

# Mathematics Program Review

2011-2012

## 1. Program Description

### A. Description

The mathematics program provides strong emphasis on fundamental concepts and problem solving skills useful in a myriad of career paths. The study of both pure mathematics and applied mathematics provides skills useful in Actuarial Science, Astronomy, Biology, Chemistry, Computer Science, Digital Arts, Earth Sciences, Economics, Education, Engineering, Physical Sciences, Physics, Research, and the Social Sciences.

### B. Program Student Learning Outcomes - Successful students in the program are able to:

1. Solve and graph linear and nonlinear equations, and systems of equations
2. Simplify mathematical expressions using correct mathematical notation
3. Analyze and perform function operations including transforms
4. Solve problems involving ordinary differential equations, derivatives, and integrals
5. Apply mathematical techniques to solve applications

### C. College-Level Student Learning Outcomes

1. Critical Thinking and Problem Solving
2. Communication
3. Information Competency

### D. Estimated Costs (Required for Certificate of Achievement ONLY)

	Cost
Enrollment Fees	
Books	
Supplies	
Total	

### E. Criteria Used for Admission

Meeting the prerequisites for individual courses.

### F. Vision

Ventura College will be a model community college known for enhancing the lives and economic futures of its students and the community.

### G. Mission

Ventura College, one of the oldest comprehensive community colleges in California, provides a positive and accessible learning environment that is responsive to the needs of a highly diverse student body through a varied selection of disciplines, learning approaches and teaching methods including traditional classroom instruction, distance education, experiential learning, and co-curricular activities. It offers

# Mathematics Program Review

2011-2012

courses in basic skills; programs for students seeking an associate degree, certificate or license for job placement and advancement; curricula for students planning to transfer; and training programs to meet worker and employee needs. It is a leader in providing instruction and support for students with disabilities. With its commitment to workforce development in support of the State and region's economic viability, Ventura College takes pride in creating transfer, career technical and continuing education opportunities that promote success, develop students to their full potential, create lifelong learners, enhance personal growth and life enrichment and foster positive values for successful living and membership in a multicultural society. The College is committed to continual assessment of learning outcomes in order to maintain high quality courses and programs. Originally landscaped to be an arboretum, the College has a beautiful, park-like campus that serves as a vital community resource.

## H. Core Commitments

Ventura College is dedicated to following a set of enduring Core Commitments that shall guide it through changing times and give rise to its Vision, Mission and Goals.

- Student Success
- Respect
- Integrity
- Quality
- Collegiality
- Access
- Innovation
- Diversity
- Service
- Collaboration
- Sustainability
- Continuous Improvement

## I. Degrees/Certificates

Program's courses are designed to articulate to UC and CSU for transfer students.

## J. Program Strengths, Successes, and Significant Events

- In Spring 2011 the math department initiated a Transfer Model Curriculum degree in mathematics. This degree initiative will go to the curriculum committee for review in FY 12.
- The department hired two faculty replacements in FY 12—one to replace a retirement, and one to replace a faculty member who resigned. Additionally, the department welcomed back a full-time faculty member who had been serving in the Philosophy department since 2002.
- The department received one Smartboard and three document cameras in FY 10, then in FY 11 the department was awarded another three Smartboards and six document cameras. This means that all nine math classrooms are smart classrooms equipped with document cameras, and four of those nine smart classrooms are supplemented with Smartboards.

# Mathematics Program Review

2011-2012

## K. Organizational Structure

President: Robin Calote

Executive Vice President: Ramiro Sanchez

Dean: David Oliver

Department Chair: Dan Kumpf

### Instructors and Staff

<b>Name</b>	<b>Kumpf, Dan</b>
Classification	Professor
Year Hired	2000
Years of Work-Related Experience	
Degrees/Credentials	A.A., B.S., M.S.

<b>Name</b>	<b>Adlman, Andrea</b>
Classification	Professor
Year Hired	1988
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.A.

<b>Name</b>	<b>Anderson, Lisa Whelan</b>
Classification	Professor
Year Hired	1996
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.S.

<b>Name</b>	<b>Archibald, Jan</b>
Classification	Professor
Year Hired	1987
Years of Work-Related Experience	10 years industry experience
Degrees/Credentials	B.A., M.S.

<b>Name</b>	<b>Beard, Michelle</b>
Classification	Associate Professor
Year Hired	2006
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.S.

<b>Name</b>	<b>Beatty, Donna</b>
Classification	Professor
Year Hired	2004
Years of Work-Related Experience	
Degrees/Credentials	A.A., B.A., M.S.

## Mathematics Program Review

2011-2012

<b>Name</b>	<b>Bowen, Michael S.</b>
Classification	Professor
Year Hired	1991
Years of Work-Related Experience	7.5 years industry experience
Degrees/Credentials	B.A., M.A.

<b>Name</b>	<b>Bundy, Janine</b>
Classification	Assistant Professor
Year Hired	2011
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.B.A., M.S.

<b>Name</b>	<b>Freixas, Marta M.</b>
Classification	Professor
Year Hired	1981
Years of Work-Related Experience	
Degrees/Credentials	B.A., M.S.

<b>Name</b>	<b>Kolesnik, Alexander</b>
Classification	Associate Professor
Year Hired	2007
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.E.

<b>Name</b>	<b>Millea, Michelle</b>
Classification	Professor
Year Hired	1992
Years of Work-Related Experience	7 years
Degrees/Credentials	B.S., M.S.,

<b>Name</b>	<b>Matthews-Morales, Lydia</b>
Classification	Professor
Year Hired	1991
Years of Work-Related Experience	
Degrees/Credentials	A.S., B.S., M.A.

<b>Name</b>	<b>McCain, Michael T.</b>
Classification	Associate Professor
Year Hired	2005
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.S.

<b>Name</b>	<b>Sha, Saliha</b>
Classification	Assistant Professor

## Mathematics Program Review

2011-2012

Year Hired	2011
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.S., M.S., M.A.

<b>Name</b>	<b>Stowers, Dorothy</b>
Classification	Assistant Professor
Year Hired	2008
Years of Work-Related Experience	
Degrees/Credentials	B.A., M.A., Ph.D.

<b>Name</b>	<b>Thomassin, Steve</b>
Classification	Professor
Year Hired	1981
Years of Work-Related Experience	
Degrees/Credentials	B.A., M.S.

<b>Name</b>	<b>Yi, Peter</b>
Classification	Associate Professor
Year Hired	2006
Years of Work-Related Experience	
Degrees/Credentials	B.A., Ph.D.

# Mathematics Program Review

2011-2012

## 2. Performance Expectations

A. Program Student Learning Outcomes - Successful students in the program are able to:

1. Solve and graph linear and nonlinear equations, and systems of equations
2. Simplify mathematical expressions using correct mathematical notation
3. Analyze and perform function operations including transforms
4. Solve problems involving ordinary differential equations, derivatives, and integrals
5. Apply mathematical techniques to solve applications

B. Student Success Outcomes

1. The program will increase its retention rate from the average of the **program's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.
2. The program will increase its retention rate from the average of the **college's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.
3. The program will increase the student success rates from the average of the **program's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of C or better.
4. The program will increase the student success rates from the average of the **college's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of C or better.
5. Students will complete the program earning certificates and/or degrees.

C. Program Operating Outcomes

1. The program will maintain WSCH/FTEF above the 525 goal set by the district.
2. Inventory of instructional equipment is functional, current, and otherwise adequate to maintain a quality-learning environment. Inventory of all equipment over \$200 will be maintained and a replacement schedule will be developed. Service contracts for equipment over \$5,000 will be budgeted if funds are available.

# Mathematics Program Review

2011-2012

## D. Courses to Student Learning Outcomes Map

### Course to Program-Level Student Learning Outcome Mapping (CLSLO)

**I:** This program-level student learning outcome is **INTRODUCED** in this course.

**P:** This program-level student learning outcome is **PRACTICED** in this course.

**M:** This program-level student learning outcome is **MASTERED** in this course.

Leave blank if program-level student learning outcome is not addressed.

Courses	PLSLO #1	PLSLO #2	PLSLO #3	PLSLO #4	PLSLO #5
MATH V01	I	I	I		I
MATH V01A					
MATH V01B					
MATH V01C					
MATH V01D					
MATH V01E					
MATH V02	I	P			P
MATH V03	P	P	I		P
MATH V03A					
MATH V03B					
MATH V03C					
MATH V03D					
MATH V03E					
MATH V04	M	M	P		M
MATH V05	P	P	P		P
MATH V09	I	I			I
MATH V09A					
MATH V09B					
MATH V09C					
MATH 10	I	I			I
MATH V10A					
MATH V10B					
MATH V10C					
MATH V11A	I	I			I
MATH V11B	I	I	I		I
MATH V20	M	M	M		M
MATH V21A	P	P	P	P	P
MATH V21B	P	P	P	M	P
MATH V21C	M	M	P	P	M
MATH V24	M	M	P	P	M

## Mathematics Program Review

2011-2012

<b>MATH V30</b>	I	I	I		I
<b>MATH V35</b>	P	P	I		P
<b>MATH V38</b>		I			I
<b>MATH V40</b>	I	I	I		I
<b>MATH V44</b>		P			P
<b>MATH V46</b>	P	P	P	P	P
<b>MATH V52</b>	I	I	I		I



