

Mathematics (BA)

 Program-201

Annual Assessment Plan

1

2 4.1 - foundational content

Graduates will have demonstrated an understanding of the foundational content of mathematics. Foundational content is considered to be that outlined by published curriculum guidelines such as those of the Mathematical Association of America. Foundational proficiency includes completion of introductory courses in applied disciplines that are closely related to mathematics.

Outcome(s)

- 1** Choose one or more accreditor outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 2** Choose one or more Institution outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 3 Please Enter The Following Information Below:**

Measures - Need to name specific course/ required experience plus exact exam items, assignments, rubric lines, etc. used for the analysis of performance on the PLO.

Targets - Percentage of students expected to earn a particular score on the measure.

Timeline - The frequency with which the department will analyze and report student performance on the PLO.

Measures	Targets	Timeline
ETS Major Field Test	75%ile	Assessed annually as 3-year moving average
"Proficient"-level achievement or better across all "Introductory" course learning outcomes linked to the PLO.	75%	Assessed annually
"Proficient"-level achievement or better across all "Developing" course learning outcomes linked to the PLO.	80%	Assessed annually

Measures	Targets	Timeline
"Proficient"-level achievement or better across all "Mastery" course learning outcomes linked to the PLO.	85%	Assessed annually

- 4 **Results** - Please enter numeric results, indicating the number and percentage of student performance meeting the target. Record faculty discussion about the strengths and weaknesses in student performance. *Please see the May Development section on the Assessment of Student Learning website for suggestions about how to process assessment results.

Discrepancy between sample size PLOs within the same (e.g. MATH350 PLO1 and PLO3)

- 5 **Action Plans** - If student performance did not meet the target, identify specific improvement strategies to enact in the upcoming academic year. For example, add instruction on the topic, change an assignment, revise course requirements, revise objectives, identify additional support/resources for students.

Obtain Math Field Test results for Spring 2022

(NOTE: Mandy, who had the results, was not present)

- 6 **Closing the Loop** - If you entered action plans for the PLO last year, they will appear in the box below. Please explain what you did to accomplish the action plan this year, re-examine student performance, and determine the success of your action plan.

1. Appropriately adjust proficiency bar to a lower value than default
 2. Develop consistency across Calculus courses with preference for exams
- PROGRESS: No feedback from the math sub-group



3 4.3 - technology

Technology: Graduates will have demonstrated sufficient skill in using appropriate technology to enhance understanding of mathematics and related disciplines, to simplify computation, and to present work professionally.

Outcome(s)

1 Choose one or more accreditor outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

2 Choose one or more Institution outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

3 Please Enter The Following Information Below:

Measures - Need to name specific course/ required experience plus exact exam items, assignments, rubric lines, etc. used for the analysis of performance on the PLO.

Targets - Percentage of students expected to earn a particular score on the measure.

Timeline - The frequency with which the department will analyze and report student performance on the PLO.

Measures	Targets	Timeline
"Pro0ficient"-level achievement or better across all "Introductory" course learning outcomes linked to the PLO.	75%	Assessed annually
"Pro0ficient"-level achievement or better across all "Developing" course learning outcomes linked to the PLO.	80%	Assessed annually
"Pro0ficient"-level achievement or better across all "Mastery" course learning outcomes linked to the PLO.	85%	Assessed annually

- 4 **Results** - Please enter numeric results, indicating the number and percentage of student performance meeting the target. Record faculty discussion about the strengths and weaknesses in student performance. *Please see the May Development section on the Assessment of Student Learning website for suggestions about how to process assessment results.

No data

- 5 **Action Plans** - If student performance did not meet the target, identify specific improvement strategies to enact in the upcoming academic year. For example, add instruction on the topic, change an assignment, revise course requirements, revise objectives, identify additional support/resources for students.

- o MATH211 data exists for other PLOs but does not show as "No Data" for PLO3 for Act Sci

- 6 **Closing the Loop** - If you entered action plans for the PLO last year, they will appear in the box below. Please explain what you did to accomplish the action plan this year, re-examine student performance, and determine the success of your action plan.

No changes at this point.

