2006-2007 Annual Assessment of Student Learning In the Degree Program
Progress Report

Department: Mathematical Sciences          Head: Patrick Morandi

Program: Master’s and Ph.D. in Mathematics

Level (circle or delete one): Graduate

Person compiling report: Patrick Morandi     Title: Professor and Department Head

1. Please present an outline of your department’s assessment activities (in the context of
your assessment plan) for the 2006-2007 academic year. This may include developing an
assessment plan; implementation of a plan; using information gathered to make decisions
in the program; or all three – please be specific.

The Department of Mathematical Sciences collects assessment data by distributing
questionnaires to examiners during Master’s Final Oral Exams, Ph.D. Oral
Comprehensive Exams, and Ph.D. Dissertation Defense Exams, and by having instructors
fill out a questionnaire for each mathematics graduate student in his/her course. These
questionnaires are given near the end of each semester and tabulated. Departmental
committees discuss the data and decide if they indicate changes needed in our programs.

In summary, please list direct, verses indirect measures of student learning used below:

Direct – documented evidence of student performance on specific tasks; methods that
require systematic criteria, standards of performance, and faculty review processes.
(Ex: test questions, presentations, reports, licensure exams, professional exams,
portfolios)

homework and quiz grades, in-class presentations, seminar presentations, exams.

Indirect – evidence that indirectly affects student learning, such as attitudes &
perceptions.
(Ex: student satisfaction surveys, exit interview, graduation rates, employment rates,
etc.)

meetings, instructor impressions
2. Please reflect on the evidence you have collected, and how you have used that information to help improve/sustain student learning in your program, and/or how this information impacted decision-making in your department. (*This is of primary importance.*)

The data from the oral exam questionnaires yield the following average responses, out of a five point scale:

- Master’s Final Oral: 4.1 (30 responses)
- Ph.D. Oral Comprehensive: 4.33 (6 responses)

On the instructor questionnaire for Master’s students, Questions 3 and 4 are not relevant for outcomes assessment, along with Question 3 for the questionnaire for Ph.D. Students. Average responses or yes/no totals are as follows.

**Master’s Students** (45 responses)

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>3.73</td>
<td>3.82</td>
<td>25 Yes, 7 No</td>
</tr>
</tbody>
</table>

**Ph.D. Students** (66 responses)

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>4.09</td>
<td>4.46</td>
<td>43 Yes, 0 No</td>
<td>17 Yes, 1 No</td>
<td>25 Yes, 2 No</td>
</tr>
</tbody>
</table>

Based on our assessment data, while we were satisfied with the data. However, we decided that our first-year courses in algebra should be restructured, and we have carried out that change. We are in the process of reviewing our first-year analysis courses to determine if changes should be made.

3. Please identify any concerns or successes that came to light during this process, that have prompted your department to consider and/or implement changes to the assessment plan/process itself.

We decided that the information we received on our questionnaires given out during oral exams did not give us enough information. We thus developed a questionnaire to gather data on students from their instructors, and have begun to get instructors to fill out these questionnaires. We are getting much more data now, and we expect that this will help us to make better decisions about program changes. However, we found that instructors fill out the questionnaires in different ways. Consequently, we need to reformat them in order to have more uniformity in how they are filled out.
If applicable, please briefly outline anticipated changes to your plan.

4. Please reveal how you share findings of your assessment endeavors with your faculty, and whether or not there is any discussion amongst the faculty as a whole concerning the impact of the findings on the department at large.

The department’s Graduate Studies Committee discusses the assessment data in committee meetings and with the department head, and makes recommendations for program changes. They bring recommendations to the faculty as a whole during department meetings. The faculty then discusses the recommendations and decides whether to accept the committee recommendations.

5. Please attach a copy of your Departmental Assessment Plan, and thank you for your efforts.