# Mathematics Program Review

2011-2012

## 3. Operating Information

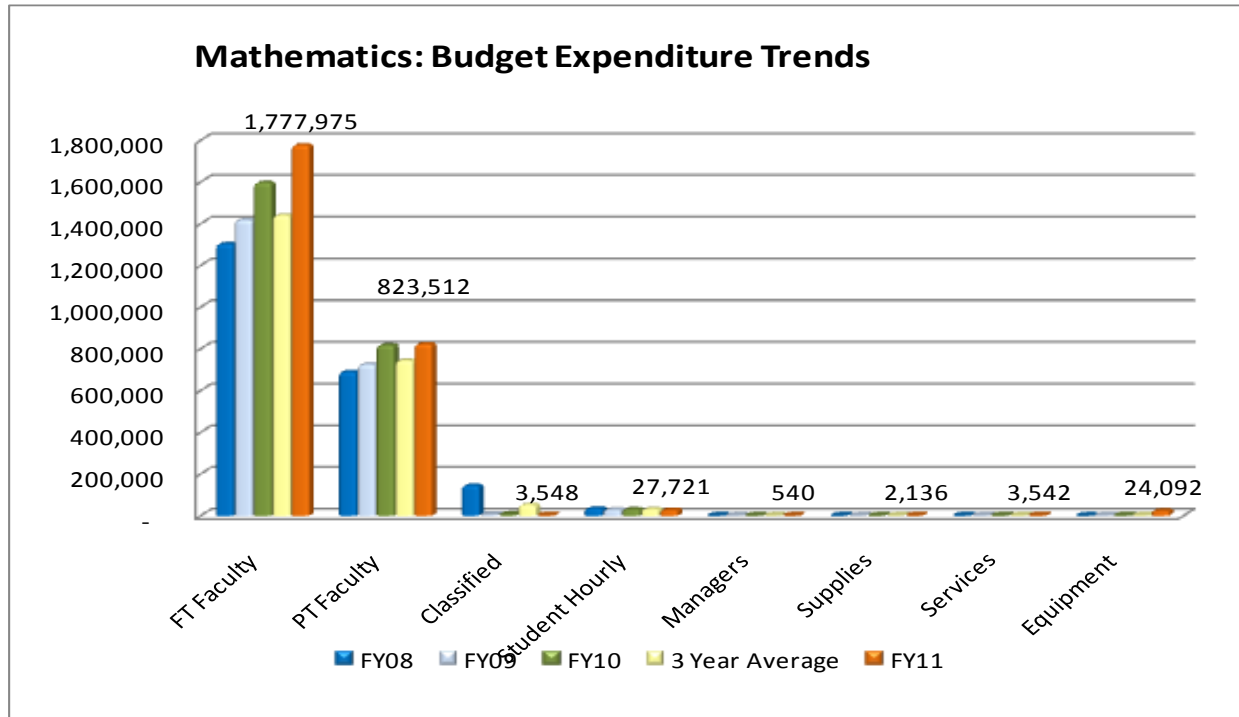
### A1: Budget Summary Table

To simplify the reporting and analysis of the Banner budget detail report, the budget accounts were consolidated into nine expense categories. The personnel categories include employee payroll expenses (benefits). The “3 Year Average” was computed to provide a trend benchmark to compare the prior three year expenses to the FY11 expenses. The “FY11 College” expense percentages are included to provide a benchmark to compare the program’s expenses to the overall college expenses.

Category	Title	FY08	FY09	FY10	3 Year Average	FY11	FY11 Program	FY11 College
1	FT Faculty	1,304,072	1,418,909	1,597,476	1,440,152	1,777,975	23%	12%
2	PT Faculty	690,588	725,841	818,358	744,929	823,512	11%	-10%
3	Classified	146,056	6,347	7,051	53,151	3,548	-93%	-1%
4	Student Hourly	35,197	29,352	30,975	31,841	27,721	-13%	10%
6	Managers	651	618	706	658	540	-18%	-8%
7	Supplies	578	548	896	674	2,136	217%	24%
8	Services	2,305	2,429	1,390	2,041	3,542	74%	-17%
9	Equipment	-	2,726	2,499	2,613	24,092	822%	-42%
	<b>Total</b>	<b>2,179,447</b>	<b>2,186,770</b>	<b>2,459,351</b>	<b>2,275,189</b>	<b>2,663,066</b>	<b>17%</b>	<b>0%</b>

### A2: Budget Summary Chart

This chart illustrates the program’s expense trends. The data label identifies the FY11 expenses (the last bar in each group). The second-to-last bar is the program’s prior three year average.

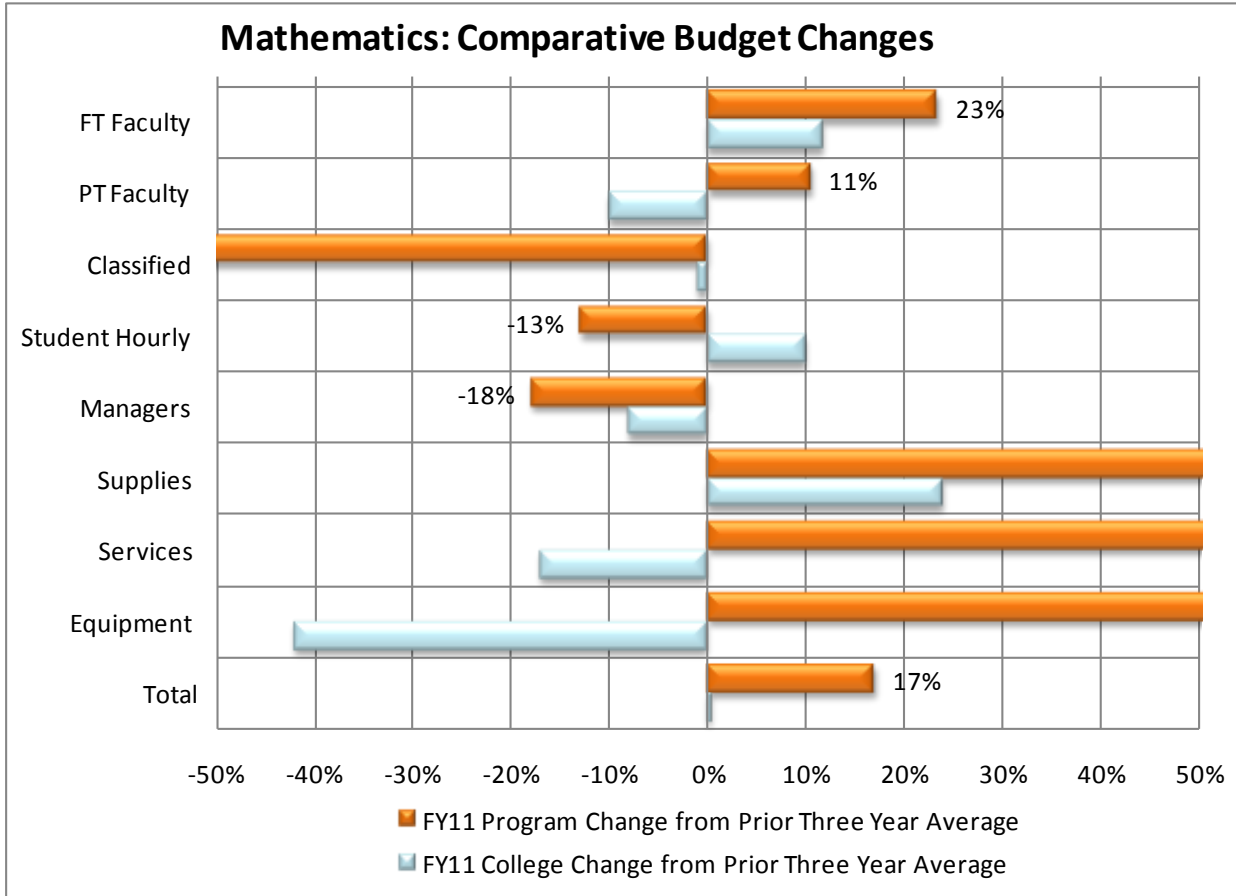


# Mathematics Program Review

2011-2012

### A3: Comparative Budget Changes Chart

This chart illustrates the percentage change from the prior three year average expense to the FY11 expenses. The top bar for each budget category represents the program's change in expenses and includes the data label. The second bar represents the college's change in expenses.



### A4: Budget Detail Report

The program's detail budget information is available in *Appendix A – Program Review Budget Report*. This report is a PDF document and is searchable. The budget information was extracted from the District's Banner Financial System. The program budget includes all expenses associated to the program's Banner program codes within the following funds: general fund (111), designated college equipment fund (114-35012), State supplies and equipment funds (128xx), and the technology refresh fund (445). The *Program Review Budget Report* is sorted by program (in alphabetical order) and includes the following sections: total program expenses summary; subtotal program expenses for each different program code; detail expenses by fund, organization and account; and program inventory (as posted in Banner). To simplify the report, the Banner personnel benefit accounts (3xxx) were consolidated into employee type benefit accounts (3xxx1 = FT Faculty, 3xxx2 = PT Faculty, 3xxx3 = Classified, etc.).

## Mathematics Program Review

2011-2012

### A5: Interpretation of the Program Budget Information

The department received a growth position in FY 09 to justify the FT faculty expenditure increase from FY 08 to FY 09. We hired another growth position in FY 11; however this growth position does not account for the 23% increase reflected in the data provided. This value is overstated. We suspect that one of the math faculty members assigned full release to a grant project was removed from the math full-time budget in FY 08 and 09, then added back in FY 10. This can be the only explanation since no math faculty were hired in FY 09, and the increase from 09 to 10 is much more than can be explained by step and column increases in salary. Likewise, the increase from FY 10 to FY 11 is more than can be explained by the addition of one growth position.

The increase in part-time faculty expenses can be attributed to growth in the math schedule; however this growth has not been fully subsidized by the general fund budget. Some of this growth is credited to a Title V grant project that increased the math schedule by 25 hours each semester since FY 08. Additionally, the department used grant funds provided through a Nursing grant to fund a few sections of MATH V30. Beyond these grant funded increases a few general fund sections were added to the schedule by the EVP after all other sections of courses were closed several weeks prior to the start of the semester.

The department cannot explain the anomaly of the large classified salary expense in FY 08. The math department only uses provisional staff to satisfy some of our tutoring needs. We have no full-time classified staff assigned to math. If this inconsistency is ignored, then the classified budget trend is in line with the college trend.

The primary services required for the math department are software licensures. These software update requirements vary from vendor to vendor, which explains the variation in expenses each year.

The large increase in equipment expenses in FY 11 is solely attributable to a program review award of \$24,000 which provided the department with three premium Smartboards and 6 document cameras.