4 **4.4 - employment**

Graduates will have demonstrated an awareness of options for employment, voluntary service, and/or graduate education in mathematics or closely related fields

Outcome(s)

- 1 Choose one or more accreditor outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 2 Choose one or more Institution outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 3 **Please Enter The Following Information Below:**

Measures - Need to name specific course/ required experience plus exact exam items, assignments, rubric lines, etc. used for the analysis of performance on the PLO.

Targets - Percentage of students expected to earn a particular score on the measure.

Timeline - The frequency with which the department will analyze and report student performance on the PLO.

Measures	Targets	Timeline
Employment and vocation related assignments in MATH 196	75%	Assessed annually
Employment and vocation related assignments in MATH 496	85%	Assessed annually

- 4 **Results** - Please enter numeric results, indicating the number and percentage of student performance meeting the target. Record faculty discussion about the strengths and weaknesses in student performance. *Please see the May Development section on the Assessment of Student Learning website for suggestions about how to process assessment results.

No row of data for PLO4

- 5 **Action Plans** - If student performance did not meet the target, identify specific improvement strategies to enact in the upcoming academic year. For example, add instruction on the topic, change an assignment, revise course requirements, revise objectives, identify additional support/resources for students.

Verify AEFIS linking is done properly

- 6 **Closing the Loop** - If you entered action plans for the PLO last year, they will appear in the box below. Please explain what you did to accomplish the action plan this year, re-examine student performance, and determine the success of your action plan.

Courses (Math 196, 496) have been updated in the program. Linkages will be completed next year.

5 **4.5 - faith**

Graduates will have articulated a maturing understanding of how faith connects to mathematics.

Outcome(s)

- 1 Choose one or more accreditor outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 2 Choose one or more Institution outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 3 **Please Enter The Following Information Below:**

Measures - Need to name specific course/ required experience plus exact exam items, assignments, rubric lines, etc. used for the analysis of performance on the PLO.

Targets - Percentage of students expected to earn a particular score on the measure.

Timeline - The frequency with which the department will analyze and report student performance on the PLO.

Measures	Targets	Timeline
Faith and vocation related assignments in MATH 196	75%	Assessed annually



Measures	Targets	Timeline
Faith and vocation related assignments in MATH 496	85%	Assessed annually

- 4 **Results** - Please enter numeric results, indicating the number and percentage of student performance meeting the target. Record faculty discussion about the strengths and weaknesses in student performance. *Please see the May Development section on the Assessment of Student Learning website for suggestions about how to process assessment results.

No comment from the math sub-group

- 5 **Action Plans** - If student performance did not meet the target, identify specific improvement strategies to enact in the upcoming academic year. For example, add instruction on the topic, change an assignment, revise course requirements, revise objectives, identify additional support/resources for students.

No comment from the math sub-group

- 6 **Closing the Loop** - If you entered action plans for the PLO last year, they will appear in the box below. Please explain what you did to accomplish the action plan this year, re-examine student performance, and determine the success of your action plan.

Courses (Math 196, 496) have been updated in the program. Linkages will be completed next year.

6 **4.2 - scholarship**

Graduates will have engaged in scholarship in mathematics, demonstrating the professional skills of independent problem-solving, self-directed research, and oral and written communication. The Department will provide the opportunity for scholarship activities in mathematics such as conference attendance and interdisciplinary Collaboratory projects and will inform students about potential professional pursuits such as article submission, summer research, and internships. These experiences are then expected to be shared with the campus and MPS community.

Outcome(s)

- 1 Choose one or more accreditor outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 2 Choose one or more Institution outcome that aligns with your Program Learning Outcome.

There is no selected outcome.

- 3 **Please Enter The Following Information Below:**

Measures - Need to name specific course/ required experience plus exact exam items, assignments, rubric lines, etc. used for the analysis of performance on the PLO.

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"Proficient"-level achievement or better across all "Mastery" course learning outcomes linked to the PLO.	85%	Assessed annually



- 4 **Results** - Please enter numeric results, indicating the number and percentage of student performance meeting the target. Record faculty discussion about the strengths and weaknesses in student performance. *Please see the May Development section on the Assessment of Student Learning website for suggestions about how to process assessment results.

