GAVILAN COLLEGE
INSTRUCTIONAL PROGRAM SELF STUDY

Program Review

I. Provide an organizational breakdown of your program. Do not include individual's names, only position titles and FTE.

	Title	FTE
Administrator	Dean of Liberal Arts and Sciences	
Faculty - FT		5
Faculty - PT		19
Professional Support Staff	Math Lab instructional assistant	0.5

II. Program Progress (What have you done since your last review)

A. What specific goals, curricula, program, and/or pedagogical modifications were made within the program to support college-level strategic initiatives and student success during the past three years (For example, scheduling changes, distance learning, ladder concepts, work-based learning strategies, internships, service learning, learning communities, technological enhancements, and other student centered learning pedagogies)?

The Math department has been active over the past seven years because of the opportunities provided by the STEM grants we've received. During the past three years alone, we've done these modifications:

1) Using the second Science, Technology, Engineering Mathematics (STEM) grant, the department has worked to grow upper level classes and increase the number of AS and AS-T graduates. We have grown to where there were six AS or AS-T graduates in 2013-14. Unfortunately, this has been severely threatened as the district has cancelled the second year of the engineering classes. With so few math majors, we need the second year engineering students to fill the differential equations (Math 2C) and linear algebra (Math 2) classes. Unless the administration alters its policy, we won't be able to offer these classes and won't have any majors.

2) Prompted by the student's lack of success in algebra after passing Pre-algebra (Math 402), the department instituted mastery learning for Math 402. The course is now pass/no pass and passing level is set at the grade of "B". This change was approved by the curriculum committee and the passing grade was set after the institutional researcher found students who passed with a lower grade were much less likely to succeed in the

next course.

Table 2: Math 402 grade by Math 205 Success rates

			Success205		
			Non	Success	Total
Grade402		Count	2162	1946	4108
		% within Grade402	52.6%	47.4%	100.0%
	A	Count	32	88	120
		% within Grade402	26.7%	73.3%	100.0%
	A-	Count	12	30	42
		% within Grade402	28.6%	71.4%	100.0%
	B	Count	50	40	90
		% within Grade402	55.6%	44.4%	100.0%
	B-	Count	15	11	26
		% within Grade402	57.7%	42.3%	100.0%
	B+	Count	13	10	23
		% within Grade402	56.5%	43.5%	100.0%
	C	Count	72	17	89
		% within Grade402	80.9%	19.1%	100.0%
	C+	Count	24	11	35
		% within Grade402	68.6%	31.4%	100.0%
	D	Count	32	5	37
		% within Grade402	86.5%	13.5%	100.0%
	F	Count	35	8	43
		% within Grade402	81.4%	18.6%	100.0%
	IF	Count	1	0	1
		% within Grade402	100.0%	.0%	100.0%
	RD	Count	0	1	1
		% within Grade402	.0%	100.0%	100.0%
	W	Count	34	13	47
		% within Grade402	72.3%	27.7%	100.0%

Table 1: Math 205A success rate based on Math 402 grade.

		Grade402										
		A	A-	B	B-	B+	C	C+	D	F	IF	W
		Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count
Success205A	Non	4	2	13	8	3	33	10	17	24	1	22
	Success	15	8	26	11	6	30	10	11	11	0	15
Rate	**%**	**78.9%**	**80.0%**	**66.6%**	**57.9%**	**66.6%**	**47.6%**	**50.0%**	**39.3%**	**31.4%**	**0%**	**40.5%**

Table 2: Math 205B success rate based on Math 402 grade.

		Grade402										
		A	A-	B	B-	B+	C	C+	D	F	IF	W
		Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count
Success205B	Non	1	1	10	3	1	12	4	5	8	1	6
	Success	7	6	16	9	5	19	10	5	5	0	12
Rate	**%**	**87.5%**	**85.7%**	**61.5%**	**75%**	**83.3%**	**61.0%**	**71.4%**	**50%**	**38.6%**	**0%**	**66.6%**

3) After much discussion among department members, the elementary algebra course (Math 205) and the intermediate algebra course (Math 233) were shelved and replaced by Algebra 1 (Math 430) and Algebra 2 (Math 240). The previous courses had a large amount of repetition in the second course and the goal of the current courses is to teach less material in each and go into it in more depth. The new courses are still being adjusted after analyzing the pass rates after the first year.

4) Since many students go into Statistics (Math 5) after completing Algebra 2, the department created an Algebra 2 course expressly for those students (Math 242). It covers the key parts of the Algebra 2 course along with some extra sections that give the students an introduction to the types of problems and the terminology they will see in statistics. This course is just in its second year and is being adjusted to improve its effectiveness.

