

# Academic Program Assessment Report

**Assessment** is a term commonly used to encompass the process of gathering and using evidence to guide improvements.

SACSCOC requires that an institution "identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of seeking improvement based on analysis of the results".

**Be sure to SAVE your progress as you work!**

**Academic Program**  
Mathematics, B.S.

**Submission Year**  
2022-2023

**Assessment Coordinator Name**  
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## Program Goal

### Goal

#### Goal 1

**Program Goals** are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

#### Program Goal

Students will demonstrate a broad base of mathematical knowledge.

#### Pillar of Success Supported

High-Demand, Market-Driven Programs

## Outcomes

### Outcome 1

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

#### What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Student performance on the MFT exam will be inline with expectations for an institution with our student base.

#### **Timeframe for this Outcome**

April 2022

#### **Performance Target for "Met"**

At least 50% of graduating seniors score at or above the national median AND no more than 25% of graduating seniors score below the first quartile.

#### **Performance Target for "Partially Met"**

Between 30% and 50% of graduating seniors score at or above the national median

#### **Performance Target for "Not Met"**

Less than 30% of graduating seniors score below the national median OR more than half of the graduating seniors score before the national first quartile.

#### **Assessment Measure Used**

Major Field Test by ETS

#### **Frequency of Assessment**

Annually to students in MATH 499

#### **Data Collected for this Timeframe (Results)**

5 students took the MFT in April 2022; 2 of 4 graduating seniors scored above the median

#### **Score (Met=3, Partially Met=2, Not Met=1)**

3

#### **Comments/Narrative**

Faculty will develop an in-house achievement test to use in Spring 2022. The MFT does not meet our needs. Because of the nature of our mathematics program, students cannot take all the courses covered by the questions on the MFT. These gaps in their mathematical knowledge can cause even our most talented students to have low overall scores. Because the 'missing' content is different for different students, it is not possible to scale the MFT scores in any meaningful way. Also, our Juniors who are moving on to Clemson also take the MFT. They must, by necessity take fewer mathematics courses at Lander.

#### **Resources Needed to Meet/Sustain Results**

none

#### **Explanation of How Resources Will Be Used**

## **Outcome 2**

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

**What type of Outcome would you like to add?**

## Student Learning Outcome

### Enter Outcome

Performance of graduating seniors taking Praxis II exam.

### Timeframe for this Outcome

Academic Year 21-22

### Performance Target for "Met"

100% or all but one student passes.

### Performance Target for "Partially Met"

none

### Performance Target for "Not Met"

More than one graduating senior fails.

### Assessment Measure Used

PRAXIS 2 Test

### Frequency of Assessment

Annually to graduating seniors in the Mathematics Teacher Certification Program

### Data Collected for this Timeframe (Results)

No students took the PRAXIS 2 exam this year.

### Score (Met=3, Partially Met=2, Not Met=1)

### Comments/Narrative

Our students tend to pass the PRAXIS 2 test on first attempt.

### Resources Needed to Meet/Sustain Results

### Explanation of How Resources Will Be Used

## Goal Summary

### Goal Summary/Comments

Mathematics faculty have decided that the MFT is not providing valuable information for program assessment. An in-house test is proposed. It will be piloted in Spring 2023..

### Changes Made/Proposed Related to Goal

After the in-house test is developed, a baseline for student performance will be established and then levels for Goal achievement will be set.

### Upload Rubrics/Other Files

## Goal 2

**Program Goals** are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

### Program Goal

Students in the Mathematics Secondary Certification program will demonstrate their preparation to teach

secondary school level mathematics.

### Pillar of Success Supported

High-Demand, Market-Driven Programs

## Outcomes

### Outcome 1

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

#### What type of Outcome would you like to add?

Student Learning Outcome

#### Enter Outcome

Students demonstrate knowledge of mathematical pedagogy.

#### Timeframe for this Outcome

Academic Year 2021-22

#### Performance Target for "Met"

100% pass rate on first attempt of Praxis 2.

#### Performance Target for "Partially Met"

90% or all but one pass on first attempt

#### Performance Target for "Not Met"

More than 1 failure on first attempt.

#### Assessment Measure Used

PRAXIS 2 results

#### Frequency of Assessment

Annually to students in the Teacher Certification program.

#### Data Collected for this Timeframe (Results)

No students took the Praxis exam this academic year.

#### Score (Met=3, Partially Met=2, Not Met=1)

#### Comments/Narrative

Our students tend to pass on first attempt.

#### Resources Needed to Meet/Sustain Results

#### Explanation of How Resources Will Be Used

## **Outcome 2**

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

**What type of Outcome would you like to add?**

Student Learning Outcome

**Enter Outcome**

Students reach Secondary Education Benchmarks set by the College of Teacher Education

**Timeframe for this Outcome**

Academic Year 2021-2022

**Performance Target for "Met"**

All students reach Secondary Education Benchmarks set by College of Teacher Education

**Performance Target for "Partially Met"**

All but one student reaches Secondary Education Benchmarks set by College of Teacher Education

**Performance Target for "Not Met"**

More than 2 students do not reach Secondary Education Benchmarks set by College of Teacher Education

**Assessment Measure Used**

PPAT from ETS

**Frequency of Assessment**

annually

**Data Collected for this Timeframe (Results)**

No data for this academic year.

