


May 26, 2000

To: Herb Wang

From: Alejandro Adem 

Re: Departmental Assessment

Enclosed you will find reports assessing aspects of our undergraduate and graduate programs.

This year we decided to focus on the Math 130-131-132 sequence offered to Math Education students, as we believe it requires some attention. These diagnostic tests will be useful in developing possible changes to these courses. We made use of the professional expertise of the QAP, and next year will request their assistance in assessing our calculus offerings.

As for the graduate assessment, it reflects an ongoing process which has allowed us to become aware of a number of issues. The best indicator is that involving jobs for 2000 Ph.D.'s — they have done fairly well.

Assessment of the Graduate Program of the UW Mathematics Department

*Preliminary Report
Graduate Program Committee
Steffen Lempp, chair
May 2000*

This preliminary report summarizes a multi-year project to assess the graduate program of our department.

Of course, given the size of our program, it is not possible to adequately assess every aspect of our graduate program in every year. Instead, we chose to focus on five specific aspects:

1. analysis of pre-admission data to early graduate study data: This analysis of North American-educated incoming graduate students (having entered our department in 1995-97) addresses the questions of how well data available before admission predict early performance in our graduate program, and how well incoming graduate students from U.S. and Canadian undergraduate institutions are prepared for our graduate program;
2. student surveys of UW math graduate students in the academic years 1998/99 and 1999/2000: The former survey of opinions of graduate students about various aspects of our department was taken at the very end of last academic year, too late for last year's report of the Graduate Program Committee to the department; the latter was taken a couple of months ago;
3. survey on jobs obtained by our graduate students: This short survey summarizes job offers to, and jobs accepted by, our students graduating this calendar year with a doctoral degree;
4. interviews of recent graduates from our department: We are in the process of interviewing former students who received their doctoral degrees four and seven years ago, respectively;
5. assessment of our introductory graduate courses: We plan to assess our introductory 700-level courses (i.e., those leading to qualifying exams) in the upcoming academic year, results to be given in a future report.

We also plan to carefully consider the 54-credit requirement for dissertators next semester.

1. Analysis of Pre-Admission Data

The table on the next page summarizes data on those UW math graduate students who entered our program in the fall of 1995, 1996 and 1997, and who had previously attended a North American (i.e., U.S. or Canadian) undergraduate institution, irrespective of nationality. Based on anecdotal data, we were particularly concerned about North American-educated incoming graduate students and their level of preparedness for our graduate program; our overseas-educated incoming graduate students seem to have an easier time adjusting to the rigor of graduate study.

<i>Category</i>	<i>Total</i>	<i>Still here</i>	<i>Leave of absence</i> ¹	<i>Left with Master's degree</i>	<i>Left in good standing</i>	<i>Left in poor standing</i>
total	42	14	2	8 ²	5	13
female	8	2	1	2	0	3
entered in 1995	11	2	0	0	3	6
entered in 1996	11	3	2	2	2	2
entered in 1997	20	9	0	6	0	5
left by end of 2 nd semester	-	-	-	-	1	7
large state school B.S./B.A. ³	14	6	0	2	2	4
top private school B.S./B.A. ⁴	6	2	0	1	1	2
other public school B.S./B.A.	8	3	1	1	1	2
other private school B.S./B.A. ⁵	14	3	1	4	1	5
undergraduate GPA ≥ 3.7	26	12	1	5	3	5
entered right after college	29	10	2	6	4	7
entered within 3 years of finishing college	35	12	0	6	5	12
had some prior grad school	5	2	0	0	0	3
had at least 521/541 or equiv. (or higher)	31	8	1	6	5	11
had at least four of 521/2, 541/2, 551 (or higher)	15	5	0	2	3	5
median GRE score	855	880	890	785	930	820
upper quartile GRE score	930	915	N/A	900	990	860
lower quartile GRE score	750	810	N/A	750	910	710

¹ One leave for child care, one for a two-year required Mormon mission.

² Of these, six students had entered as Ph. D. students.