When considering the expenses required to fund the mathematics program, the reader should also take into account the revenue generated through the program. In FY 11 the department produced 1316 FTES. At the state apportionment rate of \$4565/FTES, this equates to \$6,005,540 revenue to the district. This means that in FY 11 the expenses for the mathematics program were only 44% of the revenue that it generated.

## Mathematics Program Review

2011-2012

### B1: Program Inventory Table

This chart shows the inventory (assets) as currently posted in the Banner Financial System. This inventory list is not complete and will require review by each program. Based on this review an updated inventory list will be maintained by the college. A result of developing a complete and accurate inventory list is to provide an adequate budget for equipment maintenance and replacement (total-cost-of-ownership). The college will be working on this later this fall.

Item	Vendor	Org	Fund	Purchased	Age	Price	Perm Inv #	Serial #
SB685ix Smart Board 685ix Inter	Touchboards	30170	111	9/13/2010	1	2,065	N00022163	SB685-R2-709641
Canon RE 455X Video Visualizer	B & H Photo - Vi	30170	111	4/22/2010	1	934	N00018990	5880300087
SOMSO 6-Skull Early Man Set	Carolina Biologic	30170	111	5/5/2009	2	1,889	N00018813	n/a
866 MHz Pentium III Configurati	MAT 2000 Inc	36031	121	4/8/2002	9	1,035	N00003130	9705519
866 MHz Pentium III Configurati	MAT 2000 Inc	36031	121	4/8/2002	9	1,035	N00003129	9705520
						<b>6,958</b>		

### B2: Interpretation of the Program Inventory Information

The equipment list provided by Banner is incomplete and does not accurately reflect the program's holdings. An inventory is necessary to provide an accurate equipment list.

# Mathematics Program Review

2011-2012

C1: Productivity Terminology Table

<b>Sections</b>	A credit or non-credit class. Does not include not-for-credit classes (community education).
<b>Census</b>	Number of students enrolled at census (typically the 4 <sup>th</sup> week of class for fall and spring).
<b>FTES</b>	Full Time Equivalent Students A student in the classroom 15 hours/week for 35 weeks (or two semesters) = 525 student contact hours. 525 student contact hours = 1 FTES. Example: 400 student contact hours = $400/525 = 0.762$ FTES. The State apportionment process and District allocation model both use FTES as the primary funding criterion.
<b>FTEF</b>	Full Time Equivalent Faculty A faculty member teaching 15 units for two semesters (30 units for the year) = 1 FTE. Example: a 6 unit assignment = $6/30 = 0.20$ FTEF (annual). The college also computes semester FTEF by changing the denominator to 15 units. However, in the program review data, all FTE is annual. FTEF includes both Full-Time Faculty and Part-Time Faculty. FTEF in this program review includes faculty assigned to teach extra large sections (XL Faculty). This deviates from the district practice of not including these assignments as part of FTEF. However, it is necessary to account for these assignments to properly produce represent faculty productivity and associated costs.
<b>Cross Listed FTEF</b>	FTEF is assigned to all faculty teaching cross-listed sections. The FTEF assignment is proportional to the number of students enrolled at census. This deviates from the practice of assigning load only to the primary section. It is necessary to account for these cross-listed assignments to properly represent faculty productivity and associated costs.
<b>XL FTE</b>	Extra Large FTE: This is the calculated assignment for faculty assigned to extra large sections (greater than 60 census enrollments). The current practice is not to assign FTE. Example: if census > 60, 50% of the section FTE assignment for each additional group of 25 (additional tiers).
<b>WSCH</b>	Weekly Student Contact Hours The term "WSCH" is used as a total for weekly student contact hours AND as the ratio of the total WSCH divided by assigned FTEF. Example: 20 sections of 40 students at census enrolled for 3 hours per week taught by 4.00 FTEF faculty. $(20 \times 40 \times 3) = 2,400$ WSCH / 4.00 FTEF = 600 WSCH/FTEF.
<b>WSCH to FTES</b>	Using the example above: $2,400$ WSCH x 35 weeks = 84,000 student contact hours = $84,000 / 525 = 160$ FTES (see FTES definition). Simplified Formulas: $FTES = WSCH/15$ or $WSCH = FTES \times 15$
<b>District Goal</b>	Program WSCH ratio goal. WSCH/FTEF The District goal was set in 2006 to recognize the differences in program productivity.

# Mathematics Program Review

2011-2012

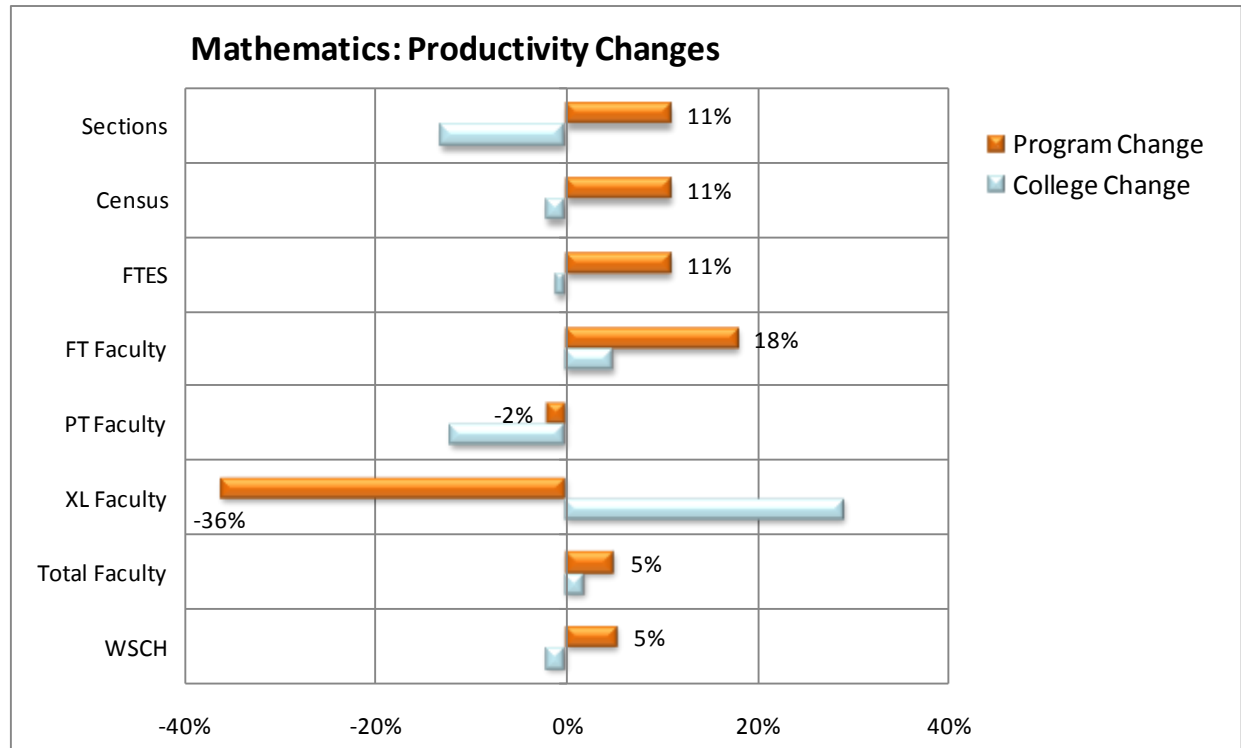
### C2: Productivity Summary Table

This table is a summary of the detail information provided in the *Program Review Productivity Report*. The “3 Year Average” was computed to provide a trend benchmark to compare the results of the prior three years to the FY11 results. The “FY11 College” percentages are included to provide a benchmark to compare the program’s percentages.

Title	FY08	FY09	FY10	3 Year Average	FY11	Program Change	College Change
Sections	221	229	246	232	258	11%	-13%
Census	7,718	8,971	9,425	8,705	9,667	11%	-2%
FTES	1,059	1,230	1,270	1,187	1,316	11%	-1%
FT Faculty	12.54	13.35	13.00	12.96	15.33	18%	5%
PT Faculty	17.42	17.42	19.26	18.03	17.73	-2%	-12%
XL Faculty	0.57	1.83	0.78	1.06	0.68	-36%	29%
Total Faculty	30.53	32.59	33.05	32.06	33.75	5%	2%
WSCH	520	566	576	555	585	5%	-2%

### C3: Comparative Productivity Changes Chart

This chart illustrates the percentage change from the prior three year average productivity to the FY11 productivity. The top bar for each budget category represents the program’s change in productivity and includes the data label. The second bar represents the college’s change in productivity.



## Mathematics Program Review

2011-2012

### C4: Interpretation of the Program Productivity Information

The statistics above indicate an 11% increase in the number of sections offered. The bulk of this increase is attributed to the addition of sixteen one unit modular math courses funded by a Title V grant, and two sections of MATH V30 (Math for Meds) which were funded by a grant through the Nursing department. The remaining growth is a result of last minute additions to the schedule which were endorsed by the EVP. It should be noted that this 11% increase in the schedule also resulted in 11% increases in both census enrollment and FTES produced by the department. Additionally, despite the increased access to our classes the department continued to operate at 106% of the district productivity goal after the adjustment for extra large classes.

The three year average for XL Faculty is heavily influenced by the extra large class offerings in FY 09. In that fiscal year the math department raised the enrollment in our distance ed classes to help meet the demand for our courses. The department discovered that this practice was not pedagogically sound and reverted back to previously established enrollment caps. If FY 09 is ignored, the average of FY 08 and FY 10 is 0.68. This is exactly the extra large class ratio in FY 11, thus the statistics inaccurately suggest a large decrease in extra large classes.

## Mathematics Program Review

2011-2012

### D1: District WSCH Ratio Productivity Table

This table shows the District WSCH ratio (WSCH/FTEF) for each course by year for this program. Courses not offered during FY11 (last year) or without faculty load (independent study) are excluded. Because these are ratios, the combined average is computed using total WSCH and total FTEF (not the average of ratios). The formula used in this table distributes FTEF to all cross-listed sections (proportional to census enrollment) but does not include the associated faculty costs of extra large assignment.

