Assessment Cycle 2025 – 2026

Program: (BS) Bachelor of Science Mathematics

Department of Mathematics

College of Arts and Sciences

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Northwestern Mission. Northwestern State University is a responsive, student-oriented institution committed to acquiring, creating, and disseminating knowledge through innovative teaching, research, and service. With its certificate, undergraduate, and graduate programs, Northwestern State University prepares its increasingly diverse student population to contribute to an inclusive global community with a steadfast dedication to improving our region, state, and nation.

College of Arts and Sciences' Mission. College of Arts and Sciences' Mission. The College of Arts & Sciences, the largest college at Northwestern State University, is a diverse community of scholars, teachers, and students, working collaboratively to acquire, create, and disseminate knowledge through transformational, high-impact experiential learning practices, research, and service. The College strives to produce graduates who are productive members of society equipped with the capability to promote economic and social development and improve the overall quality of life in the region. The College provides an unequaled undergraduate education in the social and behavioral sciences, English, communication, journalism, media arts, biological and physical sciences, and the creative and performing arts, and at the graduate level in the creative and performing arts, English, TESOL, and Homeland Security. Uniquely, the College houses the Louisiana Scholars' College (the State's designated Honors College), the Louisiana Folklife Center, and the Creole Center, demonstrating its commitment to community service, research, and preservation of Louisiana's precious resources.

Department of Mathematics. The Department of Mathematics is dedicated to the development of students for roles in academic, professional, and research careers in the various areas of the field of mathematics. The department also fosters the mathematical development of all students through our offerings in general education and support courses for other degree programs. We are committed to providing a modern, effective education to all students using traditional practices and current technology throughout our course offerings. The department delivers a Bachelor of Science degree in Mathematics with available concentrations in Healthcare Informatics and Actuarial Mathematics. A minor in Mathematics is also available.

Mathematics Program Mission Statement: The Department of Mathematics offers a Bachelor of Science degree in Mathematics. The coursework includes a foundation in the classic coursework in mathematics covering Calculus, Foundations, and Algebra which is enhanced with a strong student research component. All coursework is delivered

using appropriate, modern technology. Mathematics coursework is supplemented with a strong selection of courses in Biological, Physical, and Computer Sciences. Choices of upper-level electives allows for customization of the degree emphasizing preparation for graduate school, a professional career, or a mixture of both. Concentrations in Healthcare Informatics and Actuarial Mathematics also require an internship experience further preparing the student for a professional career.

Methodology: The assessment process for the BS program is as follows:

(1) Data from assessment tools (both direct or indirect, quantitative or qualitative) are collected and returned to the Department Head.

(2) The Department Head will analyze the data to determine whether students have met measurable outcomes.

(3) Results from the assessment will be discussed with the faculty.

(4) The Department Head, in consultation with the Advisory Committee, will propose changes to measurable outcomes, assessment tools for the next assessment period and, where needed, curricula and program changes.

Student Learning Outcomes:

SLO 1. Students will gain a strong understanding of the fundamental ideas, concepts, and applications of mathematics

Course Map: Tied to course syllabus objectives.

MATH 2110: Analytic Geometry and Calculus
II MATH 3100: Modern Algebra I
MATH 4950: Mathematics – A Capstone Course

Measure 1.1. (Direct – other)

MATH 2110 (Analytic Geometry and Calculus II) is taken at the end of the freshman year. MATH 3100 (Modern Algebra 1) is the last explicitly required course before the student begins taking upper-level electives in mathematics. MATH 4950 (Mathematics – A Capstone Course) is the senior research project course taken shortly before graduation. By looking at the pass rate in each of these courses, we get a sense of whether majors are making progress. The target is that 75% of Mathematics majors earn a grade of C or higher in MATH 2110, 90% of Mathematics majors earn a grade of C or higher in MATH 3100, and at least 50% of Mathematics majors earn a grade of B or higher in MATH 4950.

Finding: Target was met.

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Analysis: In AC 2024 – 2025, the following results were measured:

- MATH 2110 – 71% met target.
- MATH 3100 – There was no data to collect.
- MATH 4950 – There was no data to collect.