Only 2020-2021 data was available

- 5 **Action Plans** - If student performance did not meet the target, identify specific improvement strategies to enact in the upcoming academic year. For example, add instruction on the topic, change an assignment, revise course requirements, revise objectives, identify additional support/resources for students.

- o Confirm that linking exists and is accurate for PLO2: MATH 496 (M), MATH 196 (I), MATH 198 (I)
- o Should course level objectives for MATH 196 and MATH 198 include a writing component? A writing assignment is completed, but no corresponding CLO exists.

- 6 **Closing the Loop** - If you entered action plans for the PLO last year, they will appear in the box below. Please explain what you did to accomplish the action plan this year, re-examine student performance, and determine the success of your action plan.

- 2 Holistic program improvement goals: Programs are expected to have at least one action plan to improve student learning annually. If you have not yet identified an action plan associated with this year's assessment results, or if the department has identified additional issues that require action plans, describe the specific, measurable action plan and its relation to evidence of student performance.

Assessment Rubric

- 1 **Process**

	1	2	3	4
Is the plan being implemented faithfully and revised as needed?	<input type="radio"/> Assessment plan is not implemented.	<input checked="" type="radio"/> Most aspects of plan are being implemented or all aspects are implemented to some degree.	<input type="radio"/> Assessment plan is fully implemented.	<input type="radio"/> Plan is faithfully executed and modified/evaluated as needed.

2 Explanations:

Plan is in place, assessment linking is not always in place...

3 Engagement

	1	2	3	4
Are all relevant parties are meaningfully involved in the creation/revision, implementation, analysis, interpretation and learning improvement process?	<input type="radio"/> Limited involvement beyond chair/director	<input type="radio"/> All educators contributing to the curriculum are aware of process and results	<input checked="" type="radio"/> All educators contributing to the curriculum participate in conversations regarding the use of assessment data to improve student learning	<input type="radio"/> All relevant stakeholders (students, employers, alumni) are meaningfully involved in the creation/revision, implementation, analysis, interpretation, and/or improvement processes associated with this assessment plan.

4 Explanations:

Good engagement from the Math subgroup

5

Program Learning Objectives

	1	2	3	4
<p>Are the program learning objectives clear, measurable, aligned with ULOs/GLOs, and representative of the range of learning for that major/program?</p>	<p></p> <p>PLOs are problematic (vague, abstract, not aligned with ULOs/GLOs) or missing.</p>	<p></p> <p>PLOs are clear, mostly measurable, partially aligned with ULOs/GLOs.</p>	<p></p> <p>PLOs are clear, measurable, aligned with ULOs/GLOs, and represent a summary of the knowledge, skills, beliefs, and values that a graduate of this major/program should attain by completing the required curriculum, accounting for variations in learning outcomes due to tracks/concentrations</p>	<p></p> <p>PLOs are clear, measurable, aligned with ULOs/GLOs, and representative of the range of learning students achieve through completion of the program. The learning objectives provide a comprehensive view of the knowledge, skills, beliefs, and values that are important for a graduate of this major/program and account for variations in learning outcomes due to tracks/concentrations.</p>

6 Explanations:

PLOs are good. Assessment linking is not as good...

7

Measures

	1	2	3	4
<p>Are the instruments used to assess learning relevant to the objective? Do measures yield information/data you can use to drive improvement?</p>	<p><input checked="" type="radio"/></p> <p>Not all objectives have a measure identified. OR Measures do not directly connect to the objectives.</p>	<p><input type="radio"/></p> <p>All objectives have at least one direct measure. Measures connect to learning objectives superficially or tangentially and/or include learning other than stated objectives. Relies almost exclusively on the same form of assessment (survey, exam, project). Relies almost exclusively on data from a single source (course, program, activity).</p>	<p><input type="radio"/></p> <p>All objectives have at least one direct measure. Some objectives have multiple measures. Measures clearly connect to learning objectives. And two of the following four criteria: Objective measures more than one point in time (formative). Indirect measure are used strategically. Plan Incorporates different forms of assessment (survey, exam, project). Plan incorporates from a variety of sources (course, program, activity).</p>	<p><input type="radio"/></p> <p>Measures meet all of the following criteria: All objectives have at least one direct measure. Some objectives have multiple measures. Measures clearly connect to learning objectives. Objectives measured more than one point in time (formative). Indirect measures are used strategically. Plan incorporates different forms of assessment (survey, exam, project). Plan incorporates data from a variety of sources (course, program, activity).</p>





8

Explanations:

We have a lot of work to do here...

