

Assessment: Assessment Plan

Degree Program - AS - Mathematics (MS)

CIP Code: 27.0101.00

Degree Program Coordinator: Alex Wang

Degree Program Coordinator Email: alex.wang@ttu.edu

Degree Program Coordinator Phone: 8068347626

Program Purpose Statement: M.S. Degree in Mathematics. The M.S. program consists of 36 hours of graduate work, including 3 hours of credit for a departmental report, or 30 hours of graduate work including 6 hours of credit for the master's thesis. The student must complete at least two of the core sequences listed on the Ph.D. program for the 36-hour plan and at least one of the core sequences for the 30-hour plan. In the 36-hour plan a minor of 9 hours is permitted and in the 30-hour plan a minor of 6 hours is permitted. In each case the minor must be approved by the graduate advisor.

Modality: Face-to-Face

Student Learning Outcome: Analysis

Students will solve problems and write proofs using the theory of metric spaces, L_p spaces, and measures.

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/01/2016

Assessment Methods

Exam - The students' abilities to solve problems using metric spaces will be assessed using embedded questions on the final exam in Math 5319. One or more problems on the final exam will be graded using the following rubric:

4 points: The solution is complete and correct.

3 points: The solution is missing a minor element or is incorrect in a minor point.

2 points: The solution is missing a major element or is incorrect in one major point.

1 point: The solution is missing more than one major element or is incorrect in more than one major point.

We have set our benchmark based on several years' data on student performance on this assessment. The benchmark is re-assessed each year to ensure it is both reasonable and provides an aspirational target for continuous improvement in student learning. (Active)

Criterion: The average score will be at least 2.5.

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Schedule: Begin Fall 2016.

Exam - The students' abilities to solve problems using measures and L_p spaces will be assessed using embedded questions on the final exam in Math 5323. One or more problems on the final exam will be graded using the following rubric:

4 points: The solution is complete and correct.

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- 3 points: The solution is missing a minor element or is incorrect in a minor point.
- 2 points: The solution is missing a major element or is incorrect in one major point.
- 1 point: The solution is missing more than one major element or is incorrect in more than one major point.

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Schedule: Begin Fall 2016.

Student Learning Outcome: Algebra and Topology

Students will solve problems and write proofs in algebra and topology.

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/01/2016

Assessment Methods

Exam - The students' abilities to solve problems using algebra will be assessed using embedded questions on the final exam in Math 5317. One or more problems on the final exam will be graded using the following rubric:

- 4 points: The solution is complete and correct.
- 3 points: The solution is missing a minor element or is incorrect in a minor point.
- 2 points: The solution is missing a major element or is incorrect in one major point.
- 1 point: The solution is missing more than one major element or is incorrect in more than one major point.

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Criterion: The average score will be at least 2.5.

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Schedule: Begin Fall 2016.

Exam - The students' abilities to solve problems using topology will be assessed using embedded questions on the final exam in Math 5315. One or more problems on the final exam will be graded using the following rubric:

- 4 points: The solution is complete and correct.
- 3 points: The solution is missing a minor element or is incorrect in a minor point.
- 2 points: The solution is missing a major element or is incorrect in one major point.
- 1 point: The solution is missing more than one major element or is incorrect in more than one major point.

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Criterion: The average score will be at least 2.5.

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Schedule: Begin Fall 2016.

Student Learning Outcome: Modeling

Students will solve problems and write proofs using statistical and numerical models

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/01/2016

Assessment Methods

Exam - The students' abilities to solve problems using statistical models will be assessed using embedded questions on the final exam in STAT 5329. One or more problems on the final exam will be graded using the following rubric:

4 points: The solution is complete and correct.

3 points: The solution is missing a minor element or is incorrect in a minor point.

2 points: The solution is missing a major element or is incorrect in one major point.

1 point: The solution is missing more than one major element or is incorrect in more than one major point.

We have set our benchmark based on several years' data on student performance on this assessment. The benchmark is re-assessed each year to ensure it is both reasonable and provides an aspirational target for continuous improvement in student learning. (Active)

Criterion: The average score will be at least 2.5.

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Schedule: Begin Fall 2016.

Exam - The students' abilities to solve problems using numerical models will be assessed using embedded questions on the final exam in Math 5335. One or more problems on the final exam will be graded using the following rubric:

4 points: The solution is complete and correct.

3 points: The solution is missing a minor element or is incorrect in a minor point.

2 points: The solution is missing a major element or is incorrect in one major point.

1 point: The solution is missing more than one major element or is incorrect in more than one major point.

We have set our benchmark based on several years' data on student performance on this assessment. The benchmark is re-assessed each year to ensure it is both reasonable and provides an aspirational target for continuous improvement in student learning. (Active)

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Schedule: Begin Fall 2016.