District WSCH Ratio =  $WSCH / (PT\ FTE + FT\ FTE)$ .

District WSCH Ratio: Weekly Student Contact Hours/(FT FTE+PT FTE)									
Course	Title	FY08	FY09	FY10	3 Yr Avg	FY11	Change	Dist Goal	% Goal
MATHV01	Elementary Algebra	547	668	618	610	625	2%	550	114%
MATHV02	Geometry	518	525	570	538	499	-7%	550	91%
MATHV03	Intermediate Algebra	547	634	608	598	631	6%	550	115%
MATHV03E	Intermed Algebra: Module V	-	-	4	4	11	207%	550	2%
MATHV04	College Algebra	482	591	617	567	612	8%	550	111%
MATHV05	Plane Trigonometry	494	535	601	543	572	5%	550	104%
MATHV09	Beginning Mathematics	412	504	545	489	523	7%	550	95%
MATHV10	Prealgebra	500	542	582	543	564	4%	550	103%
MATHV11A	Elementary Algebra: 1st Half	600	600	566	589	634	8%	550	115%
MATHV11B	Elementary Algebra: 2nd Half	566	411	274	417	360	-14%	550	65%
MATHV20	Precalculus Mathematics	479	541	568	529	493	-7%	550	90%
MATHV21A	Calculus/Analytic Geometry I	578	592	652	608	642	6%	550	117%
MATHV21B	Calculus/Analytic Geometry II	549	478	497	504	529	5%	550	96%
MATHV21C	Multivariable Calculus	623	630	668	640	675	5%	550	123%
MATHV24	Diff Equations/Linear Algebra	323	533	578	478	533	12%	550	97%
MATHV30	Math for Health Care Personnel	585	610	488	569	533	-6%	550	97%
MATHV35	Interm Algebra: Health Care	-	-	375	375	503	34%	550	91%
MATHV38	Math: Elmntry School Teachers	433	458	473	455	443	-3%	550	80%
MATHV40	Math Topics:College Students	368	390	485	408	545	34%	550	99%
MATHV44	Elementary Statistics	619	645	631	632	662	5%	550	120%
MATHV46A	Applied Calculus I	431	496	534	487	569	17%	550	103%
MATHV46B	Applied Calculus II	-	105	-	105	-	-100%	550	0%
MATHV50	Introduction to Computers	225	-	-	225	-	-100%	550	0%
<b>TOTAL</b>	<b>Annual District WSCH Ratio</b>	<b>530</b>	<b>600</b>	<b>591</b>	<b>574</b>	<b>597</b>	<b>4%</b>	<b>550</b>	<b>109%</b>

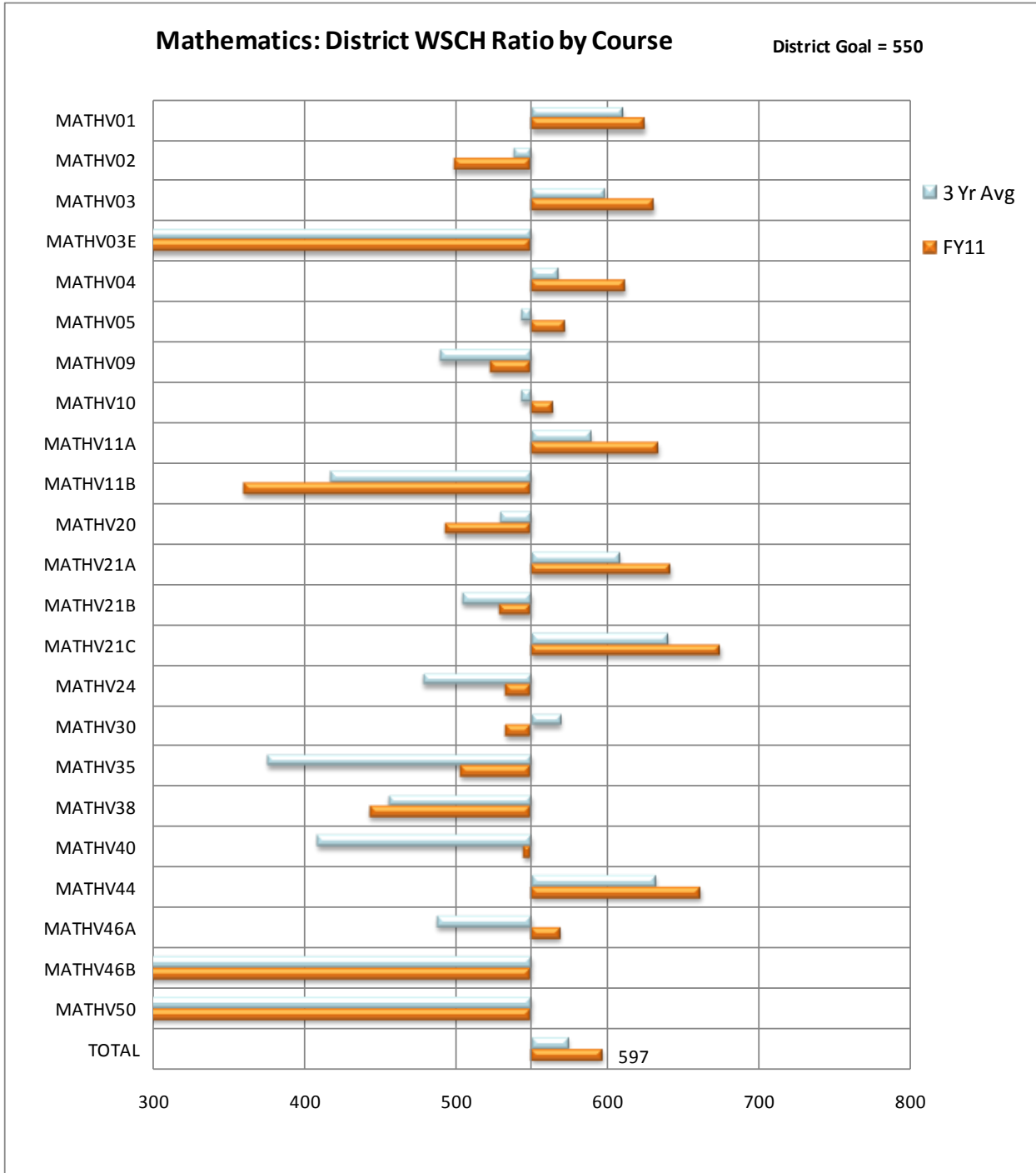


# Mathematics Program Review

2011-2012

## D2: District WSCH Ratio Productivity Chart

This chart illustrates the course level District WSCH ratio. The top bar shows the program's three year average. The second bar shows the program's FY11 WSCH ratio. The axis represents the District WSCH ratio goal set in 2006. The program's (or subject's) total WSCH ratio is shown as the TOTAL at the bottom of the chart.



# Mathematics Program Review

2011-2012

## D3: College WSCH Ratio Productivity Table

This table shows the College's WSCH ratio (WSCH/FTEF) for each course by year for the program. Courses not offered during FY11 (last year) or without faculty load (independent study) are excluded. Because these are ratios, the combined average is computed using total WSCH and total FTEF (not the average of ratios). The formula used in this table includes the associated faculty costs of extra large sections. Faculty teaching extra large sections are paid stipends equal to 50% of their section FTE assignment for each group of 25 students beyond the first 60 students (calculated in this table as XL FTE). This College WSCH Ratio is a more valid representation of WSCH productivity. The College WSCH Ratio will be used in the program review process.

College WSCH Ratio = WSCH / (PT FTE + FT FTE + XL FTE)

