



2016-2021 Assessment Plan

Approved December 7, 2015

With regard to student learning, the goals of the Department of Mathematics are to develop, in all of our majors, both (1) relevant content knowledge, and (2) productive beliefs about mathematics. These goals are supported and assessed by the following student learning outcomes.

SLO 1 (all majors): All mathematics majors will demonstrate significant growth in their views about the nature of mathematics and their attitudes toward mathematics.

- Measure 1: Attitudes Toward Mathematics Inventory (ATMI), administered in both MTH 210 and MTH 495 or MTH 496

Baseline and target: Determined based on initial implementation of survey during 16-17 academic year

- Measure 2: Views About Mathematics Survey (VAMS), administered in both MTH 210 and MTH 495 or MTH 496

Baseline and target: Determined based on initial implementation of survey during 16-17 academic year

SLO 2 (non-certification emphasis): Mathematics majors in the non-certification emphasis will demonstrate an ability to reason abstractly, apply complex definitions and theorems, construct precise mathematical arguments, and communicate their reasoning effectively.

- Measure 1: Instructor evaluation of all students in MTH 408, based on course assignments and common rubric

Baseline and target: Determined based on initial implementation during 16-17 academic year

- Measure 2: Instructor evaluation of all students in MTH 495, based on course assignments and common rubric

Baseline and target: Determined based on initial implementation of assessment during 16-17 academic year

SLO 3 (elementary certification emphasis): Mathematics majors in the elementary certification emphasis will demonstrate knowledge of mathematics content relevant to teaching K-8 mathematics.

- Measure 1: Michigan Test for Teacher Certification overall and subarea pass rates

Baseline: The following baseline data is from our recent CAEP accreditation report.

- Current annual overall pass rates (2011-2015) range from 81% to 95%.
- Current annual pass rates for the data analysis, statistics, probability, and discrete mathematics subarea range from 68% to 85%.
- *Note:* We are focusing on the data analysis, statistics, probability, and discrete mathematics subarea due to this area having the lowest pass rates in recent years.

Target:

- Overall: 97% pass rate
- Data analysis, statistics, probability, and discrete mathematics subarea: 90% pass rate

- Measure 2: CAEP assessment project administered in MTH 323

Baseline and target: Determined upon completion of 2016 CAEP accreditation report (drawn from sub-elements 3a, 3f, 3g and 5c of the CAEP Standards for Middle School Mathematics, with a goal of at least 85% of students meeting proficient or above.)

SLO 4 (secondary certification emphasis): Mathematics majors in the secondary certification emphasis will demonstrate knowledge of mathematics content relevant to teaching secondary mathematics

- Measure 1: Michigan Test for Teacher Certification overall and subarea pass rates

Baseline: The following baseline data is from our recent CAEP accreditation report.

- Current annual overall pass rates (2011-2015) range from 94% to 100%.
- Current annual pass rates for the geometry subarea range from 66% to 86%.
- *Note:* We are focusing on geometry subarea due to this area having the lowest pass rates in recent years.

Target:

- Overall: 97% pass rate
- Geometry subarea: 90% pass rate

- Measure 2: Geometry portion of MTH 341/345 CAEP assessment

Baseline and target: Determined upon completion of 2016 CAEP accreditation report (drawn from sub-elements A.3.1, A.3.2, A.3.8, A.3.9, and A.3.10 of the CAEP Secondary Standards, with a goal of at least 90% of students meeting proficient or above.)