**Score (Met=3, Partially Met=2, Not Met=1)**

**Comments/Narrative**

There was a misunderstanding about the nature of this test. It is not a test for Education majors, but refers to the ETS Proficiency test that Lander uses for assessment of our General Education Program. We administer this test in our capstone course. Faculty will discuss and decide if the level of mathematics on this Proficiency test is at a level that it will provide any meaningful assessment of our mathematics majors.

**Resources Needed to Meet/Sustain Results**

**Explanation of How Resources Will Be Used**

# Goal Summary

## Goal Summary/Comments

The level of mathematics on the Praxis II exam is well within the reach of a mathematics major and so acceptable levels of performance are expected.

## Changes Made/Proposed Related to Goal

Faculty will discuss adding an outcome that will assess the level of pedagogical preparation our students reach as the result of courses in our mathematics curriculum specifically designed for mathematics certification majors.

## Upload Rubrics/Other Files

### Goal 3

**Program Goals** are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

#### Program Goal

Students will communicate mathematical ideas effectively.

#### Pillar of Success Supported

Robust Student Experience

## Outcomes

### Outcome 1

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

#### What type of Outcome would you like to add?

Student Learning Outcome

#### Enter Outcome

Students display the ability to research and understand an extension of or a new mathematical topic.

#### Timeframe for this Outcome

Academic year 2021-22

#### Performance Target for "Met"

At least 75% of students score an average of at least a 2.0 (Proficient) on the two items "Extends presenter's mathematical knowledge" and "Displayed an understanding of the mathematics" on the Presentation Rubric.

### **Performance Target for "Partially Met"**

At least half the students score an average of 2.0 (Proficient) on the two items "Extends presenter's mathematical knowledge" and "Displayed an understanding of the mathematics" on the Presentation Rubric.

### **Performance Target for "Not Met"**

Fewer than half the students score an average of (Proficient) on the two items "Extends presenter's mathematical knowledge" and "Displayed an understanding of the mathematics" on the Presentation Rubric.

#### **Assessment Measure Used**

Faculty ratings of student capstone presentation projects.

#### **Frequency of Assessment**

Every year to students in MATH 499

#### **Data Collected for this Timeframe (Results)**

All but 1 student scored an average of at least 2.0 on these items.

#### **Score (Met=3, Partially Met=2, Not Met=1)**

3

#### **Comments/Narrative**

The Presentation Rubric will be reviewed and revised for use in Spring 2022..

#### **Resources Needed to Meet/Sustain Results**

#### **Explanation of How Resources Will Be Used**

## **Outcome 2**

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

#### **What type of Outcome would you like to add?**

Student Learning Outcome

#### **Enter Outcome**

Students demonstrate the ability to create a professional presentation with mathematical content.

#### **Timeframe for this Outcome**

Academic Year 2021-2022

#### **Performance Target for "Met"**

At least 75% of students score an average of at least a 2.0 on the items related to effective communication on the Presentation Scoring Rubric.

**Performance Target for "Partially Met"**

At least half of the students score an average of at least a 2.0 on the item "Interest and Appeal of presentation" on the Presentation Scoring Rubric.

**Performance Target for "Not Met"**

Fewer than half of students score an average of at least a 2.0 on the item "Interest and Appeal of presentation" on the Presentation Scoring Rubric.

**Assessment Measure Used**

Scores on the Presentation Scoring Rubric

**Frequency of Assessment**

Annually to students in MATH 499

**Data Collected for this Timeframe (Results)**

All but 1 student scored an average of at least a 2.0.

**Score (Met=3, Partially Met=2, Not Met=1)**

3

**Comments/Narrative**

The Presentation Rubric will be revised before use in Spring 2022.

**Resources Needed to Meet/Sustain Results****Explanation of How Resources Will Be Used**

## Outcome 3

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

**What type of Outcome would you like to add?**

Student Learning Outcome

**Enter Outcome**

Students demonstrate the ability to prepare a professional presentation of mathematical material.

**Timeframe for this Outcome**

Annually in MATH 499

**Performance Target for "Met"**

75% of all students score an average of at least a 2.0 on the items relating to "Organization and Clarity of presentation" on the Presentation Scoring Rubric.

**Performance Target for "Partially Met"**

At least half of the students score an average of at least a 3.0 on the item "Organization and Clarity of

presentation" on the Presentation Scoring Rubric.

**Performance Target for "Not Met"**

Fewer than half of the students score an average of at least a 3.0 on the item "Organization and Clarity of presentation" on the Presentation Scoring Rubric.

**Assessment Measure Used**

Faculty scores of student presentations

**Frequency of Assessment**

annually in MATH 499

**Data Collected for this Timeframe (Results)**

All students scored at least a 2.0

**Score (Met=3, Partially Met=2, Not Met=1)**

3

**Comments/Narrative**

The presentation scoring rubric will be evaluated and revised as needed before the Spring 2022 offering of MATH 499.