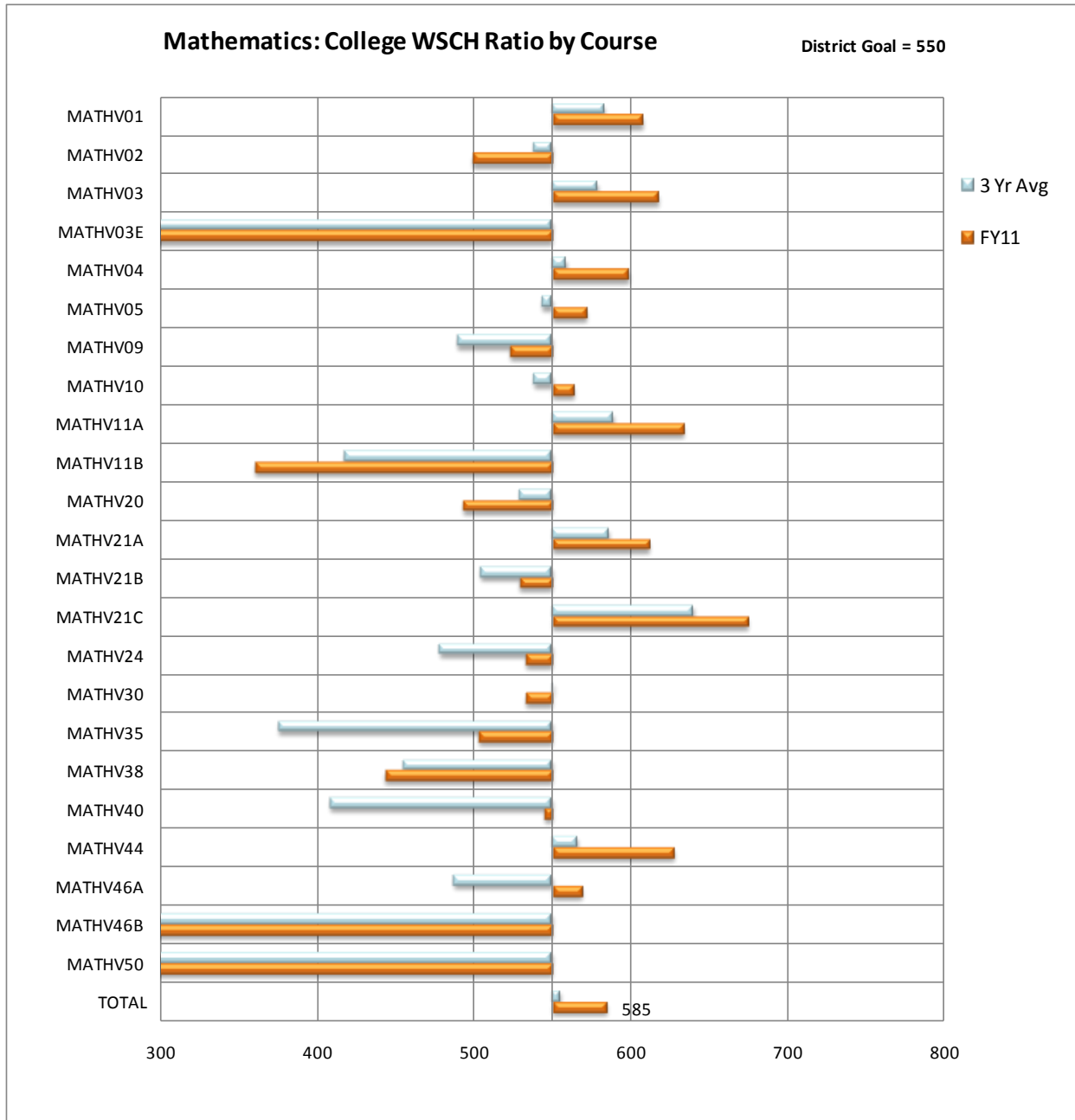
College WSCH Ratio: Weekly Student Contact Hours/(FT FTE + PT FTE + XL FTE)									
Course	Title	FY08	FY09	FY10	3 Yr Avg	FY11	Change	Dist Goal	% Goal
MATHV01	Elementary Algebra	533	617	601	583	608	4%	550	111%
MATHV02	Geometry	518	525	570	538	499	-7%	550	91%
MATHV03	Intermediate Algebra	547	591	594	579	618	7%	550	112%
MATHV03E	Intermed Algebra: Module V	-	-	4	4	11	207%	550	2%
MATHV04	College Algebra	482	578	605	559	599	7%	550	109%
MATHV05	Plane Trigonometry	494	535	601	543	572	5%	550	104%
MATHV09	Beginning Mathematics	412	504	545	489	523	7%	550	95%
MATHV10	Prealgebra	500	542	568	538	564	5%	550	103%
MATHV11A	Elementary Algebra: 1st Half	600	600	566	589	634	8%	550	115%
MATHV11B	Elementary Algebra: 2nd Half	566	411	274	417	360	-14%	550	65%
MATHV20	Precalculus Mathematics	479	541	568	529	493	-7%	550	90%
MATHV21A	Calculus/Analytic Geometry I	578	561	618	586	612	4%	550	111%
MATHV21B	Calculus/Analytic Geometry II	549	478	497	504	529	5%	550	96%
MATHV21C	Multivariable Calculus	623	630	668	640	675	5%	550	123%
MATHV24	Diff Equations/Linear Algebra	323	533	578	478	533	12%	550	97%
MATHV30	Math for Health Care Personnel	532	610	488	551	533	-3%	550	97%
MATHV35	Interm Algebra: Health Care	-	-	375	375	503	34%	550	91%
MATHV38	Math: Elmnty School Teachers	433	458	473	455	443	-3%	550	80%
MATHV40	Math Topics:College Students	368	390	485	408	545	34%	550	99%
MATHV44	Elementary Statistics	566	545	589	566	628	11%	550	114%
MATHV46A	Applied Calculus I	431	496	534	487	569	17%	550	103%
MATHV46B	Applied Calculus II	-	105	-	105	-	-100%	550	0%
MATHV50	Introduction to Computers	225	-	-	225	-	-100%	550	0%
<b>TOTAL</b>	<b>Annual College WSCH Ratio</b>	<b>520</b>	<b>566</b>	<b>577</b>	<b>555</b>	<b>585</b>	<b>5%</b>	<b>550</b>	<b>106%</b>

# Mathematics Program Review

2011-2012

## D4: College WSCH Ratio Productivity Chart

This chart illustrates the course level College WSCH ratio. The top bar shows the program's three year average. The second bar shows the FY11 WSCH ratio. The axis represents the District WSCH ratio goal set in 2006. The program's (or subject's) total WSCH ratio is shown as the TOTAL at the bottom of the chart. The computation used for the College WSCH Ratio includes XL FTE (extra-large sections) and the assignment of FTEF to all cross-listed sections (proportional to census enrollment).



## Mathematics Program Review

2011-2012

### D5: Productivity Detail Report

The program's detail productivity information is available in *Appendix B – Program Review Productivity Report*. This report is a PDF document and is searchable. The productivity information was extracted from the District's Banner Student System. The productivity information includes all information associated with the program's subject codes. The *Program Review Productivity Report* is sorted by subject code (alphabetical order) and includes the following sections: productivity measures and WSCH ratios by course by year.

### D6: Interpretation of the Program Course Productivity Information

In FY 11 the productivity level of 597 without adjusting for extra large classes is well above the three year average of 574, and the productivity of 585 after the adjustment is also well above the three year average of 555. All of these calculations are above the district's goal of 550.

Of all the math courses that fall below the district goal, only four fall significantly below the goal, and all four of those are anomalies that can be explained. MATH V03E is the last one unit module in a five-unit sequence, and all instructors teaching A-E are assigned load in Banner to module E falsely distorting low efficiency to this module; MATH V11B is the second semester of a course that is specifically designed for weak algebra students, and the transfer rate to the second semester is always lower than the first semester enrollment; MATH V46B was infrequently offered due to low enrollments and has since been deleted from the course catalog; and MATH V50 is a CS course which was temporarily offered through the math department but was re-titled to its original CS V04 title in FY 09.

All other courses that fall below the district goal are required for transfer, required for a degree in another program, or basic skills courses that should continue to be offered to meet specific requirements for students.

## Mathematics Program Review

2011-2012

### E1: Student Success Terminology

<b>Census</b>	Number of students enrolled at Census (typically the 4 <sup>th</sup> week of class for fall and spring). Census enrollment is used to compute WSCH and FTES for funding purposes.
<b>Retain</b>	Students completing the class with any grade other than W or DR divided by Census Example: 40 students enrolled, 5 students dropped prior to census, 35 students were enrolled at census, 25 students completed the class with a grade other than W or DR: Retention Rate = $25/35 = 71\%$
<b>Success</b>	Students completing the class with grades A, B, C, CR or P divided by Census Excludes students with grades D, F, or NC.

### E2: Student Success Summary

The following two tables summarize the detail information provided in the *Appendix C - Program Review Student Success Report*. The first table shows the number of students. The second table shows the percentage of students. Both tables show the distribution of student grades by year for the program (subject). They show the number of students who were counted at census, completed the class (retention), and were successful. The “3 Year Average” was computed to provide a trend benchmark to compare the prior three year expenses to the FY11 success measures. The “College” success percentages are included to compare the results of the program to the results of the college.

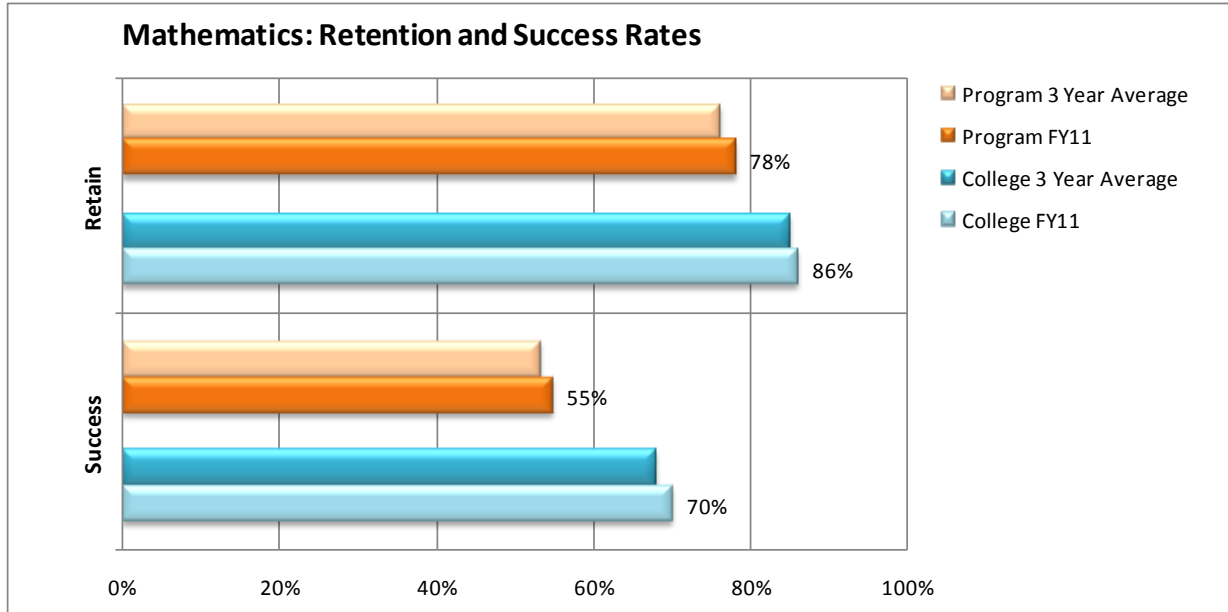
Subject	Fiscal Year	A	B	C	P/CR	D	F	W	NC	Census	Retain	Success
MATH	FY08	1,433	1,264	1,306	21	609	1,075	1,791	26	7,530	5,726	4,024
MATH	FY09	1,526	1,447	1,531	85	694	1,232	2,207	59	8,783	6,570	4,589
MATH	FY10	1,596	1,500	1,605	318	716	1,311	2,110	161	9,320	7,207	5,019
MATH	3 Year Avg	1,518	1,404	1,481	141	673	1,206	2,036	82	8,544	6,501	4,544
MATH	FY11	1,598	1,649	1,629	370	750	1,260	2,096	235	9,587	7,480	5,246
Subject	Fiscal Year	A	B	C	P/CR	D	F	W	NC	Census	Retain	Success
MATH	FY08	19%	17%	17%	0%	8%	14%	24%	0%		76%	53%
MATH	FY09	17%	16%	17%	1%	8%	14%	25%	1%		75%	52%
MATH	FY10	17%	16%	17%	3%	8%	14%	23%	2%		77%	54%
MATH	3 Year Avg	18%	16%	17%	2%	8%	14%	24%	1%		76%	53%
MATH	FY11	17%	17%	17%	4%	8%	13%	22%	2%		78%	55%
<b>College</b>	<b>3 Year Avg</b>	<b>33%</b>	<b>19%</b>	<b>12%</b>	<b>5%</b>	<b>5%</b>	<b>10%</b>	<b>15%</b>	<b>2%</b>		<b>85%</b>	<b>68%</b>
College	FY11	33%	20%	13%	3%	5%	10%	14%	2%		86%	70%

# Mathematics Program Review

2011-2012

## E3: Retention and Success Rates

This chart illustrates the retention and success rates of students who were counted at census. Each measure has four bars. The first bar represents the program's prior three year average percent. The second bar shows last year's (FY11) percent. The third and fourth bars represent the overall college percents.