Based on the analysis of the AC 2024-2025 results and to drive improvement, faculty implemented the following changes in AC 2025-2026. Topics in the Calculus course were reviewed and aligned with assessments, and the practice of giving feedback using the unified rubric format was implemented in a more structured way throughout the curriculum.

As a result, in AC 2025-2026, the target was met. The following results were measured.

- MATH 2110 – 85.9% of mathematics majors earned a C or better. (Fall 2025 – 2 of 3 mathematics majors enrolled, Spring 2025 – 4 of 4 mathematics majors enrolled. In total, 6 of 7 enrolled mathematics majors met the goal)
- MATH 3100 – 100% of mathematics majors enrolled earned a C or better.
- MATH 4950 – No results reported as there were no students enrolled in this class AC 2025 – 2026.

The results in 2110 and 3100 seem to indicate that the long-term strategies implemented are having positive effects. There was no data to evaluate our approaches in MATH4950. The dip in enrollment from previous years seems to be finally working its way through the system. There are 3 students preregistered for MATH4950 for Fall 2026, so we anticipate results to report during the next AC.

Decision*:* In AC 2025-2026, the target was met. Based on the analysis of the AC 2025 - 2026 results and to drive improvement, faculty will do the following in AC 2026-2027:

- Senior faculty will implement a standard curriculum for MATH2110.
- Students in MATH3100 will receive a report on their progress using the Unified Rubrics for Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.
- Students in MATH 4950 will receive a report on their progress using the Unified Rubrics for Oral and Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.

In addition, the targets for MATH2110 and 3100 will be increased. The new targets will be as follows:

- MATH 2110 – 80% or higher of mathematics majors would earn C or better.
- MATH 3100 – 90% or higher of mathematics majors would earn C or better, and 75% would earn a B or better.
- MATH 4950 – 90% or higher of mathematics majors would earn C or better, and 50% would earn a B or better.

The faculty believe these changes will contribute to greater student success in these

areas.

Measure 1.2. (Indirect – Attitude)

Students make a self-assessment of their preparation in the Reflection Paper Assignment they complete as a part of MATH 4950. Specifically, the students must respond to the prompt “Describe yourself as a mathematician and as a member of the mathematics profession. What can you contribute to the mathematics community and our larger society?”

Finding: No data was collected.

Analysis: In AC 2023 – 2024 [the last year for which data is available], 50% of students (Fall 2023 – 1 of 2) gave answers indicating they felt a part of the mathematical community and 50% (Fall 2023 – 1 of 2) gave answers to indicate they thought they had the relevant skills.

Based on the analysis of the 2023-2024 results, the following changes were planned for 2024-2025 to drive improvement. Discussions were held about these two topics during Pi Day Celebrations, enabling students to reflect on the issues from an earlier point in their time in the major. Discussions on reactivation of our Kappa Mu Epsilon Mathematics honors society chapter did not receive sufficient support to warrant the attempt. In AY2025-2026, the Kappa Mu Epsilon chapter was reactivated.

In AC 2024-2025, the target was that at least 90% of students will give a response indicating that they feel they could contribute to the larger community and at least 75% of students will report strengths appropriate to the research project. As there was no data to collect, these approaches remained in place for AC 2025-2026.

There were no students enrolled in MATH4950 during AC 2025-2026. There was no data to evaluate our approaches. The dip in enrollment from previous years seems to be finally working its way through the system. There are 3 students preregistered for MATH4950 for Fall 2026, so results are anticipated during the next AC.

As a result, in AC 2025-2026, there are no findings.

Decision: In AC 2025-2026, there was no data to analyze. The strategies will be maintained as planned for AC 2026-2027. Faculty will hold discussions regarding the two questions “Describe yourself as a mathematician and as a member of the mathematics profession. What can you contribute to the mathematics community and our larger society?” at the beginning of MATH 4950. This will allow the students to reflect on the issues as they carry out their projects. Similar discussions will take place at social events such as the Pi Day Celebration. The reactivated chapter of Kappa Mu Epsilon Mathematics Honor Society will continue to facilitate these discussions. The faculty believe these changes will contribute to greater student success in these areas. Targets will remain the same.

