

## Department of Mathematics and Computer Science

### Mathematics Programs Assessment

How the department UG (&Grad) outcomes assessment program was reflected in decision-making in the following areas:

(1) Determining personnel needs/issues

Student course evaluations and other student feedback (e.g. focus group) are part of

- Merit salary raise determinations
- Promotion decisions
- Tenure decisions
- Retention decisions
- Course assignments

General assessment factors in hiring needs

(2) Allocating financial resources

Reform efforts (e.g. Calculus, Geometry) required finance allocations for

- Computer equipment for math lab
- Maple software on lab computers
- Geometry sketchpad on lab computer

Graduate classes (in particular internet classes) required e.g.

- Software (e.g. MathType)
- Scanners
- Computer write pads

(3) Developing new programs

- Under development: a stand alone program to prepare middle school teachers

(4) Making program changes

- Graduate internet classes were created (MA 532, 591, 727,740, CS 760)
- To facilitate transition of new students to our programs 'Introduction to Math' (MA 125) was added.
- Based on diagnostic/proficiency tests and focus group feedback the Geometry course (MA 421) is under revision.
- Responding to students' desires, math faculty have assisted in undergraduate research, math club activities, problem solving sessions and seminars.
- Catalog descriptions are being updated.
- Course Prerequisites have been updated.

(5) Accomplishing departmental goals

Overall the department feels we are achieving our goals, as evidenced by

- High demand for our Math Ed majors and positive evaluations of our graduates by employers
- The assessment of our faculty who feel that our programs compare well with other universities
- Student grades and achievements, which indicate our goals are met; in particular this is demonstrated by students passing capstone type courses like MA 240, 322, 425
- The need to improve geometry skills to better prepare students for their careers prompted a revision of our Geometry course.

(6) Any professional faculty development targeting student teaching and learning

- A junior faculty member of our department volunteered to participate in the PMET program (Preparing mathematicians to educate teachers) of the Mathematical Association of America.
- Faculty regularly attends conferences and seminars with sessions and panels discussing teaching and learning issues.
- Our faculty regularly take or accompany students to math conferences.

(7) Findings/conclusions from data analysis about

- Students  
Our students come from a wide range of backgrounds (from very small high schools to big ones) and display a gamut of skill levels. Our program seems to be able to address the needs of all these students and produce a level of graduates that is in high demand.
- Programs  
Our programs are comparable to programs at other universities and support our goals. Our Math Ed students are sought after by Kansas schools, and students who decide to go to graduate school seem to be well prepared by our programs.
- Student learning  
Based on grades, faculty assessments, student evaluations and feedback, focus groups, exit interviews, surveys etc it is clear that we are successful in our goals regarding student learning.
- Attaining of program goals/mission  
Both faculty and students (grad and UG) feel our department is achieving its goals and objectives.

(8) Extend of faculty participation in plan(s), its implementation, and decision making.

- Our entire faculty discusses every aspect of proposed plans and changes to our plans at faculty meetings. No decision is made without direct consultation and

endorsement of the math faculty. All faculty participate in implementation of our assessment efforts such as student evaluation, discussions of student feedback and programs, assessment committee work etc.

(9) Extend of student participation in discussing your assessment plan.

- Our focus group was conducted by a group of students called the student advisory board. We have made this board an official part of our assessment plan. The student advisory board consists of two undergraduate and one graduate student, and will provide the assessment committee with input from our student body and serve as an intermediary between committee and students concerning assessment issues.

(10) Are both UG and Grad programs equally implemented?

- Both assessment programs are under construction. The UG program is currently in a more developed stage. The Graduate program is very much in flux with the addition of a very successful internet component, and efforts to increase enrollment, such as faculty giving talks at Kansas colleges and universities to interest prospective students.

(11) What major changes are you introducing to the plan(s) this year.

Several changes are in the works:

- The department will further discuss and decide whether or not to add a capstone/final project course to our program, which can and would then be used as an important program assessment tool.
- We plan to redo/update exit interview format and questions.
- We plan to redo/update employer surveys, and decide if we want to retain this as a viable part of our assessment program.
- A team of three members of our department will take part in a math program assessment project organized by the Mathematical Association of America, to improve our assessment plan and synchronize our assessment plan with math departments of other universities.

(12) How many semesters have of direct and indirect data do you have?

- Grad students (internet classes) 3 semesters of data.
- At least 10 years of student evaluations of all our courses.
- At least 10 years of results of Basic Math Skills tests from the methods class.
- At least 5 years of course grades and averages.
- Focus group results of the last two semesters.