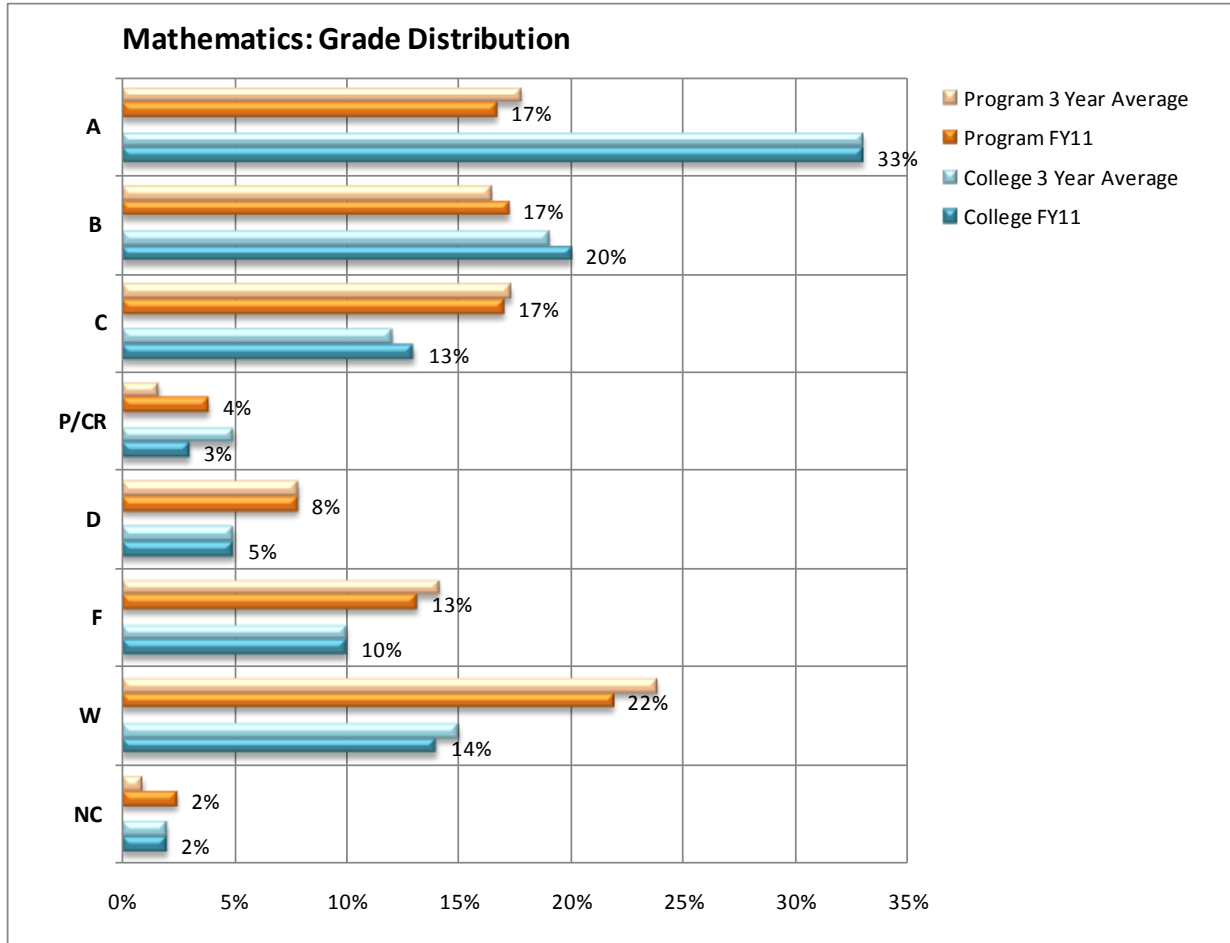


# Mathematics Program Review

2011-2012

## E4: Grade Distribution

This chart illustrates the program’s distribution of grades (by subject). Each grade has four bars. The first bar represents the program’s prior three year average percent of grades. The second bar shows last year’s (FY11) grade distribution percents. The third and fourth bars represent the overall college distribution percents.



## E5: Student Success Detail Report

The program student success detail information is available in *Appendix C – Program Review Student Success Report*. This report is a PDF document and is searchable. The student success information was extracted from the District’s Banner Student System. The student success information includes all information associated with the program’s subject codes. The *Program Review Student Success Report* is sorted by subject code (alphabetical order) and includes the following sections: comparative summary and course detail by term. The following table defines the terminology.

## Mathematics Program Review

2011-2012

### E6: Interpretation of Program Retention, Student Success, and Grade Distribution

Retention and success rates are below the college average, and these lower success rates translate into a higher number of D's and F's than other programs on campus. This is expected due to the difficult nature of the topic for most students, and it is in line with national statistics. The program also produces more withdraws than other programs because the math department does a good job of alerting students that they are failing and explaining that they have the option of withdrawing.

Although it is highly unlikely that success and retention in mathematics will ever reach the college's three year average, the math faculty is convinced that an increase is possible if added support is provided for our program. Statistics for the SI Tutor Program demonstrate increased success for the students who participate in the SI program. The math faculty is confident that expanding the SI Tutor Program and the hours for the Math Center will increase student success in mathematics.

The statistics presented above suggest that math students earn significantly fewer A's than in other programs; however there are underlying factors that explain some of this discrepancy. More students earn D's, F's and W's in mathematics than other programs due to the rigor of the courses. This disproportionate number of unsuccessful students relative to the college average skews the overall percentage of A's earned. If you only view the students who were successful, then approximately 1/3 of those students earned an A, which is more in line with the college average. It should also be noted that the grade distribution remained consistent for all grades over the four year period reported in the above statistics. This consistency implies the math department's leadership in maintaining academic standards.



## Mathematics Program Review

2011-2012

### F1: Program Completion – Student Awards

This table shows the number of students who completed a program certificate or degree during the fiscal year. Gender distribution is included. The following chart illustrates this information.

No certificates or degrees ... yet. A transfer model curriculum degree in mathematics is in Curricunet awaiting review by the Curriculum Committee.

### F2: Interpretation of the Program Completion Information

## Mathematics Program Review

2011-2012

### G1: Student Demographics Summary Tables

This table shows the program and college census enrollments for each demographic category. It also shows the average age of the students. The program FY11 results can be compared to its prior three year average, the college FY11 results, and the college prior three year average.

Subject	FY	Hispanic	White	Asian	Afr Am	Pac Isl	Filipino	Nat Am	Other	Female	Male	Other	Avg Age
MATH	FY08	3,246	2,772	323	208	47	207	106	621	4,164	3,335	31	26
MATH	FY09	3,824	3,180	342	293	78	258	121	687	4,707	4,033	43	25
MATH	FY10	4,196	3,448	291	304	69	260	100	652	4,883	4,412	25	24
<b>MATH</b>	<b>3 Year Avg</b>	<b>3,755</b>	<b>3,133</b>	<b>319</b>	<b>268</b>	<b>65</b>	<b>242</b>	<b>109</b>	<b>653</b>	<b>4,585</b>	<b>3,927</b>	<b>33</b>	<b>25</b>
<b>MATH</b>	<b>FY11</b>	<b>4,579</b>	<b>3,246</b>	<b>386</b>	<b>331</b>	<b>61</b>	<b>319</b>	<b>151</b>	<b>514</b>	<b>5,103</b>	<b>4,475</b>	<b>9</b>	<b>24</b>
College	3 Year Avg	11,806	11,169	988	1,005	217	827	403	2,302	15,888	12,694	134	27
<b>College</b>	<b>FY11</b>	<b>13,034</b>	<b>10,566</b>	<b>977</b>	<b>1,040</b>	<b>196</b>	<b>886</b>	<b>402</b>	<b>1,688</b>	<b>15,734</b>	<b>13,014</b>	<b>40</b>	<b>24</b>

This table shows the program and college percentage of census enrollments for each demographic category.