Assessment Cycle 2025 – 2026

Measure: 1.3. **(Direct – Skill/Activity)**

All mathematics majors will take the ETS Major Field Exam in Mathematics during the semester they take MATH 4950. The target is that at least 75% of mathematics majors score above the 50th percentile on the exam.

Findings: No data was collected.

Analysis: In AC 2023-2024 [the last year for which data is available], 33% of students (1 of 3 mathematics majors) scored above the 50th percentile. Based on the analysis of the 2023-2024 results, the following changes were planned for 2024-2025 to drive improvement. The faculty planned to review and discuss test-taking strategies for a standardized test where a significant number of questions may be outside of their experience.

There were no students enrolled in MATH4950 during AC 2024-2025 or 2025-2026, so no data to evaluate our approaches. The dip in enrollment from previous years seems to be finally working its way through the system. There are 3 students preregistered for MATH4950 for Fall 2026, so results are anticipated in the next AC.

As a result, in AC 2025-2026, there are no findings.

Decision: In AC 2024-2025 and AC 2025-2026, there was no data to analyze. The strategies will be maintained as planned for AC 2026-2027. Test-taking strategies for a standardized test where a significant number of questions may be outside of the students' experiences will be reviewed and discussed. The faculty believe these changes will contribute to greater student success in these areas.

SLO 2. Students will demonstrate a college-level proficiency in oral communication of mathematical concepts.

Course Map: Tied to the course syllabuses below.

MATH1010: Introduction to Mathematics
MATH2080: Fundamentals of Proof
MATH4950: Mathematics

Measure: 2.1. **(Direct – Skill/Activity)**

All mathematics majors take MATH 1010 (Introduction to Mathematics) in their first fall semester. Their final project for this course is to make a presentation on a career in mathematics which they have researched. Using the evaluating Oral Communications of Mathematical Ideas rubric, students were evaluated in the categories of Organization, Delivery, and Visual Support; they are given a score of 0-2 in each category. The target is that 85% of students will score at least 5 out of 6 possible points, and at least 50% will score 6 out of 6 possible points.

Findings: Target not met.

Analysis: In AC 2024-2025, 83% of students (5 of 6 mathematics majors in this class) scored at least 5 of 6 points, and 50% of students (3 of 6) scored 6 out of 6, so the target was not met.

Based on the analysis of the AC 2024-2025 results, the faculty made the following changes, in AC 2025-2026, to drive the cycle of improvement. Faculty presented examples of PowerPoint presentations which met or failed to meet expectations during class sessions on creating a presentation.

As a result, in AC 2025-2026, the target was not met. Sixty percent (60%) of students (9 of 15 mathematics majors in this class) scored at least 5 of 6 points, and 43% (6 of 14) of students scored 6 out of 6. The students struggled with producing a relevant PowerPoint presentation and understanding the Unified Rubric.

Decision: In AC 2025-2026, the target was not met. Based on the analysis of the AC 2025-2026 results and to drive improvement in AC 2026-2027, faculty will present examples of PowerPoint presentations which meet or fail to meet expectations during class sessions on creating a presentation. They will also work with the class to discuss how to improve the unsatisfactory presentations. The target will not be altered. The faculty believe these changes will contribute to greater student success in these areas.

Measure: 2.2. (Direct – Skill/Activity)

Mathematics majors take MATH 2080 (Fundamentals of Proof) the fall of their sophomore year. In this course, students are required to present solutions of proofs on the board. Student presentations are evaluated using the Unified Rubric found in evaluating Oral Communications of Mathematical Ideas. Students are evaluated in the categories of Mathematics and Delivery and are given a score of 0-2 in each category for each presentation. The target is that 85% of students achieve an average score of at least 3.25 out of 4 and 50% of students achieve an average score of at least 3.5 out of 4.

Findings: Target was not met.

Analysis: In AC 2024-2025, the target was not met when 33% of students (2 of 6) had a score of 3.25 or higher, and 33% (2 of 6) of students had a score of 3.5 or higher. Based on the AC 2024-2025 results, faculty required that students begin giving presentations earlier in the course to provide each with the opportunity to make multiple presentations.

