

Dixie State College of Utah

Program Review: Mathematics

Date Reviewed: Academic Year 2007-2008

Reviewers:

Internal Reviewers:

- Dr. Carole Grady, Associate Dean, Nursing and Allied Health Sciences
- Edwin Reber, Associate Professor of English

External Reviewers:

- None

Other Reviewers:

- Dixie State College Academic Council, comprised of faculty representatives and administrators
- Dixie State College Board of Trustees

Program Description:

The Mathematics Program at Dixie State College became a stand-alone department in 2003; it is housed with the School of Science and Health. The scope and depth of program offerings provide a substantial, coherent, and articulated basis of mathematical learning for all campus-based academic and technical programs. These programs include developmental education, lower division education, upper division and community and continuing education. Although the Mathematics Program does not culminate in a specific degree or certificate in mathematics, it does provide valuable support to institutional offerings, including the general education program and the institution's four-year degree programs,

The Program's faculty is responsible for the design; integrity and implementation of a responsive, multiple-track curriculum that spans instruction range from developmental to calculus-based classes. In order to accommodate institutional needs, the Program now includes separate tracks for business majors, other non-science majors, and traditional science and mathematics majors.

The Mathematics Program serves a student population that represents diverse educational, ethnic, national, and economic backgrounds, as well as a variety of educational, occupational and personal goals. The predominant student population consists of traditional freshman and sophomore transfer students. The second major population component consists of technical students and those in applied science programs.

The Mathematics Program is a lower-division program within an open-door admissions institution. It serves students through a well-defined set of strongly recommended course prerequisites that are published in institutional catalogues and class schedules. Prerequisite standards are based on in-house analysis of student performance data and are subject to periodic review. When followed by students, these prerequisites provide individual students with an optimal, success-oriented learning environment based on demonstrated abilities and background.

Faculty & Staff:

Faculty Headcount	Tenure	Contract	Adjunct
Number of faculty with Doctoral degrees	1	3	1
Number of faculty with Master's degrees	5	1	6
Number of faculty with Bachelor's degrees	1		
Other Faculty			
Total	6	4	7

Staff Headcount	Full-Time	Part-Time
Administrative	1	1
Secretarial /Clerical		1
Laboratory Aides/Instructors		
Advisors		
Teaching/Graduate Assistants		
Other Staff (Work study)		1
Total		3

Students

AY	# of Majors	Student FTE	# of Faculty (full time)	FTE-to-Faculty Ratio	# of Grads	# of Grads Placed
03-04	NA	426.71	4	27.42	NA	NA
04-05	NA	448.14	4	24.07	NA	NA
05-09	NA	419.05	5	20.79	NA	NA
06-07	NA	406.23	7	22.34	NA	NA
07-08	NA	457.33	7	23.89	NA	NA

Note: The downward trend of student FTE over the review period reflects the general enrollment trend at the institution. Since this review period, the trend has trend upward dramatically.

Market Demand: The Mathematics Program offers no degrees or certificates; hence, no graduates. The program is currently researching market demand data for future reference.

Financial Analysis

Financial Analysis Form					
	03-04	04-05	05-06	06-07	07-08
Expense					
Instructional Costs	387,609	438,579	465,873	535,399	673,124
Support Costs	160,866	174,805	182,910	266,954	272,212
Other Expenses					
Total Expense	\$548,475	\$613,385	\$648,783	\$802,353	\$945,337
Revenue					
Legislative Appropriation	383,148	423,577	450,014	540,207	649,708
Grants					
Reallocation					
Tuition to Program	165,327	189,807	198,770	262,146	295,628
Fees					
Total Revenue	\$548,475	\$613,385	\$648,783	\$802,353	\$945,337
Difference					
Revenue-Expense	\$ 0	\$ (1)	\$ 1	\$ 0	\$ (1)

Program Assessment

The Math program is still using VASA, but the challenge has been getting the tests taken and results back. Hopefully with the FYE classes, this will be fixed. Therefore, faculty are in the process of putting embedded questions on finals of all GE classes, with each instructor has submitting five questions. During fall semester 2009, the program faculty will review and select from the submitted questions; beginning spring semester all instructors will give a pretest using the questions and then embed them on the finals.

Strengths and Challenges Identified by Evaluators:

Program Description:

- It is evident from the report that the math department takes seriously the need to provide service for transfer students, degree and certification programs and the community.
- The goals of the department, the placement procedures in various course levels, and specific outcomes and how they are determined is fairly clear.

Faculty:

- The report gives some newsy reports on the faculty, their interests and degrees.
- The personal information is interesting but not necessary in this program review

Assessment:

- Strengths cannot be assessed since inadequate data is given in the program review.
- The assessment criteria for successful completions of various courses are given, but there is not data accompanying that.
- A number of general goals are given for all math courses. This reader infers that the successful completion of criteria is derived from the specific course goals. If so, that should be stated.
- Even though graduation rates do not apply, more data could be given about retention from beginning to end of a course and about the success rates in that and future courses.
- Mention is made of the new policy not accepting pre-requisites more than two years old. Hard data should be obtained showing the success of the new policy. If the CPT shows a higher placement, is that accepted?
- Data on completion rates should be gathered, especially if there are common exit exams, some good data should be available on student achievement and perhaps on teacher success as well.
- Throughout the report, there is some confusion about the course numbering and the course completion criteria. The course numbers don't match.
- How can depth of learning be assessed by reviewing course syllabi and texts from other colleges? What is the connection? Are there more appropriate measure to be assessed to discover this?
- On page 25, it appears to be a contradiction that classes have 4-8 subjective tests, yet it is stated on page 23: "the ultimate award for points is usually based upon correct answers. Mathematics has an inherent rigor of correctness." Also, "mathematics has little room for discussion."

- Examples of exam questions would be helpful to understand the difference between the subjective and multiple choice tests.
- How do full time faculty “keep track of the class” to make sure concepts are being taught, as the report asserts? Peer review by visiting each class taught by an adjunct? Regular curriculum meetings including the full time faculty member and adjuncts teaching a course?
- The report identifies a problem with the math tutors being moved out of NIB. How do the tutors communicate with faculty now when they have a question? Has the program taken any steps to rectify this?
- Program success is not consistent if distance students are achieving better rates (of what?) than students at the main campus. What accounts for this discrepancy?

Facilities:

- More data could be given about classroom size, etc. For example does the number of seats effectively limit some class sizes? Are specific sorts of equipment, computers for Stat classes for example, needed or available?
- Please specify what “cutting edge” technology you are using. It is not apparent in the program review.
- In discussing the Elementary Ed. Math courses, specific mention is made of the need to understand national standards, etc. Are there materials that should be or are available in the library? Are any other resources there helpful?
- Learning resources including library holdings are not evident.

Specific Recommendations:

- See comments above.

Institution's Response