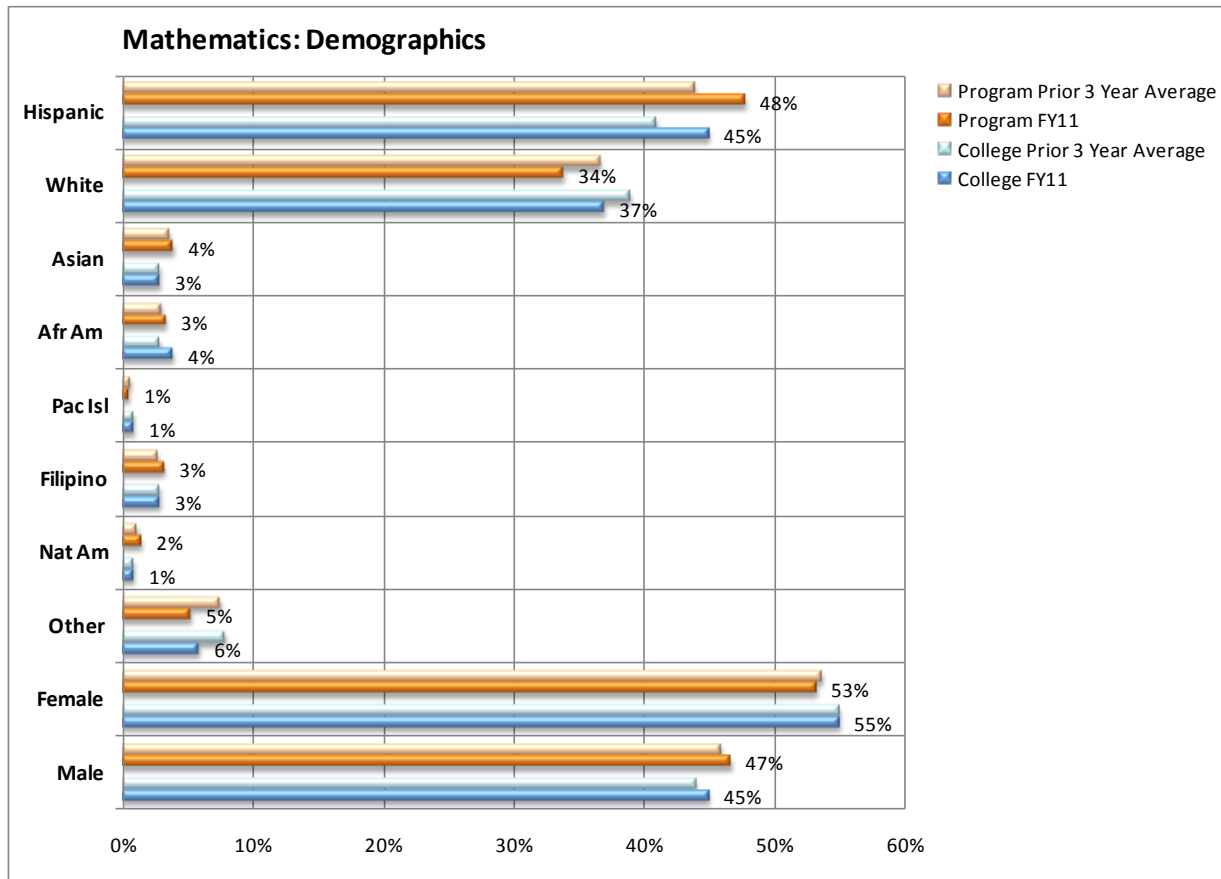
Subject	FY	Hispanic	White	Asian	Afr Am	Pac Isl	Filipino	Nat Am	Other	Female	Male	Other	Avg Age
MATH	FY08	43%	37%	4%	3%	1%	3%	1%	8%	55%	44%	0%	26
MATH	FY09	44%	36%	4%	3%	1%	3%	1%	8%	54%	46%	0%	25
MATH	FY10	45%	37%	3%	3%	1%	3%	1%	7%	52%	47%	0%	24
MATH	3 Year Avg	44%	37%	4%	3%	1%	3%	1%	8%	54%	46%	0%	25
<b>MATH</b>	<b>FY11</b>	<b>48%</b>	<b>34%</b>	<b>4%</b>	<b>3%</b>	<b>1%</b>	<b>3%</b>	<b>2%</b>	<b>5%</b>	<b>53%</b>	<b>47%</b>	<b>0%</b>	<b>24</b>
College	3 Year Avg	41%	39%	3%	3%	1%	3%	1%	8%	55%	44%	0%	27
<b>College</b>	<b>FY11</b>	<b>45%</b>	<b>37%</b>	<b>3%</b>	<b>4%</b>	<b>1%</b>	<b>3%</b>	<b>1%</b>	<b>6%</b>	<b>55%</b>	<b>45%</b>	<b>0%</b>	<b>24</b>

# Mathematics Program Review

2011-2012

## G2: Student Demographics Chart

This chart illustrates the program’s percentages of students by ethnic group. . Each group has four bars. The first bar represents the program’s prior three year percent. The second bar shows last year’s (FY11) percent. The third and fourth bars represent the overall college percents.



## G3: Student Demographics Detail Report

The program student success detail information is available in *Appendix D – Program Review Student Demographics Report*. This report is a PDF document and is searchable. The student success information was extracted from the District’s Banner Student System. The student demographic information includes all information associated with the program’s subject codes. The *Program Review Student Demographics Report* is sorted by subject code (alphabetical order) and includes the following sections: comparative summary by year, and detail demographics by term and course.

## G4: Interpretation of the Program Demographic Information

The ethnic and gender distribution in Math appears to roughly match the college as a whole.

# Mathematics Program Review

2011-2012

## 4. Performance Assessment

### A1: Program-Level Student Learning Outcomes

<b>Program-Level Student Learning Outcome 1</b>	<b>Performance Indicators</b>
Solve and graph linear and nonlinear equations, and systems of equations.	70% of the students assessed should be able to successfully answer specified exam questions directly related to the outcome.
<b>Operating Information</b>	
Test questions addressing these topics will be included in applicable courses and tested in Fall 2011. The course-level SLO data collected from the courses that require this outcome will be aggregated to evaluate this program level SLO. This summative analysis will be performed after all math faculty submit course-level assessment forms.	
<b>Analysis – Assessment</b>	
Insufficient data to perform aggregate analysis. Analysis will occur later in the fall semester.	

<b>Program-Level Student Learning Outcome 2</b>	<b>Performance Indicators</b>
Simplify mathematical expressions using correct mathematical notation.	70% of the students assessed should be able to successfully answer specified exam questions directly related to the outcome.
<b>Operating Information</b>	
Test questions addressing these topics will be included in applicable courses and tested in Fall 2011. The course-level SLO data collected from the courses that require this outcome will be aggregated to evaluate this program level SLO. This summative analysis will be performed after all math faculty submit course-level assessment forms.	
<b>Analysis – Assessment</b>	
Insufficient data to perform aggregate analysis. Analysis will occur later in the fall semester.	

## Mathematics Program Review

2011-2012

Program-Level Student Learning Outcome 3	Performance Indicators
Analyze and perform function operations including transforms.	70% of the students assessed should be able to successfully answer specified exam questions directly related to the outcome.
<b>Operating Information</b>	
Test questions addressing these topics will be included in applicable courses and tested in Fall 2011. The course-level SLO data collected from the courses that require this outcome will be aggregated to evaluate this program level SLO. This summative analysis will be performed after all math faculty have submit course-level assessment forms.	
<b>Analysis – Assessment</b>	
Insufficient data to perform aggregate analysis. Analysis will occur later in the fall semester.	

Program-Level Student Learning Outcome 4	Performance Indicators
Solve problems involving ordinary differential equations, derivatives, and integrals.	70% of the students assessed should be able to successfully answer specified exam questions directly related to the outcome.
<b>Operating Information</b>	
Test questions addressing these topics will be included in applicable courses and tested in Fall 2011. The course-level SLO data collected from the courses that require this outcome will be aggregated to evaluate this program level SLO. This summative analysis will be performed after all math faculty submit course-level assessment forms.	
<b>Analysis – Assessment</b>	
Insufficient data to perform aggregate analysis. Analysis will occur later in the fall semester.	

Program-Level Student Learning Outcome 5	Performance Indicators
Apply mathematical techniques to solve applications.	70% of the students assessed should be able to successfully answer specified exam questions directly related to the outcome.
<b>Operating Information</b>	
Test questions addressing these topics will be included in applicable courses and tested in Fall 2011. The course-level SLO data collected from the courses that require this outcome will be aggregated to evaluate this program level SLO. This summative analysis will be performed after all math faculty submit course-level assessment forms.	
<b>Analysis – Assessment</b>	
Insufficient data to perform aggregate analysis. Analysis will occur later in the fall semester.	

# Mathematics Program Review

2011-2012

## 4B: Student Success Outcomes

Student Success Outcome 1	Performance Indicators
The program will increase its retention rate from the average of the <b>program's</b> prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.	The program will increase the retention rate by 2% or more above the average of the <b>program's</b> retention rate for the prior three years.
<b>Operating Information</b>	
The mathematics department is confident that realization of the initiatives stated below will contribute to increased retention in math courses.	
<b>Analysis – Assessment</b>	
The mathematics program did increase retention by 2% in FY 11 compared to the prior three year average.	

Student Success Outcome 2	Performance Indicators
The program will increase its retention rate from the average of the <b>college's</b> prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.	The program will increase the retention rate by 2% or more above the average of the <b>college</b> retention rate for the prior three years.
<b>Operating Information</b>	
Due to the inherent, difficult nature of mathematics achieving retention rates at or above the college rate is an unrealistic goal.	
<b>Analysis – Assessment</b>	
The mathematics department will strive to show increased retention each year.	

## Mathematics Program Review

2011-2012

Student Success Outcome 3	Performance Indicators
The program will increase the student success rates from the average of the <b>program's</b> prior three-year success rates. The student success rate is the percentage of students at census who receive a grade of C or better.	The program will increase student success rate by 2% or more above the <b>program's</b> average student success rate for the prior three years.
<b>Operating Information</b>	
The mathematics department is confident that realization of the initiatives stated below will contribute to increased success in math courses.	
<b>Analysis – Assessment</b>	
The mathematics program did increase success by 2% in FY 11 compared to the prior three year average.	

Student Success Outcome 4	Performance Indicators
The program will increase the student success rates from the average of the <b>college's</b> prior three-year success rates. The student success rate is the percentage of students at census who receive a grade of C or better.	The program student success will increase by 5% over the average of the <b>college's</b> student success rate for the prior three years.
<b>Operating Information</b>	
Due to the inherent, difficult nature of mathematics achieving success rates at or above the college rate is an unrealistic goal.	
<b>Analysis – Assessment</b>	
The mathematics program did increase success by 2% in FY 11 compared to the prior three year average.	