As a result, in AC 2025-2026, the target was not met. In AC 2025-2026, 75% of students (3 of 4) had a score of 3.25 or higher, and 50% of students had a score of 3.5 or higher (2 of 4). Students did well and produced presentations that were relevant to this SLO. Although all students had the opportunity to present more than once, the weaker students did not avail themselves of as many opportunities as were available to them.

Decision: In AC 2025-2026, the target was not met. Based on the analysis of the AC

2025-2026 results and to drive improvement in AC 2026-2027, faculty will begin encouraging students to present every time they are eligible to do so. In addition, these students will receive coaching on how to improve their presentations. The targets will remain the same.

Measure: 2.3 (Direct – Skill/Activity)

All mathematics majors take MATH 4950 (Mathematics – Capstone Course) either the last or next to last semester before graduation. This class involves an independent research project which culminates in a paper and a public presentation. We use a Unified Rubric to evaluate Oral Communications of Mathematical Ideas. Students are evaluated in all five categories: Organization, Central Message, Mathematics, Delivery, and Visual Support; they are given a score of 1-4 in each category. The target is that 70% of students score at least 18 out of 20 possible points.

Findings: No data was collected.

Analysis: In AC 2023-2024 [the last year for which data is available], the target was not met. None (0%, or 0 of 3) of the students scored 18 out of 20.

Based on the analysis of the AC 2023-2024 data, the faculty planned to give reports to students using the Unified Rubrics for Oral Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.

Unfortunately, no students enrolled in this course during AC 2024-2025 or AC 2025 – 2026. As a result, in AC 2025 - 2026, there was no data to collect.

Decision: In AC 2025-2026, there was no data to analyze. The strategies planned for the previous AC will be maintained during AC 2026-2027. Students will receive a report on their progress using the Unified Rubrics for Oral Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course. Additionally, the majority of a class period near the beginning of the semester will be devoted to discussing the Unified Rubric for Oral and Written Communications, and the level of mastery expected of them by the end of the course. The faculty believe these changes will contribute to greater student success in these areas. The target will remain the same.

SLO 3. The students will demonstrate proficiency in written communication of mathematical concepts.

Course Map: Tied to course syllabus below.

MATH 3100: Modern Algebra I
MATH 4950: Mathematics – A Capstone Course

Measure 3.1. (Direct – Skill/Activity)

MATH 3100 (Modern Algebra I) is the last required course before majors begin their upper-level elective courses in mathematics. Responses to questions on the final exam will be analyzed to determine if students are writing about mathematics at the appropriate level. Using the Unified Rubric for evaluating Written Communications of Mathematical Ideas, students are evaluated on two questions from their final exam using the Logical Rigor, Thoroughness and Depth, and Conventions sections of the rubric. Each category was scored from 1-3. The target is that 100% of students score at least 15 points out of 18 on the assessment and at least 75% score at least 17 out of 18.

Findings: Target not met.

Analysis: In AC 2023-2024 [the last year for which data is available], the target was not met. All (100% or 1 of 1) mathematics majors registered in the class scored 15 points out of 18 or better on the rubric, and 0% of students (0 of 1) scored 17 out of 18 or better.

Based on the analysis of the AC 2023-2024 data, in AC 2024-2025, faculty planned to give feedback on each of the three regular exams using the Unified Rubric for Written Communication in the Logical Rigor, Thoroughness and Depth, and Conventions section, but no students were enrolled in the course. The same strategies were employed in AC 2025 – 2026 and resulted in 100% of students (3 of 3 mathematics majors enrolled) scored at least 15 out of 18 points, but 0% (0 of 3 mathematics majors enrolled) scored at least 17 out of 18.

Decision In AC 2025-2026, the target was not met. Faculty will maintain the strategies planned for this year in AY 2026-2027. They will give feedback on homework monthly using the Unified Rubric for Written Communication in the Logical Rigor, Thoroughness and Depth, and Conventions sections. The targets will remain the same. The faculty believe these changes will contribute to greater student success in these areas.