**Resources Needed to Meet/Sustain Results**

**Explanation of How Resources Will Be Used**

## Outcome 4

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

**What type of Outcome would you like to add?**

Operational Outcome

**Enter Outcome**

Students demonstrate success in employment and/or graduate-level education, as applicable.

**Timeframe for this Outcome**

Academic Year 2021-2022

**Performance Target for "Met"**

All graduating seniors are employed or accepted into graduate programs by the semester following graduation.

**Performance Target for "Partially Met"**

At least half of graduating seniors are employed or accepted into graduate programs by the semester following graduation.

**Performance Target for "Not Met"**

Fewer than half of graduating seniors are employed or accepted into graduate programs by the semester following graduation.

**Assessment Measure Used**

Self-reported during student Exit Interviews or follow-up contact by faculty members the following semester.

**Frequency of Assessment**

Every year

**Data Collected for this Timeframe (Results)**

Dual-degree students moving on to Clemson University. No data is currently available for graduating seniors.

**Score (Met=3, Partially Met=2, Not Met=1)****Comments/Narrative**

This question will be added to the Exit Interview questions or confidential survey form

**Resources Needed to Meet/Sustain Results****Explanation of How Resources Will Be Used**

## Goal Summary

**Goal Summary/Comments**

Immediate plans of graduates are not always known.

**Changes Made/Proposed Related to Goal**

Faculty will create a calendar for following-up with recent graduates.  
Generally, almost all of our graduates find employment, if they wish to do so.

**Upload Rubrics/Other Files**

## Goal 4

**Program Goals** are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

**Program Goal**

Compliance with Program Productivity Standards as defined by the SC Commission of Higher Education.

**Pillar of Success Supported**

High-Demand, Market-Driven Programs

## Outcomes

**Outcome 1**

**Outcomes** are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge,

skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

**What type of Outcome would you like to add?**

Operational Outcome

**Enter Outcome**

Completions.( Mathematics Degrees awarded.)

**Timeframe for this Outcome**

2021-2022

**Performance Target for "Met"**

Using a five-year rolling average, the number of degrees awarded (a) for Baccalaureate programs is greater than or equal to 8, (b) for Master's/First Professional is greater than or equal to 3.

**Performance Target for "Partially Met"**

none

**Performance Target for "Not Met"**

Using a five-year rolling average, the number of degrees awarded (a) for Baccalaureate programs is less than 8 (b) for Master's/First Professional is less than 3.

**Assessment Measure Used**

Enrollment and Graduation data extracted from Banner

**Frequency of Assessment**

Annually

**Data Collected for this Timeframe (Results)**

2 students graduated; rolling-average 6.0

**Score (Met=3, Partially Met=2, Not Met=1)**

1

**Comments/Narrative**

Since we are a small university, we cannot expect a large number of mathematics majors. Also, we think that we tend to lose 'credit' for completions as some of our Dual-degree Engineering students do not apply for their degree from Lander University when they graduate from Clemson. We are attempting to retrieve information about our Dual-degree Engineering students over the last 5 years to see if this is true.

**Resources Needed to Meet/Sustain Results**

**Explanation of How Resources Will Be Used**

## Outcome 2

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Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

**Most goals have at least two outcomes measured.**

**What type of Outcome would you like to add?**

Operational Outcome

**Enter Outcome**

Major Enrollment

**Timeframe for this Outcome**

2021-2022

**Performance Target for "Met"**

Using a five-year rolling average, the number of students enrolled in the major (a) for Baccalaureate programs is greater than or equal to 12.5, (b) for Master's/First Professional is greater than or equal to 6.

**Performance Target for "Partially Met"**

none

**Performance Target for "Not Met"**

Using a five-year rolling average, the number of students enrolled in the major (a) for Baccalaureate programs is greater than or equal to 12.5, (b) for Master's/First Professional is less than 6.

**Assessment Measure Used**

Enrollment and Graduation data extracted from  
Banner

**Frequency of Assessment**

Annually

**Data Collected for this Timeframe (Results)**

Headcount 2021: 38

Rolling average: 49.6

**Score (Met=3, Partially Met=2, Not Met=1)**

3

**Comments/Narrative**

Enrollments in the mathematics major are high because of the number of students who enter Lander initially declaring a mathematics major but who then discover that they are either unprepared or not interested in pursuing college-level mathematics. A better measure of headcount in the mathematics major is the enrollment in MATH 231, third semester calculus, currently at 14.

**Resources Needed to Meet/Sustain Results**

**Explanation of How Resources Will Be Used**

**Goal Summary**

**Goal Summary/Comments**

none

**Changes Made/Proposed Related to Goal**

none

**Upload Rubrics/Other Files**

**Thank you for completing your assessment report. Your report will be sent to your College Dean for their review and approval after you hit "Submit" below. Please enter their email address below.**

**Dean's Email Address**

dslimmer@lander.edu

**Thank you for reviewing and approving this report. The approval and a copy of the report will be emailed to you and the Assessment Coordinator.**