9

Targets

	1	2	3	4
<p>Are the targets based on professional standards and/or analysis of past student work? Are targets challenging and achievable?</p>	<p style="text-align: center;"></p> <p>Some targets are missing.</p>	<p style="text-align: center;"></p> <p>Targets are arbitrarily chosen or reflect minimal expectations.</p>	<p style="text-align: center;"></p> <p>Targets are challenging and achievable based on prior student performance, and reflect an appropriate level of performance.</p>	<p style="text-align: center;"></p> <p>Targets are challenging and achievable. Targets are based on professional standards and/or prior student performance. Targets are set at a level to inspire program improvement.</p>

10 Explanations:

Hard to tell how good the targets are without good data...

11 Timeline

	1	2	3	4

	1	2	3	4
<p>Is the timeline for data collection manageable with sufficient data points to effectively inform decision making and program review?</p>	<p><input type="radio"/></p> <p>Not identified clearly for all measures.</p>	<p><input type="radio"/></p> <p>Clearly states semester/year for each objective/measure. Data analysis delayed from data collection. Time between collection points may not facilitate informed decision making.</p>	<p><input type="radio"/></p> <p>Clearly stated and manageable schedule. At least two data points for each objective per review cycle.</p>	<p><input checked="" type="radio"/></p> <p>Timeline for data collection is manageable and allows for continuous improvement with timely and meaningful decision making even before program review.</p>

12 Explanations:

No issues with the timelines

13 **Action Plan**

	1	2	3	4





	1	2	3	4
<p>Is the department effectively examining and using assessment data to revise curriculum and pedagogy to support student learning?</p>	<p>Assessment data not collected/analyzed/used for decisions and/or results not documented in AEFIS.</p>	<p>Data collected, documented and discussed by department. Department reviewed confidence in measures and data as sufficient indicators of student performance. If data indicated changes were needed, action plans were developed in consultation with dean (e.g. improving outcomes, measures, targets, curriculum or pedagogy).</p>	<p>Data collected, documented and discussed by department. Department and dean confirmed confidence in measures and data as sufficient indicators of student performance. Action plans (e.g. improving outcomes, measures, targets, curriculum or pedagogy) developed in consultation with dean. If prior year data warranted action plans, the department implemented the changes.</p>	<p>Department collected and discussed follow-up data after the implementation of action plans in order to determine whether changes resulted in improvement or whether additional action is necessary. Data confirms effective curriculum and pedagogy for learning outcomes. Score of 4 should be assigned only if objectives, measures, targets and timeline all score a 4.</p>

14 Explanations:

We need to collect relevant data before we can form action plans

15 **Dissemination**

	1	2	3	4

	1	2	3	4
<p>Is the department communicating learning objectives, results and improvements related to student learning to a wide audience?</p>	<p></p> <p>No record of assessment results and changes made as a result of assessment findings.</p>	<p></p> <p>The department/program retains records of assessment results and positive changes made as a result of assessment findings, and results are entered in assessment software system.</p>	<p></p> <p>The department/program retains records of assessment results and changes made as a result of assessment findings, results are entered in assessment software system, and assessment results and improvements are publicly posted.</p>	<p></p> <p>The department/program retains records of assessment results and changes made as a result of assessment findings, and results are entered in assessment software system. Assessment results and improvements are publicly posted and shared proactively with faculty, prospective students, employers and alumni in ways that facilitate their discussion.</p>

16 Explanations:

Who are we supposed to communicate to?

Additional Feedback

1 Please enter any additional feedback for changes that should be made:

CLOSE AND EXIT

