

2021-2022 Assessment Cycle

Assessment Plan

Mission Statement

The mission of the Department of Mathematics and Statistics is to ensure all mathematics majors obtain a comprehensive knowledge of mathematics in terms of content, problem solving, analytical skills, and abstract mathematical reasoning. All mathematics majors will be able to communicate their skills and knowledge effectively and will be able to make appropriate choices regarding the method of solution and presentation of problems. We are committed to providing high-quality instruction at all levels, in our developmental, lower division, General Education, and upper-division courses. Further, the department is committed to providing service to the community and our profession in a variety of ways, including a number of on-campus programs for grade 6-16 learners, professional consultations, involvement in professional organizations, and other outreach activities.

Measures

BA/BS-Pure Math Outcome Set

PSLO 1

Outcome: Ability to solve a variety of problems in mathematics

Students will solve a variety of problems in mathematics including calculus, probability and statistics, and linear algebra.

▼ **Measure:** Anonymous portion of Exit Interview

Program level Indirect - Survey

Details/Description:

Anonymous portion of Senior exit interviews

Acceptable Target:

70% of the students responding to the anonymous portion of the exit interview will indicate "Good",

“Very Good”, or “Excellent” on questions related to this PSLO.

Supporting Attachments:

 2021-2022 Compiled Anonymous responses.docx (Word Document (Open XML))

▼ **Measure:** Course Assignment
Course level Direct - Student Artifact

Details/Description: Specified assignments in MA 151
Acceptable Target: 70% of all students completing MA 151 will obtain an average of 2.5 (out of 4) on specified assessment assignments using the Departmental rubric.

Supporting Attachments:

 Assignment Rubric (Adobe Acrobat Document)

 MA 151-Spring 2022-Assessment Data-names removed.xlsx (Excel Workbook (Open XML))

 MA-151-F21-Assessment Data-names removed.xlsx (Excel Workbook (Open XML))

▼ **Measure:** Course Grades
Course level Direct - Other

Details/Description: Overall course grades in MA 151, MA 152, MA 253, MA 207, MA 301, MA 340, MA 341, MA 346
Acceptable Target: 70% of all students completing the respective courses will obtain a C or better in the course.

Supporting Attachments:

 Final Grade Dist Comp SP 22.xlsx (Excel Workbook (Open XML))

 Final Grade Dist FA 21.xlsx (Excel Workbook (Open XML))

▼ **Measure:** Exit Interviews
Program level Indirect - Interview

Details/Description:	Senior exit interviews
Acceptable Target:	No more than 20% of the students responding will mention this as a concern during their free-response exit interview.

Supporting Attachments:

 2021-2022 Compiled responses.docx (Word Document (Open XML))

PSLO 2

Outcome: Ability to write mathematical proofs

Students will write mathematical proofs and solve challenging problems both pure and applied.

▼ **Measure:** Anonymous portion of Exit Interview
Program level Indirect - Survey

Details/Description:	Anonymous portion of Senior exit interviews
Acceptable Target:	70% of the students responding to the anonymous portion of the exit interview will indicate “Good”, “Very Good”, or “Excellent” on questions related to this PSLO.

Supporting Attachments:

 2021-2022 Compiled Anonymous responses.docx (Word Document (Open XML))

▼ **Measure:** Course Assignment
Course level Direct - Exam

Details/Description: Specified final exam problems in MA 207, MA 354, MA 371 and MA 372

Acceptable Target: 70% of all students completing MA 207, MA 354, MA 371, and MA 372 will have an average of 2.5 (out of 4) on select final exam proof problems using the Departmental rubric.

Supporting Attachments:

 Assignment Rubric (Adobe Acrobat Document)

 MA 207-Spring 2022-Assessment Data--names removed.xlsx (Excel Workbook (Open XML))

 MA-354-F21-Assessment Data-names removed.xlsx (Excel Workbook (Open XML))

▼ **Measure:** Course Grades
Course level Direct - Other

Details/Description: Overall course grades in MA 207, MA 301, MA 340, MA 341, MA 346, MA 344, MA 354, MA 371, MA 372, MA 380

Acceptable Target: 70% of all students completing the respective courses will obtain a C or better in the course.

Supporting Attachments:

 Final Grade Dist Comp SP 22.xlsx (Excel Workbook (Open XML))

 Final Grade Dist FA 21.xlsx (Excel Workbook (Open XML))

▼ **Measure:** Exit Interviews
Program level Indirect - Interview

Details/Description:	Senior exit interviews
Acceptable Target:	No more than 20% of the students responding will mention this as a concern during their free-response exit interview.

Supporting Attachments:

 2021-2022 Compiled responses.docx (Word Document (Open XML))

PSLO 3

Outcome: Ability to communicate mathematics

Students will communicate mathematics both orally and in writing.

▼ **Measure:** Anonymous portion of Exit Interview
Program level Indirect - Survey

Details/Description:	Anonymous portion of Senior exit interviews
Acceptable Target:	70% of the students responding to the anonymous portion of the exit interview will indicate “Good”, “Very Good”, or “Excellent” on questions related to this PSLO.

Supporting Attachments:

 2021-2022 Compiled Anonymous responses.docx (Word Document (Open XML))

▼ **Measure:** Course Assignment
Course level Direct - Student Artifact

Details/Description: Specified assessment assignments in MA 354 and MA 371

Acceptable Target: 70% of all students completing MA 354 and MA 371 will have an average of 2.5 (out of 4) on specified assessment assignments using the Departmental rubric.