5) In order to assist basic skills students to succeed in the lower courses, the department has instituted a combined Arithmetic (Math 400) and Pre-algebra (Math 402) course. This six-unit, pass/no pass course allows the students to get into the algebra series quicker and also gives the instructor time to

emphasize topics and have the students work together and learn from each other.

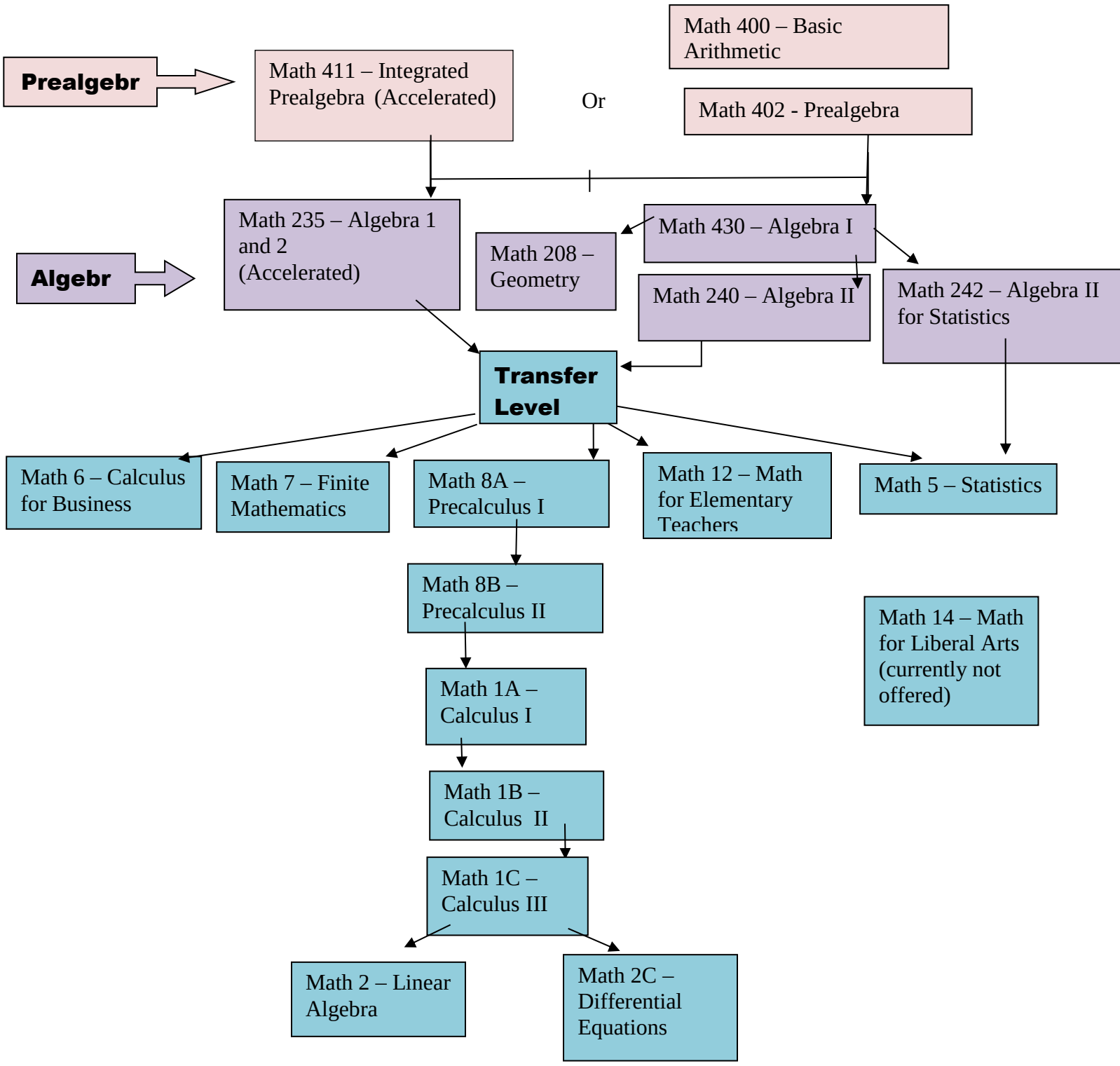
6) At the algebra level, the department has instituted classes in both Algebra 1 and Algebra 2 which meet for over ten hours a week. These Mathematics Performance Success (MPS) classes are targeted for students who have previously been unsuccessful at either course or know they have always had difficulties with math classes. The extra time allows for the students to work on problems in class immediately after the teacher goes over the new material. In order to further support the students, there is a student hired to be a tutor in the class and assist the teacher while the students are working together or in groups.