³ E.g. UW-Madison, Minnesota, Texas, Virginia, Maryland, North Carolina

⁴ E.g. Chicago, Cal Tech, Pennsylvania, Cornell, Dartmouth

⁵ E.g. Marquette, Pomona, Rose-Hulman, Albion, Brigham-Young, Lawrence, Amherst, Illinois Wesleyan

Some conclusions can be drawn about our North American-educated graduate students from the table on the previous page:

1. Our retention rate improved dramatically from 18% (class entering in 1995) to 27% (in 1996) to 45% (in 1997).
2. More than half (namely, seven) of the 13 students who had to, or would have had to, leave for academic reasons left by the end of the first semester.
3. Six students left in what appears to be good standing for various personal reasons, including three who had entered with a GRE score of 990.
4. Students from smaller private colleges seem to be doing worse than average.
5. There is a big difference between the undergraduate GPA of those students still here and those who had to leave. (Of course, it is hard to compare GPA's from different schools, and some schools do not even use grades or use a scale not out of 4.0.)
6. There is a small, but not very significant correlation between taking time off after college before entering our graduate program on the one hand and poorer performance here on the other hand.
7. Surprisingly, the preparation in terms of advanced undergraduate math courses was better among those students who had to leave than those still here.
8. There is some, although not a very strong, correlation between the GRE score and the performance in graduate school. Interestingly enough, however, the students who left for personal reasons had the highest average GRE scores.

2. Student Surveys

This summarizes two anonymous surveys given to UW math graduate students during the academic years 1998/99 and 1999/2000. Due to the nature of these surveys, it is hard to summarize them numerically; rather, we will simply list the responses, both positive and negative. One should, however, keep in mind here that many of the responses are subjective.

1999/2000 survey: This survey was sent out to all present graduate students this spring. We received anonymous replies from 31 students. (Of these, three each entered in 1994 and 1996, four in 1997, eleven in 1998, and ten in 1999.)

The questions were phrased roughly as follows:

1. What are the best aspects of your experience here?
2. What would you change if you could?
3. What would you say to prospective graduate students about our program?

On the positive side, the students listed: a friendly environment, noncompetitive but good graduate students, friendly faculty, broad areas of research, strong program, many good graduate courses (including praise for some specific professors), the 9th floor lounge, and the city of Madison.

On the negative side, the students listed: heavy TA teaching load, low pay, minimal summer support (some were not happy with the way summer RA money was allocated), too many required courses to become a dissertator (some wanted to limit their courses to those directly related to their research topic).

Surprisingly, there were not many complaints about the qualifying exams, but there was some concern about consistency and about the speed of grading.

1998/99 survey: The total number of respondents was 29. (Of these, one each entered in 1992, 1993, 1996; four in 1994; six in 1997; and sixteen in 1998, since this was mainly intended as a survey of then-first-year students. The majority of the respondents had thus been here less than one year and were still in the process of adjusting to graduate study.)

Positive comments about our program included: diverse faculty, many research areas represented, diverse teaching opportunities, some faculty really care about teaching, faculty friendly and supportive, good community of graduate students, overall positive view of the department, good quality of life in Madison, supportive and quality professors, Sherry Lange and other support staff appreciated.

Negative comments about our program included: feelings of lack of community in the department, the need for more interaction between faculty and graduate students, almost all American students who entered in 1996 and 1997 have left, a number of professors are poor teachers in both graduate and undergraduate courses, more constructive TA critiques and TA evaluations needed, more diverse teaching opportunities needed for graduate students, lack of women and minorities in department (both faculty and students), our large department can cause isolation, many thriving areas of research are under-represented in the department, the 54-credit requirement for dissertator status is too burdensome, an alarming student drop-out rate, qualifying exams should be based on first-year courses, heavy teaching loads, and not enough emphasis on graduate student research.

3. Survey on Jobs Obtained

The below table gives a quick survey as to how the students graduating in the current academic year did in their job hunt.

tenure track	5	Gettysburg Coll., Monroe Comm. Coll. NY, Earlham Coll., Natl. U. Singapore, St. Mary's Coll. MD
academic postdoc	5	UW Wavelet IDR Center, UW Ind. Eng., Ohio State, Texas A&M, U. Brit. Col.
academic temporary	1	U. Nebraska Lincoln
none yet as of May 1 st	3	
has not applied yet	1	

4. Interviews of Recent Graduates

We are in the process of gathering data from students who received their doctoral degree from our department in the years 1993 and 1996. Results will be contained in next year's report.

5. Assessment of Introductory Graduate Courses

The 700-level introductory graduate math courses, i.e., those which lead to our qualifying exams, are crucial to our graduate students since they largely determine whether or not they will receive their doctoral degree. We plan to assess them during the upcoming academic year. Results will be contained in next year's report.