Measure: 3.2. (Direct – Skill/Activity)

All mathematics majors take MATH 4950 either the last or next to last semester before graduation. This class involves an independent research project which culminates in a paper and a public presentation. Using the Unified Rubric for evaluating Written Communications of Mathematical Ideas, students are evaluated in all five categories: Context, Organization, Logical Rigor, Thoroughness and Depth, and Conventions; they are given a score of 1-4 in each category. The target is that 70% of students will score at least 18 out of 20 possible points.

Findings: No data was collected.

Analysis: In AC 2023-2024 [the last year for which data is available], the target was not met. The results measured were 0% of students (0 of 2 students registered for the course) scored 18 out of 20 or higher.

Based on the analysis of the AC 2023-2024 data, faculty planned to give students a report on their progress using the Unified Rubrics for Written Communication at 5 weeks, mid-

term, two weeks before the end of the semester, and at the completion of the course.

Unfortunately, no students enrolled in this course for AC 2024-2025 or in AC 2025-2026. As a result, in AC 2025-2026, there was no data to collect and no way to evaluate the proposed approaches. The dip in enrollment from previous years seems to be finally working its way through the system. There are 3 students preregistered for MATH4950 for Fall 2026, so results will be collected during the next AC.

Decision: In AC 2025-2026, there was no data to analyze. The strategies planned will be maintained for this year in AC 2026-2027. Students will receive a report on their progress using the Unified Rubrics for Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course. This is in addition to most of a class period near the beginning of the semester being devoted to discussing the Unified Rubric for Oral and Written Communications, and the level of mastery we are expecting them to display by the end of the course. The faculty believe these changes will contribute to greater student success in these areas. The target will remain the same.

SLO 4. Students will demonstrate proficiency in the use of technology for problem solving and communication.

Course Map: Tied to course syllabus below.

MATH 2110: Analytic Geometry and Calculus II
MATH 4950: Mathematics – A Capstone Course

Measure 4.1. (Direct – Skill/Activity)

MATH 2110 is the second semester of Calculus. The use of technology is integrated into this course. Using a standard instrument to assess competence with computer algebra systems and graphing calculators, the target is that 75% of students will demonstrate competence with these technologies.

Findings: Target met.

Analysis: In AC 2024-2025, the target was not met. Seventy-one percent (71% or 5 of 7) of mathematics majors enrolled in this course demonstrated competence.

Based on the analysis of AC 2024-2025 data, the faculty made the following changes in 2025-2026 to drive improvement. The faculty discussed the topics taught in MATH2110, the order in which they were covered, and the instrument used to evaluate calculator competency to ensure all these factors were in alignment with one another.

As a result, the target was met in AC 2025-2026 when 100% of students (7 of 7) demonstrated competence.

Decision: In AC 2025-2026, the target was met. Based on the analysis of the AC 2025 - 2026 results and to drive improvement in AC 2026-2027, faculty will reintegrate measurement of calculator competence into regular exams rather than using a stand-alone instrument. The faculty believe these changes will contribute to greater student success in these areas. The target will increase to 85% of students demonstrating competence.

Measure 4.2. (Direct – Skill/Activity)

All mathematics majors take MATH 4950 either the last or next to last semester before graduation. This class involves an independent research project which culminates in a paper and a public presentation using presentation software. Using the Unified Rubric for evaluating Oral Communications of Mathematical Ideas. Students were evaluated in all five categories: Organization, Central Message, Mathematics, Delivery, and Visual Support; they will be given a score of 1-4 in each category. For this measure, Organization and Visual Support will be used as they cover the technical aspects of the presentation. The target is that 90% of students will score at least 6 out of 8 points and 50% will score at least 7 out of 8 points.

Findings: No data was collected.

Analysis: In AC 2023-2024 [the last year for which data was available], the target was not met. Two-thirds (67% or 2 of 3) of the students registered scored 6 points or better and 67% of students (2 of 3) scored 7 or better.

Based on the analysis of the AC 2023-2024 data, the faculty planned to report to students on their progress using the Unified Rubrics for Oral Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.

Unfortunately, no students enrolled in this course for AC 2024-2025 or AC 2025-2026. As a result, in AC 2025-2026, there was no data to collect. The dip in enrollment from previous years seems to be finally working its way through the system. There 3 students preregistered for MATH4950 for Fall 2026, so results are expected during the next AC.