Supporting Attachments:

 Assignment Rubric (Adobe Acrobat Document)

 MA-354-F21-Assessment Data.xlsx (Excel Workbook (Open XML))

▼ **Measure:** Course Grades
Course level Direct - Other

Details/Description: Overall course grades in MA 354, MA 371, MA 388

Acceptable Target: 70% of all students completing the respective courses will obtain a C or better in the course. 70% of students completing MA 388 will receive credit for the course.

Supporting Attachments:

 Final Grade Dist Comp SP 22.xlsx (Excel Workbook (Open XML))

 Final Grade Dist FA 21.xlsx (Excel Workbook (Open XML))

▼ **Measure:** Exit Interviews
Program level Indirect - Interview

Details/Description: Senior exit interviews

Acceptable Target: No more than 20% of the students responding will mention this as a concern during their free-response exit interview.

Supporting Attachments:

 2021-2022 Compiled responses.docx (Word Document (Open XML))

▼ **Measure:** Project Evaluation
Course level Direct - Student Artifact

Details/Description: Capstone project

Acceptable Target: 70% of all students completing MA 388 will receive a 2.5 (out of 4) on their semester-long project, which includes a written report and oral presentation, using the Departmental rubric.

Supporting Attachments:

 Assignment Rubric (Adobe Acrobat Document)

 MA 388 Assessment F21.xlsx (Excel Workbook (Open XML))

PSLO 4

Outcome: Ability to identify and utilize appropriate practices and tools

Students will identify and utilize the appropriate practices and tools, including the use of technology, to solve mathematics problems.

▼ **Measure:** Anonymous portion of Exit Interview
Program level Indirect - Survey

Details/Description: Anonymous portion of Senior exit interviews

Acceptable Target: 70% of the students responding to the anonymous portion of the exit interview will indicate “Good”, “Very Good”, or “Excellent” on questions related to this PSLO.

Supporting Attachments:

 2021-2022 Compiled Anonymous responses.docx (Word Document (Open XML))

▼ **Measure:** Course Assignment
Course level Direct - Student Artifact

Details/Description: Specified assessment assignments in MA 253, MA 340, MA 341, and MA 346

Acceptable Target: 70% of all students completing MA 253, MA 340, MA 341, and MA 346 will obtain a score of 2.5 (out of 4) on their courses’ respective projects using the Departmental rubric.

Supporting Attachments:

 MA 253 F21 and SP22.xlsx (Excel Workbook (Open XML))

 MA 340-Spring 2022-Assessment Data.xlsx (Excel Workbook (Open XML))

 Rubric for MA 253.docx (Word Document (Open XML))

▼ **Measure:** Course Grades
Course level Direct - Other

Details/Description: Overall course grades in MA 253, MA 301, MA 340, MA 341, MA 346

Acceptable Target: 70% of all students completing the respective courses will obtain a C or better in the course.

Supporting Attachments:

 Final Grade Dist Comp SP 22.xlsx (Excel Workbook (Open XML))

 Final Grade Dist FA 21.xlsx (Excel Workbook (Open XML))

▼ **Measure:** Exit Interviews
Program level Indirect - Interview

Details/Description: Senior exit interviews

Acceptable Target: No more than 20% of the students responding will mention this as a concern during their free-response exit interview.

Supporting Attachments:

 2021-2022 Compiled responses.docx (Word Document (Open XML))

Analysis and Reporting Calendar

In previous years, we collected data and analyzed the PSLOs on a rotating every other year basis. This year, we are analyzing all of the PSLOs. This is because the Education Department requested the information for all PSLOs for our Secondary Education track. Since there is overlap with that track and this track, we have decided

to analyze all PSLOs for this track as well.

Stakeholder Involvement

Departmental members actively participate in local, regional, and national professional organizations. Departmental members are involved in the Mathematical Association of America (MAA), American Statistical Association (ASA), the National Council of Teachers of Mathematics (NCTM), the Kansas Association of Teachers of Mathematics (KATM), the Northeast Kansas Association of Teachers of Mathematics (NEKATM), and American Mathematical Society (AMS). The Department pays close attention to curricular recommendations by these organizations and makes changes accordingly when needed.

The Mathematics Department contacts all graduating seniors to schedule exit interviews. Interview questions ask students for feedback on requirements for the major and if there are any suggestions for change. Exit interview questions also ask students if our program adequately prepared them for a job and/or graduate school and if not, asks for suggestions on change.

The Department stays in contact with our alumni through our newsletter, Slice of Pi. The newsletter reports on student and faculty accomplishments.

The syllabi for math courses in the major state the learning outcomes satisfied by the course, the assessment measures for the course, and aggregate data indicating whether the measures had been satisfied in previous semesters.

Mathematics faculty who regularly teach courses for the Program meet periodically to review and, if necessary, change the Program Assessment Plan. Instructors of courses in the Program are responsible for collecting, analyzing and reporting data to the Department Assessment Liaison. Results of the Assessments are made available to Department Faculty and discussed at a Department meeting. Mathematics faculty who regularly teach courses for the Program meet to review and, if necessary, change the Program Assessment Plan. Instructors of courses in the Program are responsible for collecting, analyzing and reporting data to the Department Assessment Liaison. Results of the Assessments will be made available to Department Faculty and discussed at a Department meeting. Additional meetings to specifically address Assessment results will be held if needed.

Program Assessment Plan Review Cycle

The Program Assessment Plan is reviewed every year. Recent changes to the Assessment Plan were made in FY18 and FY22.

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