

Academic Program Review of the
Mathematics Department
University of Wisconsin-La Crosse

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Prepared by the Academic Program Review Subcommittee:

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The Self Study for the Mathematics Department was received in the Deans office in October, 2006 and submitted to the Academic Program review committee. The external review was done in May, 2006.

Summary of the Self-Study

The Mathematics department's goals and objectives are stated clearly in their mission statement and the "Purposes" section of the self-study and include the following:

1. The Mathematics department provides high quality education in mathematics for their majors and minors.
2. Mathematics faculty members engage in scholarship in their field.
3. They also provide high quality mathematics education for other college programs and the General Education program.

These goals are achieved by continually reviewing and strengthening courses and programs to meet the changing needs of students, using engaging teaching methods, developing analytical and critical reasoning skills and using appropriate technology as an aid to understanding. Also, through the scholarly activity of the faculty they contribute to the body of knowledge within their field and offer service to their profession.

Notable Strengths and Weaknesses:

The faculty of the Mathematics department is their greatest strength. The faculty members are highly productive teacher-scholars with great diversity in background and experience. The development of The Statistical Consulting Center, the Dual Degree program in Mathematics and Engineering as well as being established as a "Writing in the major" program are all strengths as well. Weaknesses would include staffing inadequacies and the lack of consistent assessment procedures.

Programs

The math department offers a wide variety of programs for majors and minors. Majors include the traditional mathematics major, emphases in Applied, Statistical and Educational mathematics as well as the new Dual Degree program in Mathematics/Engineering. Minors would include traditional math, statistics, Elementary/Middle and Secondary Education.

Curriculum

The math department's curriculum is typical of the discipline.

Program Success

The math department has implemented numerous changes to their programs and curriculum after conducting assessments of different kinds to determine how well department objectives and students' needs were being met.

Curricular changes include a revised core sequence, the shift to writing across the major instead of writing emphasis courses, a revised traditional Mathematics major and the addition of the Applied Mathematics emphasis and the Dual Degree in Mathematics/Engineering programs. Also, the Mathematics Education curriculum was revised to realign with the new DPI standards.

The establishment of Peer Tutoring/Learning center benefits students needing help in mathematics areas as well as the math tutors who get experience in teaching.

The creation of a Statistical Consulting Center in the Mathematics department addressed the need for expert help in this area by other faculty and departments and includes both faculty and student involvement.

Data showing increased satisfaction with the program by graduates and successful placement of graduates is encouraging.

Faculty members have been very successful in scholarly activities and have secured significant amounts of grant monies. They are also very active in terms of university and professional service.

Previous Program Review and New Program Initiatives

The previous academic review of the Mathematics department stated these concerns:

1. **High failure rate in General Education courses.** This resulted in the revision of General Education courses in the department. The new MTH 145, 051, 150, 151 and 175 courses were revised or developed to address this. Their statistics show that the failure/withdraw rate has improved for these courses.

2. **Declining number of majors.** By recruiting first-rate faculty and revising its courses and programs the department has increased its numbers of majors.
3. **Need of teaching related technologies and upgrade of physical facilities.** The department has installed current technology equipment into teaching stations into three of its classrooms through grant money and department funds. The department intends to continue to upgrade computers and teaching technology.

Personnel

Recruiting new faculty will be important as there will be several retired faculty positions to fill in the near future. The department filled three tenure-track positions in 06-07 and will try to fill another next year. There is still a need to recover positions lost in previous budget cuts.

Comments on the External Review

The external reviewer had numerous comments and recommendations. These are responded to in the letter by the department chair. Many of these recommendations deal with specific curricular issues, which would be beyond the expertise of this committee. However, there are several general recommendations that might be noted here.

1. Address the need for more staffing and continue to recruit and retain talented faculty.
2. Engage students' interest by reinvigorating the Math Club, bringing in guest speakers, and build up funds for student math awards which would encourage more exchanges between faculty and students.
3. Increase student awareness of the math program with simple visuals on walls in classrooms and hallways.
4. Compare failure/withdraw rates for General Education math courses with math departments from other comparable institutions.
5. Encourage better communication with Education faculty regarding math electives.
6. The chair should delegate more advising responsibility to other faculty members.

Recommendations from the Academic Program Review Committee

The APR committee would recommend that the Mathematics department be reviewed again in seven years. Recommendations formulated through this process appear within the self-study, the Dean's letter and the external review document but this committee would offer the following recommendations:

1. The department and administration need to work together to increase instructional staffing within the department. This is a serious issue that has resulted in an average of over 6 sections of classes per semester that should be offered not being staffed. Calculations show that the math department was unable to offer over 1200 seats in much needed mathematics classes over the past 4 years.
2. Compare failure/withdraw rates with other institutions
3. Develop consistent assessment procedures
4. Encourage student research
5. Continue to recruit and attract majors