose of the degree program: The mathematics degree programs at Schreiner University are to prepare students for further study in mathematics and related fields, or to enter the working world. The purpose of the assessment program is to determine whether students are acquiring the skills needed for mathematical analysis and problem solving.

Intended Educational (Student) Outcomes:

1. The student will be able to define, analyze, and solve mathematical problems.

2. The student will be able to interpret graphic information.

3. The student will be able to use technology for mathematical problem solving.

4. The student will be able to apply mathematical concepts to solving problems in other fields.

5. The student will acquire skills necessary for self-directed learning.

6. The student will be able to communicate mathematical understanding to others.

ASSESSMENT REPORT FOR

Mathematics

(Instructional Degree Program)

BS

(Degree Level)

June 1, 2005 – May 31, 2006

(Assessment Period Covered)

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ASSESSMENT REPORT FOR

Mathematics

(Instructional Degree Program)

BA

(Degree Level)

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November 15, 2006

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Intended Educational (Student) Outcome:

NOTE: There should be one form C for each intended outcome listed on form B. Intended outcome should be restated in the box immediately below and the intended outcome number entered in the blank spaces.

4. The student will be able to apply mathematical concepts to solving problems in other fields.

First Means of Assessment for Outcome Identified Above:

4a. Means of Program Assessment & Criteria for Success: All students will complete MATH 3301: Modern Geometry and MATH 3312: Linear Algebra with a grade of C or higher.

4a. Summary of Assessment Data Collected: 100% of the students passed MATH 3301 and 3312 with a grade of C or better.

4a. Use of Results to Improve Instructional Program: No improvements are planned at this time.

Second Means of Assessment for Outcome Identified Above:

4b. Means of Program Assessment & Criteria for Success: Students who complete MATH 3425: Differential Equations, MATH 4321: Complex Variables and/or MATH 4333: Probability will do so with a grade of C or higher.

4b. Summary of Assessment Data Collected: For MATH 3425, all students passed with a C or better. For MATH 4333, all of the students passed with a C or better.

4b. Use of Results to Improve Instructional Program: For MATH 3425, students will solve equations and graph their solutions using the MATLAB computer program.

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6. The student will be able to communicate mathematical understanding to others.

First Means of Assessment for Outcome Identified Above:

6a. Means of Program Assessment & Criteria for Success: All students will take a departmental Mathematics Exit Exam with a minimum score of 50%.

6a. Summary of Assessment Data Collected: Only one of the two students taking the departmental exam scored at or above 50%.

6a. Use of Results to Improve Instructional Program: We raised the percentage the capstone experience counts in their capstone course to encourage students to better prepare for the Math Major Field Examination.

Second Means of Assessment for Outcome Identified Above:

6b. Means of Program Assessment & Criteria for Success: Students will also be assessed by means of a departmental oral examination. Students who are earning teacher certification will take and pass the TExES exam.

6b. Summary of Assessment Data Collected: Both students performed adequately on the oral exam. Each student was asked to rectify his/her incorrect answers on the written exam. The one student who scored below 50% was able to answer correctly a majority of the questions asked on the written exam. Only one student took and passed the TExES exam.

6b. Use of Results to Improve Instructional Program: The mathematics faculty continues to emphasize the students' need to keep materials from semester to semester to better prepare for the Math Major Field Examination and the oral examination.

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Intended Educational (Student) Outcome:

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4. The student will be able to apply mathematical concepts to solving problems in other fields.

First Means of Assessment for Outcome Identified Above:

4a. Means of Program Assessment & Criteria for Success: All students will complete MATH 3301: Modern Geometry, MATH 3312: Linear Algebra, and PHYS 1401 and 1402: College Physics I and II with a grade of C or higher.

4a. Summary of Assessment Data Collected: 100% of the students passed MATH 3301 and 3312 with a grade of C or better. Only one math major was enrolled in PHYS 1401/1402 in the academic year 2005-06. This student made a D in 1401, but then improved to a C in 1402.

4a. Use of Results to Improve Instructional Program: For PHYS 1401/1402, students are required to turn in their homework assignments for a grade. The use of an online grading service is planned for PHYS 1402.

Second Means of Assessment for Outcome Identified Above:

4b. Means of Program Assessment & Criteria for Success: Students who complete MATH 3425: Differential Equations, MATH 4321: Complex Variables and/or MATH 4333: Probability will do so with a grade of C or higher.

4b. Summary of Assessment Data Collected: For MATH 3425, 1 of 2 students passed with a C or better. For MATH 4333, all of the students passed with a C or better.

4b. Use of Results to Improve Instructional Program: For MATH 3425, students will solve equations and graph their solutions using the MATLAB computer program.

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First Means of Assessment for Outcome Identified Above:

6a. Means of Program Assessment & Criteria for Success: All students will take a departmental Mathematics Exit Exam with a minimum score of 50%.

6a. Summary of Assessment Data Collected: Only one of the two students taking the departmental exam scored above 50%.

6a. Use of Results to Improve Instructional Program: We raised the percentage the capstone experience counts in their capstone course to encourage students to better prepare for the Math Major Field Examination.

Second Means of Assessment for Outcome Identified Above:

6b. Means of Program Assessment & Criteria for Success: Students will also be assessed by means of a departmental oral examination.

6b. Summary of Assessment Data Collected: Both students performed adequately on the oral exam. Each student was asked to rectify his/her incorrect answers on the written exam. The one student who scored below 50% was able to answer correctly a majority of the questions asked on the written exam. Students were asked their opinion on how to improve the mathematics program.

6b. Use of Results to Improve Instructional Program: The mathematics faculty continues to emphasize the students' need to keep materials from semester to semester to better prepare for the Math Major Field Examination and the oral examination.