Decision: In AC 2025-2026, there was no data to analyze. The strategies will be maintained as planned in AC 2026-2027. Students will receive a report on their progress using the Unified Rubrics for Oral Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course. This will be in addition to the dedication of almost an entire class period near the beginning of the semester to discussing the Unified Rubric for Oral and Written Communications and the level of mastery expected of them by the end of the course. The faculty believe these changes will contribute to greater student success in these areas. The target will remain the same.

Measure 4.3. (Direct – Student Artifact)

All mathematics majors take MATH4950 either the last or next to last semester before graduation. This class involves an independent research project which culminates in a paper and a public presentation. Using the unified rubric for evaluating Written Communications of Mathematical Ideas, students were evaluated in all five categories: Context, Organization, Logical Rigor, Thoroughness and Depth, and Conventions; they will be given a score of 1-4 in each category. The categories in the rubric covering the technical aspects of writing are Context and Conventions. The target is that 70% of students will score at least 6 out of 8 possible points and 50% of students will score at least 7 of 8 points.

Findings: No data was collected.

Analysis: In AC 2023-2024 [the last year for which data is available], the target was not met. Half (50% or 1 of 2) of the students registered scored 6 points or better, and 0% of students (0 of 2 students registered) scored 7 or better.

Based on the analysis of the AC 2023-2024 data, faculty planned to report to students on their progress using the Unified Rubrics for Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.

Unfortunately, no students enrolled in this course for AC 2024-2025 or AC 2025-2026. As a result, in AC 2025-2026, there was no data to collect. The dip in enrollment from previous years seems to be finally working its way through the system. There are 3 students preregistered for MATH4950 for Fall 2026, so results are anticipated in the next AC.

Decision: In AC 2025-2026, there was no data to analyze. The strategies will be maintained as planned in AC 2026-2027. Students will receive a report on their progress using the Unified Rubrics for Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course. This will be in addition to the dedication of almost an entire class period near the beginning of the semester to discussing the Unified Rubric for Oral and Written Communications, and the level of mastery expected of them by the end of the course. The faculty believe these changes will contribute to greater student success in these areas. The target will remain the same.

SLO 5. Students will develop the ability to think in an analytical fashion.

Course Map: Tied to course syllabus below.

MATH 2080: Fundamentals of Proof
MATH 4950: Mathematics – A Capstone Course

Measure 5.1. (Direct - Skill)

MATH 2080 is the first course in the mathematics major where students are expected to write at length about mathematics. Responses to questions on the final exam in this course will be evaluated regarding whether the student can write about mathematics in a

clear and logically rigorous manner. Using the Unified Rubric for evaluating Written Communications of Mathematical Ideas, students are evaluated in the categories of Logical Rigor, Thoroughness and Depth, and Conventions with a score of 0-2 in each category. The target is that 90% of students will score 6 out of 6 possible points.

Findings: Target not met.

Analysis: In AC 2024-2025, the target was not met. Half (50% or 3 of 6) of the mathematics majors scored 6 out of 6 possible points.

Based on the analysis of the AC 2024-2025 results, faculty gave feedback on each of the three regular exams using the Unified Rubric for Written Communication in the Logical Rigor, Thoroughness and Depth, and Conventions sections and coached students who scored less than 6 out of 6.

As a result, in AC 2025-2026, the target was not met. None (0% or 0 of 4) of the mathematics majors scored 6 out of 6 possible points.

Decision: In AC 2025-2026, the target was not met. Based on the analysis of the AC 2025-2026 results and to drive improvement in AC 2026-2027, the faculty will begin giving monthly feedback on homework assignments using the Unified Rubric for Written Communication. The targets will remain the same. The faculty believe these changes will contribute to greater student success in these areas.

Measure 5.2. (Direct - Knowledge)

All mathematics majors take MATH 4950 either the last or next to last semester before graduation. This class involves an independent research project which culminates in a paper and a public presentation. Using the Unified Rubric for evaluating Written Communications of Mathematical Ideas, students were evaluated in all five categories: Context, Organization, Logical Rigor, Thoroughness and Depth, and Conventions and are given a score of 1-4 in each category. The categories covering analytical thinking are Organization, Logical Rigor, and Thoroughness and Depth. The target is that 90% of students will score at least 9 out of 12 and 75% will score at least 10 out of 12.

