

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 Due Date

Fall 2025: October 1, 2025

Assessment Coordinator Name

Josie Ryan

Enter Assessment Coordinator Email

pryan@lander.edu

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 2025

Performance Target for "Met"

At least 50% of graduating seniors score at least 75% on the Lander math department created comprehensive exam

Performance Target for "Partially Met"

At least 50% of graduating seniors score at between 50% and 75% on the Lander math department created comprehensive exam

Performance Target for "Not Met"

More than 50% of graduating seniors score at less than 50% on the Lander math department created comprehensive exam

Assessment Measure Used

Lander math department created comprehensive exam

Frequency of Assessment

Annually to students in MATH 499

Data Collected for this Timeframe (Results)

5 students took the Lander math department created comprehensive exam in April of 2025. The scores ranged between 52% and 78% of the total points available (59 raw points).

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

2

Comments/Narrative

The Lander math comprehensive exam was given to 5 students in Spring 2025.

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 25-26

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)

0 students took and passed 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.

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

Goal Summary

Goal Summary/Comments

The Lander math department created comprehensive exam was used for the spring 2025 capstone course.

Changes Made/Proposed Related to Goal

The Lander math comprehensive exam has been graded using Gradescope. The results have been exported and shared in a department shared Teams folder (in case any additional faculty members become unavailable).

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

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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 2024-25

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)

Zero students took and passed the PRAXIS 2 exam this academic year.

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

3

Comments/Narrative

Our students tend to pass on first attempt. This academic year, we had no upper-level students who took the PRAXIS 2. At least two students who would have taken the PRAXIS 2 changed their major from Secondary Education to Mid-Level Mathematics Education, which is housed in the College of Education as opposed to the Mathematics Department/College of Science and Mathematics.

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 2024-25

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

PLT from ETS

Frequency of Assessment

annually

Data Collected for this Timeframe (Results)

Zero students took the PLT exam this academic year

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

3

Comments/Narrative

Our students regularly meet the requirements and benchmarks set in place by the College of Teacher Education. There are no current majors which took this test. At least two students who would have taken the PLT changed their major from Secondary Education to Mid-Level Mathematics Education, which is housed in the College of Education as opposed to the Mathematics Department/College of Science and Mathematics.

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. No new data has been presented for this academic year, and so it is difficult to assess what changes have improved these results.

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 2024-2025

Performance Target for "Met"

At least 100% (n = 5) 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"

Every student in 2024-2025 (n=5) met the goal of 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"

Since every student met the goal, no students were measured at the "not met" level.

Assessment Measure Used

Faculty ratings of student capstone presentation projects. Same tool as used in the previous academic year.

Frequency of Assessment

Every spring to students in MATH 499 that are in their last spring semester at Lander.

Data Collected for this Timeframe (Results)

5 of 5 students scored an average of at least 2.0 on these items.

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

3

Comments/Narrative

5 out of 5 students averaged at least a 2.0 on the "Extends mathematical knowledge," while 5 out of 5 students averaged a 2.0 on "Displayed a Strong Understanding of all the mathematics." If we consider both questions together, 5 out of 5 averaged greater than 2.0 as mentioned earlier.

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 2024-2025

Performance Target for "Met"

100% 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"

All students scored 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"

None 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

Every spring to students in MATH 499 that are in their last spring semester at Lander.

Data Collected for this Timeframe (Results)

All 5 students scored an average of at least a 2.0.

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

3

Comments/Narrative

If we consider all subcategories for "Effective Communication" as a single block, all students meet the requirement. We had a small number of students in the MATH 499 course, and they performed well respective presentations.

Resources Needed to Meet/Sustain Results

Explanation of How Resources Will Be Used

Outcome 3

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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 the ability to prepare a professional presentation of mathematical material.

Timeframe for this Outcome

Annually in MATH 499

Performance Target for "Met"

100% 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"

All of the students scored an average of at least a 2.0 on the item "Organization and Clarity of presentation" on the Presentation Scoring Rubric.

Performance Target for "Not Met"

None of the students score an average below a 2.0 on the item "Organization and Clarity of presentation" on the Presentation Scoring Rubric.

Assessment Measure Used

Faculty scores of student presentations

Frequency of Assessment

Every spring to students in MATH 499 that are in their last spring semester at Lander.

Data Collected for this Timeframe (Results)

All 5 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 re-evaluated and revised as needed before the Spring 2026 offering of MATH 499. Students continue to score well in this category even after updating the scoring rubric in the Spring 2023 semester. This rubric was reevaluated in 2024 as well.

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 2024-2025

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)

We have approximately seven dual-degree mathematics/engineering students that are continuing studies at Clemson University starting in the Fall 2025 semester that matriculated at Clemson within the last two years. Three students from the Spring 2025 MATH 499 course decided to return to Lander to continue further education and is planning to graduate in December 2025. One student is planning on attending graduate school post-December graduation. Four have secured private industry jobs post December 2025 graduation.