# Mathematics Program Review

2011-2012

<b>Student Success Outcome 5</b>	<b>Performance Indicators</b>
Students will complete the program earning certificates and/or degrees.	Increase the number of students earning a certificate to a minimum of 20% of the number of students enrolled in second-year courses.
<b>Operating Information</b>	
The mathematics department does not currently offer a degree or a certificate.	
<b>Analysis – Assessment</b>	



# Mathematics Program Review

2011-2012

## C. Program Operating Outcomes

Program Operating Outcome 1	Performance Indicators
The program will maintain WSCH/FTEF above the 550 goal set by the district.	The program will exceed the efficiency goal of 550 set by the district by 2%.
<b>Operating Information</b>	
The department met and exceeded this goal. The department operated at over 100% of the district goal in each of the past Three years. FY 11 performance is either 4% or 5.4% increase over the prior three year average depending on which productivity calculation is used.	
<b>Analysis – Assessment</b>	
The only way the math department will be able to increase efficiency is to offer more sections in the courses that have very strong enrollment. It will be difficult for the department to achieve increased efficiency ratings otherwise. This is due to the fact that our math classroom capacities and pedagogy preclude increasing class sizes to provide this increase.	

Program Operating Outcome 2	Performance Indicators
Inventory of instructional equipment is functional, current, and otherwise adequate to maintain a quality-learning environment. Inventory of all equipment over \$200 will be maintained and a replacement schedule will be developed. Service contracts for equipment over \$5000 will be budgeted if funds are available.	A current inventory of all equipment in the program will be maintained. Equipment having a value over \$5000 will have a service contract. A schedule for service life and replacement of outdated equipment will reflect the total cost of ownership.
<b>Operating Information</b>	
The inventory list is out of date and must be reviewed (see 3B1)	
<b>Analysis – Assessment</b>	

# Mathematics Program Review

2011-2012

Program Operating Outcome 3	Performance Indicators
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

Program Operating Outcome 4	Performance Indicators
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

# Mathematics Program Review

2011-2012

## 5. Findings

**Finding 1:** Statistics for the SI Tutor Program show increased success for the students who participate in the SI program. Course Level SLO assessments indicate that expansion of the SI Tutor Program and increased Math Center hours are necessary to achieve increased program success. Additionally, the math faculty is confident that expansion of the Tutoring Center services will also increase student success in mathematics.

**Finding 2:** Retention and success rates in mathematics courses fall below rates in other programs. This suggests that math faculty will benefit from specialized training specific to mathematics instruction. Training that is currently available is inadequate to meet the specialized needs of math faculty.

**Finding 3:** Students regularly complain that they can't find qualified tutors to help them understand topics in the calculus sequence and statistics. The math faculty is confident that adding discussion sections to these courses will improve retention and success for the program.

**Finding 4**

# Mathematics Program Review

2011-2012

## 6. Initiatives

### Initiative #1

Expand Math Center hours and the SI tutoring program for all levels of mathematics courses

**Initiative ID MATH 1-11**

### Links to Finding 1

The course level evaluations note that students benefit from out of class help to grasp difficult mathematical concepts. SI tutors and peer tutors provide these opportunities for students. In addition, the SI program provides opportunity for the tutors to be in the classroom to establish rapport with the students and to become familiar with the specific techniques the instructor uses. This experience creates a more effective out of class tutorial session.

**Benefits:** Increased retention and success rates in math courses.

### Request for Resources

Personnel - Funding for tutors (SI tutors for all levels of math classes and expanded Math Center hours).

### Funding Sources

No new resources are required (use existing resources)	N
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	Y
Requires computer equipment funds (hardware and software)	N
Requires college equipment funds (other than computer related)	N
Requires college facilities funds	N
Requires other resources (grants, etc.)	Y

# Mathematics Program Review

2011-2012

## Initiative #2

Provide faculty access to mathematical and technological workshops for professional development designed specifically for mathematics instruction

## Initiative ID

## Links to Finding 2

The faculty believe that instruction can be enhanced by having access to training and opportunities to collaborate with other math faculty concerning classroom management techniques that specifically relate to mathematics. Many teacher workshops concerning classroom management techniques are not appropriate for mathematics classrooms.

## Benefits

## Request for Resources

Training – Funding to bring in people to present workshops or to send faculty to other locations where workshops are presented that target mathematics instruction.

## Funding Sources

Please check one or more of the following funding sources.

No new resources are required (use existing resources)	N
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	Y
Requires computer equipment funds (hardware and software)	N
Requires college equipment funds (other than computer related)	N
Requires college facilities funds	N
Requires other resources (grants, etc.)	N

# Mathematics Program Review

2011-2012

## Initiative #3

Add discussion lab sections for Math 20, 21A, 21B, 21C, 24, and 44

## Initiative ID

### Links to Finding 3

Students regularly complain that they can't find tutors to help them with the calculus sequence and statistics. The discussion sections provide students a more relaxed atmosphere to work with each other and an instructor to practice newly learned techniques and theory.

### Benefits

#### Request for Resources

Discussion sections – The department would like funding to bring back discussion sections that once used to be offered here.

#### Funding Sources

No new resources are required (use existing resources)	N
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	Y
Requires computer equipment funds (hardware and software))	N
Requires college equipment funds (other than computer related)	N
Requires college facilities funds	N
Requires other resources (grants, etc.)	N

# Mathematics Program Review

2011-2012

**Initiative**

**Initiative ID**

**Links to Finding 4**

**Benefits**

**Request for Resources**

**Funding Sources**

No new resources are required (use existing resources)	
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	
Requires computer equipment funds (hardware and software)	
Requires college equipment funds (other than computer related)	
Requires college facilities funds	
Requires other resources (grants, etc.)	

# Mathematics Program Review

2011-2012

## 6A: Initiatives Priority Spreadsheet

The following blank tables represent Excel spreadsheets and will be substituted with a copy of the completed Excel spreadsheets.

### Personnel –Faculty Requests

Other	Program	Program Priority (0, 1, 2, 3...)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	No New Resources Requested	General Fund	Other
1												
2												
3												
4												
5												

### Personnel – Other Requests

Personnel - Other	Program	Program Priority (0, 1, 2, 3...)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	No New Resources Requested	New General Funds	Other
1												
2												
3												
4												
5												



# Mathematics Program Review

2011-2012

## Computer Equipment and Software

Equipment - Computer Related	Program	Program Priority (0, 1, 2, 3...)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	No New Resources Requested	Technology Fund	Other
1												
2												
3												
4												
5												

## Other Equipment Requests

Equipment	Program	Program Priority (0, 1, 2, 3...)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	No New Resources Requested	Equipment Fund	Other
1												
2												
3												
4												
5												

## Facilities Requests

Facilities	Program	Program Priority (0, 1, 2, 3...)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	No New Resources Requested	Facilities Fund	Other
1												
2												
3												
4												
5												

# Mathematics Program Review

2011-2012

Other Resource Requests

Other Resources	Program	Program Priority (0, 1, 2, 3...)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	No New Resources Requested	General Fund	Other
1												
2												
3												
4												
5												

6B: Program Level Initiative Prioritization

All initiatives will first be prioritized by the program staff. If the initiative can be completed by the program staff and requires no new resources, then the initiative should be given a priority 0 (multiple priority 0 initiatives are allowed). All other initiatives should be given a priority number starting with 1 (only one 1, one 2, etc.).

6C: Division Level Initiative Prioritization

The program initiatives within a division will be consolidated into division spreadsheets. The dean may include additional division-wide initiatives. All initiatives (excluding the '0' program priorities) will then be prioritized using the following priority levels:

**R:** Required – mandated or unavoidable needs (litigation, contracts, unsafe to operate conditions, etc.).

**H:** High – approximately 1/3 of the total division’s initiatives by resource category (personnel, equipment, etc.)

**M:** Medium – approximately 1/3 of the total division’s initiatives by resource category (personnel, equipment, etc.)

**L:** Low – approximately 1/3 of the total division’s initiatives by resource category (personnel, equipment, etc.)

6D: Committee Level Initiative Prioritization

The division’s spreadsheets will be prioritized by the appropriate college-wide committees (staffing, technology, equipment, facilities) using the following priority levels.

**R:** Required – mandated or unavoidable needs (litigation, contracts, unsafe to operate conditions, etc.).

**H:** High – approximately 1/3 of the total division’s initiatives by resource category (personnel, equipment, etc.)

**M:** Medium – approximately 1/3 of the total division’s initiatives by resource category (personnel, equipment, etc.)

**L:** Low – approximately 1/3 of the total division’s initiatives by resource category (personnel, equipment, etc.)

6E: College Level Initiative Prioritization

## Mathematics Program Review

2011-2012

Dean's will present the consolidated prioritized initiatives to the College Planning Council. The College Planning Council will then prioritize the initiatives using the following priority levels.

**R:** Required – mandated or unavoidable needs (litigation, contracts, unsafe to operate conditions, etc.).

**H:** High – approximately 1/3 of the total division's initiatives by resource category (personnel, equipment, etc.)

**M:** Medium – approximately 1/3 of the total division's initiatives by resource category (personnel, equipment, etc.)

**L:** Low – approximately 1/3 of the total division's initiatives by resource category (personnel, equipment, etc.)

## **Mathematics Program Review**

2011-2012

### 7A: Appeals

After the program review process is complete, your program has the right to appeal the ranking of initiatives.

If you choose to appeal, please complete the form that explains and supports your position. The appeal will be handled at the next higher level of the program review process.

### 7B: Process Assessment

In this first year of program review using the new format, programs will be establishing performance indicators (goals) for analysis next year. Program review will take place annually, but until programs have been through an entire annual cycle, they cannot completely assess the process. However, your input is very important to us as we strive to improve, and your initial comments on this new process are encouraged.