Findings: No data was collected.

Analysis: In AC 2023-2024 [the last year for which data was available], the target was not met. All (100% or 2 of 2) of the students registered scored 9 points or better, and 50% of students (1 of 2) scored 10 points or better.

Based on the analysis of the AC 2023-2024 data, faculty planned to give students a report on their progress using the Unified Rubrics for Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.

Unfortunately, no students enrolled in this course for AC 2024-2025 or AC 2025-2026. As a

result, in AC 2025-2026, there was no data to collect. The dip in enrollment from previous years seems to be finally working its way through the system. There are 3 students preregistered for MATH4950 for Fall 2026, so results are anticipated for the next AC.

Decision: In AC 2025-2026, there was no data to analyze. The strategies will be maintained as planned for this year in AC 2026-2027. Students will receive a report on their progress using the Unified Rubrics for Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course. This is in addition to the dedication of almost an entire class period near the beginning of the semester to discussing the Unified Rubric for Oral and Written Communications, and the level of mastery expected of them by the end of the course. The targets will remain the same. The faculty believe these changes will contribute to greater student success in these areas.

Comprehensive Summary of Key Evidence of Improvement Based on Analysis of Results. The following reflects all the changes implemented in AC 2025-2026 to drive the continuous process of seeking improvement. These changes are based on the knowledge gained through the analysis of AC 2024-2025 results. Note that due to there being no enrollment in MATH4950, there was no opportunity to implement and collect data on some of these approaches. Hence, these approaches will also appear as future plans.

- In MATH2110, senior faculty met to consider the topics taught in MATH2110, the order in which they are covered, and the instrument used to evaluate calculator competency, ensuring all factors are in alignment with one another.
- In MATH1010, faculty presented anonymized examples of presentations from previous classes that both meet and fall short of expectations during the lecture on constructing an effective PowerPoint presentation.
- Students in MATH2080 students began making presentations earlier in the semester to ensure each student gets to make presentations on multiple occasions.
- Also, in MATH2080, in addition to giving feedback on each of the three regular exams using the Unified Rubric for Written Communication in the Logical Rigor, Thoroughness and Depth, and Conventions sections, students who score below 6 out of 6 met with the faculty to receive specific feedback on how they could better meet the standards.
- Students in MATH3100 received feedback on each exam using the Unified Rubric for Written Communication.
- This strategy was based on data from AY 2023-2024, but it was unable to be implemented or for data to be collected based on no enrollment in the course. Students in MATH4950 will receive a report on their progress using the Unified Rubrics for Oral and Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.
- This strategy was based on data from AY 2023-2024, but it was unable to be implemented or for data to be collected based on no enrollment in the course. Test

taking strategies for the ETS major field exam will be discussed in MATH4950.

Plan of Action Moving Forward

- In MATH1010, faculty will present anonymized examples of presentations from previous classes that both meet and fall short of expectations during the lecture on constructing an effective PowerPoint presentation. Then students will then discuss how the under-scoring presentations might be improved.
- In MATH2110, evaluation of calculator competencies will be incorporated into regular assignments rather than in a stand-alone assessment.
- Students in MATH2080 students will begin making presentations earlier in the semester to ensure each student gets to make presentations on multiple occasions. Weaker students will be encouraged to present more often.
- Students in MATH2080 and 3100 will receive monthly feedback on their homework assignments using the Uniform Rubric for Written Communication.
- This strategy was based on data from AY 2023-2024, but it was unable to be implemented or for data to be collected based on no enrollment in the course. Students in MATH4950 will receive a report on their progress using the Unified Rubrics for Oral and Written Communication at 5 weeks, mid-term, two weeks before the end of the semester, and at the completion of the course.
- This strategy was based on data from AY 2023-2024, but it was unable to be implemented or for data to be collected based on no enrollment in the course. Test taking strategies for the ETS major field exam will be discussed in MATH4950.