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
2021-2022

Assessment Coordinator Name
André M. Lubecke

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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 in Mathematics will be inline with expectations for an institution with our student base.

Timeframe for this Outcome
April 2021

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)
7 students took the MFT in April 2021
1 > national median
3 < national Q1

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

Comments/Narrative
Faculty are discussing developing an in-house achievement test rather than using the MFT in the future.
MFT does not meet our needs.

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 20-21

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)
One student took the PRAXIS 2 exam this year

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

Comments/Narrative
Our students tend to pass the PRAXIS 2 test on first attempt, no improvement possible.

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
MFT Calculus subscores

Timeframe for this Outcome
April 2021

Performance Target for "Met"

At least 50% of cohorts have calculus subscores above the national median.

Performance Target for "Partially Met"
At least 40% of cohorts have calculus subscores above the national median.

Performance Target for "Not Met"
Fewer than 40% of cohorts have calculus subscores above the national median.

Assessment Measure Used
Calculus subscore provided by ETS

Frequency of Assessment
When a Cohort of test takers is closed, usually at least Bi-annually.

Data Collected for this Timeframe (Results)
Subscore not available this year, current cohort too small in number

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

Comments/Narrative
This year's graduating seniors will be added to the current cohort.
Subscores are expected to be available May 2021

Resources Needed to Meet/Sustain Results
none

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. Department decision not yet finalized.

Changes Made/Proposed Related to Goal
If 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.O

Pillar of Success Supported
High-Demand, Market-Driven Programs

Outcomes

Outcome 1

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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?
Student Learning Outcome

Enter Outcome
Students demonstrate knowledge of mathematical pedagogy.

Timeframe for this Outcome
Academic Year 2020-21

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)
One student took the Praxis exam during this year and passed on first attempt

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

Comments/Narrative
Our students tend to pass on first attempt. No improvement possible.

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 Benchmarrks set by the College of Teacher Education

Timeframe for this Outcome
Academic Year 2020-2021

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 test this year

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

Comments/Narrative
This is a new assessment for Secondary Education students. Mathematics faculty will seek additional information from the School of Education concerning its use for Mathematics program improvement. A new faculty member was hired this year to coordinate our Secondary Education Mathematics program.

Resources Needed to Meet/Sustain Results

Explanation of How Resources Will Be Used

Goal Summary

Goal Summary/Comments
Secondary Mathematics students are only a small portion of mathematics majors. Their performance, historically, has been exemplary;

Changes Made/Proposed Related to Goal
The Department hired a new Secondary Education coordinator who joined the Department in Fall 2021.

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 2020-21

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 7 students 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 before the next offering of MATH 499.

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 2020-21

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

Frequency of Assessment

Scores on the Presentation Scoring Rubric	Annually to students in MATH 499

Data Collected for this Timeframe (Results)	**Score (Met=3, Partially Met=2, Not Met=1)**
All students scored at least a 2.0	3

Comments/Narrative
The Presentation Rubric will be reviewed before the next offering of MATH 499.

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	**Frequency of Assessment**
Faculty scores of student presentations	annually in MATH 499

Data Collected for this Timeframe (Results)	**Score (Met=3, Partially Met=2, Not Met=1)**

All students scored at least a 2.0 3

Comments/Narrative
The presentation scoring rubric will be evaluated and revised as needed before the next offering of the course.

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 2020-2021

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	**Frequency of Assessment**
Self-reported during student Exit Interviews or follow-up contact by faculty members the following semester.	Every year

Data Collected for this Timeframe (Results)	**Score (Met=3, Partially Met=2, Not Met=1)**
The two graduating seniors both have	

employment; Dual-degree students moving on to Clemson University	3

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.
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.

Changes Made/Proposed Related to Goal
The scoring rubric will be evaluated and refined before the spring 2021 offering of MATH 499.

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
2020-2021

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)
7 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

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
Major Enrollment

Timeframe for this Outcome
2020-21

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 2019: 50
Rolling average: 53.8

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 13.

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