

Assessment: Assessment Plan

Degree Program - AS - Mathematics (PHD)

CIP Code: 27.0101.00

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Modality: Face-to-Face

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 5327. 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.

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.

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 5325. 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.

We have set our benchmark based on several years' data on student performance on this assessment. The benchmark is re-

Degree Program - AS - Mathematics (PHD)

assessed each year to ensure it is both reasonable and provides an aspirational target for continuous improvement in student learning.

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.

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.

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)

Criterion: The average score will be at least 2.5.

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.

Schedule: Begin Fall 2016.

Student Learning Outcome: Produce and Disseminate Quality Research

Degree Program - AS - Mathematics (PHD)

Students will conduct and disseminate research

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/01/2017

Assessment Methods

Survey - Student - Students will submit their work to peer-reviewed journals and conference proceedings. (Active)

Criterion: Our survey will collect data on at least 15 submissions.

We have set our benchmark based the fact that in recent years, we have been producing at least 15 PhD graduates and each graduate should publish at least 1 paper from their research. The benchmark is re-assessed each year to ensure it is both reasonable and provides an aspirational target for continuous improvement in student learning.

Schedule: Begin Sept 1, 2017

Survey - Student - Students will give talks at conferences to present their research. (Active)

Criterion: Our survey will collect data on at least 15 talks.

We have set our benchmark based the fact that in recent years, we have been producing at least 15 PhD graduates and each graduate should give at least 1 talk based on their research. The benchmark is re-assessed each year to ensure it is both reasonable and provides an aspirational target for continuous improvement in student learning.

Schedule: Begin September 1, 2017

Survey - Student - Students will present posters on their research at conferences. (Active)

Criterion: Our survey will collect data on at least 10 poster presentations.

We have set our benchmark based the fact that in recent years, we have been producing at least 15 PhD graduates. Many areas of pure mathematics do not traditionally present research via posters, while it is much more common in applied mathematics. Thus we expect it would be appropriate for around 2/3 of our students to present their research via poster presentations. The benchmark is re-assessed each year to ensure it is both reasonable and provides an aspirational target for continuous improvement in student learning.

Schedule: Begin September 1, 2017

Student Learning Outcome: Real and Complex Analysis

Students will solve problems and write proofs using real analysis and complex analysis.

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/01/2016

Assessment Methods

Exam - The students' abilities to solve problems using real analysis 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.

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

Degree Program - AS - Mathematics (PHD)

learning. (Active)

Criterion: The average score will be at least 2.5.

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.

Schedule: Begin Fall 2016.

Exam - The students' abilities to solve problems using complex analysis will be assessed using embedded questions on the final exam in Math 5321. 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.

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.

Schedule: Begin Fall 2016.