Fall 2014

Mathematics Discipline 3-Year Assessment Plan 2014-2017

Mathematics Discipline

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### University of Minnesota, Morris
#### Academic Program Assessment Plan

<table>
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<th>Academic Program: Mathematics</th>
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<tr>
<td>Academic Division: Science and Mathematics</td>
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<tr>
<td>Program Contact:</td>
</tr>
<tr>
<td>Name: Barry R McQuarrie</td>
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</tbody>
</table>

In the space below, list your Program Student Learning Outcomes (PSLOs):

The mathematics curriculum is designed to

- provide students with the basic knowledge and skills to make mathematical contributions to modern society,
- help students develop competence in problem-solving, mathematical techniques and methods, and quantitative literacy,
- sharpen students' mathematical intuition and abstract reasoning,
- encourage and stimulate the type of independent and critical thinking required for research beyond the confines of the textbook,
- enable students to do in-depth and independent mathematics-related research projects that require students to integrate their mathematical knowledge from different areas, and to enhance their communication skills by way of written reports and oral presentations.

The curriculum prepares students to enter graduate school, pursue careers in applied mathematics, or teach mathematics.
### Program Student Learning Outcome(s) to be assessed

<table>
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<tr>
<th>Program</th>
<th>Outcome(s) to be assessed</th>
<th>How will you measure the outcome?</th>
<th>Where will the data be collected and by whom?</th>
<th>When will the data be collected?</th>
<th>Overlap with CSLOs?* If yes, which CSLO?</th>
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| 2014-15 | enable students to do in-depth and independent mathematics-related research projects that require students to integrate their mathematical knowledge from different areas, and to enhance their communication skills by way of written reports and oral presentations | **Math 4901 Senior Seminar** Outcome is measured using rubrics, for both oral presentation and written paper. Results from all participating instructors will be shared with Discipline Assessment Coordinator who will create final report and summary of Faculty Meeting when all presentations are complete. Data Collection:  
  - Whom: Discipline Assessment Coordinator  
  - Where: During students’ oral presentations each faculty assesses each student’s oral presentation  
  - When: Fall 2014 & Spring 2015 | | | 1. Knowledge of Human Cultures and the Physical and Natural World  
  2. Intellectual and Practical Skills  
  4. Capacity for Integrative Learning |
| 2015-16 | help students develop competence in problem-solving, mathematical techniques and methods, and quantitative reasoning | **Math 1102 Calculus II OR Math 2111 Linear Algebra** Outcome is measured using a simple rubric (to be developed). Results from all participating instructors will be shared with Discipline Assessment Coordinator who will create final report. Data Collection:  
  - Whom & Where: Course Instructors while they are teaching the course  
  - When: Fall 2015 | | | 1. Knowledge of Human Cultures and the Physical and Natural World  
  2. Intellectual and Practical Skills  
  4. Capacity for Integrative Learning |
| 2016-17 | sharpen students' mathematical intuition and abstract reasoning | **Math 2202 Math Perspectives OR Math 3231 Analysis OR Math 3231 Abstract Algebra** Outcome is measured using a simple rubric (to be developed). Results from all participating instructors will be shared with Discipline Assessment Coordinator who will create final report. Data Collection:  
  - Whom & Where: Course Instructors while they are teaching the course  
  - When: Fall/spring 2016 | | | 1. Knowledge of Human Cultures and the Physical and Natural World  
  2. Intellectual and Practical Skills  
  4. Capacity for Integrative Learning |

*Your PSLOs need not overlap with CSLOs, but if your PSLO does reinforce or overlap with a CSLO, please report that information.
Please report any other planned assessment for your academic program in the space below:

We will continue to track the effectiveness of
- the math placement exam,
- the lower level prerequisites (Math 0901, 1012, 1013).