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

3

Comments/Narrative

This question was added to the Exit Interview questions. All students are either continuing education at Lander or Clemson Universities, in graduate school, or have secured employment.

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. We will continue to work to better collect information from graduating students. We are developing methods to help keep track of students that matriculate at Clemson as part of the dual engineering program to ensure better graduation rates from Lander University.

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.

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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

2024 - 2025

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 the Program Productivity Report.

Frequency of Assessment

Annually

Data Collected for this Timeframe (Results)

5 students graduated; rolling-average 5.8

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

1

Comments/Narrative

Note, while our rolling average is 5.8, down from 6.4 last year, we have implemented several initiatives to improve retention and our graduation rate. We also have several student who have moved on to Clemson for the engineering phase of the dual-degree program and we are actively in contact with them, so they continue to feel as if they are part of Lander University. We removed the graduation Lander graduation fee for students who return from Clemson to graduate. This means students do not have to pay two graduation fees, removing an impediment to them applying for graduation at Lander.

Hopefully we will no longer 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 continue to analyze data on our Dual-degree Engineering students over the last 5 years to see if this is true and to minimize the effect by maintaining contact.

In addition, we currently have eleven students enrolled in 421 which means they are within a year of graduating or moving on to Clemson.

We have four students on track to graduate this semester, three set to graduate in the spring and at least three graduating from Clemson with the dual-degree program. That will be ten this year.

Dr. Worley and Dr. Ryan have discussed adding more and different electives to create demand and keep students interested and engaged. We would like to add a second semester of calculus-based statistics, MATH 312. We would like to add a second semester of calculus-based statistics, MATH 312. We would also like to look into adding more electives, like Number Theory, Graph Theory, and other course to bring us into line with offerings from competitive universities. Not only would students be more engaged, but this would add depth and value to our major. This would attract more majors and help retain students by giving them choices of elective courses that are more marketable and relevant.

We also lose some students before graduation who leave for Clemson without completing the math portion of their dual-degree program because they do not have funding to continue for more than four years without taking out loans. They choose to finish their degree in engineering at Clemson and bypass the Lander mathematics degree, viewing the engineering degree as more marketable.

Resources Needed to Meet/Sustain Results

Professors to teach courses so we are not overloaded and have room to give all students the attention they need.

Explanation of How Resources Will Be Used

To offer new courses and enrich the math program and to meet the needs of the increasing numbers of retained students.

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

2024-2025

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 the Program Productivity Report.

Frequency of Assessment

Annually

Data Collected for this Timeframe (Results)

Headcount 2024: 56
Rolling average: 48.4

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

3

Comments/Narrative

Enrollment in the mathematics major is high because of the number of students who enter Lander initially declaring a mathematics major is increasing, but the numbers decline through four years due to students but who discover that they are either unprepared or not interested in pursuing college-level mathematics. In 2024 we had 56 declared majors with a rolling average of 48.4. This was up by seven students from 2023 with an increased rolling average. This year we have a total of 62 math majors enrolled. This shows an increase over 2024 of 6 students. However, due to attrition of students who are unprepared for the rigors of the major or who discover that they love calculations more than mathematics, a better measure of the mathematics major is a look at the enrollment in upper level courses.

This year we have 33 distinct math majors enrolled in MATH 241, 308, 311 and 421. Many students are enrolled in three of the four courses, but we are not counting any students twice. Eleven are enrolled in 421. Real enrollment in 241, 308, 311 has been steadily increasing. We have 28 students in 311 this semester for the first time ever. This shows that enrollment is increasing in real numbers and also more

students are progressing to upper level courses and are on track to graduate.

Resources Needed to Meet/Sustain Results

As mentioned, we need more professors to teach courses. We need Lecturers to take lower level courses so we can offer more majors courses. This will mean we need to hire someone to fill the position vacated by Dr. Leach and another lecturer. We have the line for the tenure track position

Explanation of How Resources Will Be Used

We need to offer a more diverse schedule. We need Lecturers to take lower level courses so we can offer more majors courses. We are swiftly approaching a time when, in order to offer properly rigorous courses to math majors, we will need to offer multiple sections of classes we have previously only offered as singletons. Some of these are MATH 142, MATH 241, MATH 242, MATH 311.

Goal Summary

Goal Summary/Comments

We had a goal of waiving the Graduation fee and it has been waived since last year, so that goal was met.

Changes Made/Proposed Related to Goal

We have a search committee to fill the empty tenure track position

Upload Rubrics/Other Files

Dean's Email Address

jyates1@lander.edu

Approved by Dean?

Signature of Dean

Comments from Dean's Review