7) Also at the algebra level, the department offers a ten unit class which covers both Algebra 1 and Algebra 2 in one semester. This is for the students who want to focus on mathematics for a semester and have the time to master the topics.

8) The department created an AS-T degree and got it approved by the curriculum committee, board, and the chancellor's office. The first few students completed it last year.

9) This is the third year the department will invite all the math teachers from the six local high schools, continuation schools, and GECA to come to the Mayock House in May for an articulation meeting and dinner. At this meeting, Gavilan instructors find out what's going on in the local high schools as the Common Core curriculum is instituted. It started in the ninth grade in 2013-14 and it will impact the college in 2017-18 when the first students taught in the new way come to Gavilan. Meeting with the teachers has given Gavilan faculty connections with all the local high school math departments. Since this is funded by the STEM grant which will be expiring in a little over a year, the challenge will be to find a way to support these meetings as we have paid the teachers to attend.

The New Algebra Sequence



B. What results have you seen because of these modifications? (Include data if available.)

Most of the changes are still too early to judge for the long term as there might be only one or two cohorts who have successfully completed the courses. One area of concern has been a decrease of success in students who took Algebra 1 succeeding at Algebra 2. (see attachment #1). To mitigate that, we are changing the book and creating supplements to support students in being successful.

C. What methods does the program use to maintain the integrity of academic standards and achieve consistency within the discipline, particularly in regard to multiple section introductory classes?

The math faculty work together to develop curriculum that becomes the course outlines of record. These outlines include course learning outcomes which instructors may use as a guideline to determine the level of importance of each topic to be covered. Copies of specific course syllabi containing course calendars, assignment lists and grading philosophies are given by each instructor to the Dean's office at the beginning of the semester. The outlines and copies of these syllabi are shared with and used by instructors hired to teach these courses. Lead faculty have been established among the full time faculty to interface with the part time instructors teaching various courses. The lead faculty person is responsible for acquiring teaching materials including annotated instructor editions of texts and a sample of a viable course syllabus. With the Math 430 and Math 240 courses, this has been a challenge for the department. Our Algebra 1 and Algebra 2 are not the standard classes and the department has been seeing part time faculty teach the classes as they would at other colleges. For the coming fall semester, the department is writing up supplements, detailed course outlines, and recommended homework assignments. We will then speak to each part timer individually to make sure all of them are aware of what we are trying to accomplish.

D. What are the program's methods for evaluating and modifying the contents of course offerings? Please provide examples of the result of this process.

We have been tracking success rates in classes for the new courses (see attachment #1). Transfer level courses are modeled after and conform with offerings at the UC/CSU in order to assure articulation. The articulation officer informs the department when a course is in jeopardy of losing its articulation status and the necessary modifications are made whenever possible. Non-transfer (remedial/developmental) courses are generally similar to the same type course offered at other community colleges.

Courses which are part of a sequence are consistently evaluated by the faculty to determine if prerequisite courses sufficiently prepare students to best succeed in subsequent courses.

E. What staff development efforts has your program undertaken?

Faculty members continue to attend conferences to keep them abreast of new teaching techniques, technologies and philosophies and to talk and share ideas with other math instructors from other institutions. In the past three years, faculty members have attended the CMC^3 and AMATYC conferences. Through the STEM grant, faculty have also attended professional training sessions such as Basic Skills Training and visiting other local community college programs which are known as exemplary programs. Recently, the department had an instructor come and train the teachers on reading methods for math problems.

F. Is the program currently articulated with regional four-year colleges and universities and district high schools? Does your program currently have an AA-T or AS-T? If not, what are the plans to develop one?

The college articulation officer assures that all transfer level courses are articulated with the University of California and/or the California State University system. She informs the department of any courses which have failed to articulate or are in jeopardy of losing articulation due to changes in requirements. The department has met with local high school teachers for the past two years to discuss articulation and is scheduled to do it again in May. The department created an AS-T degree and the first students graduated with it last year.

G. If applicable, how does the program meet all local, state, and federal requirements, including professional, or trades and industry organizations?

N/A

H. How has your program collected information and responded to the needs of the community/field (e.g. advisory council, needs assessment)?

With our high school articulation meetings, we are able to meet with the math teachers and make sure we are meeting the needs of their students who attend Gavilan.

III. Program Data

Provide appropriate analysis for the following sections based on data acquired from the Office of Institutional Research.

A. Basic description of program

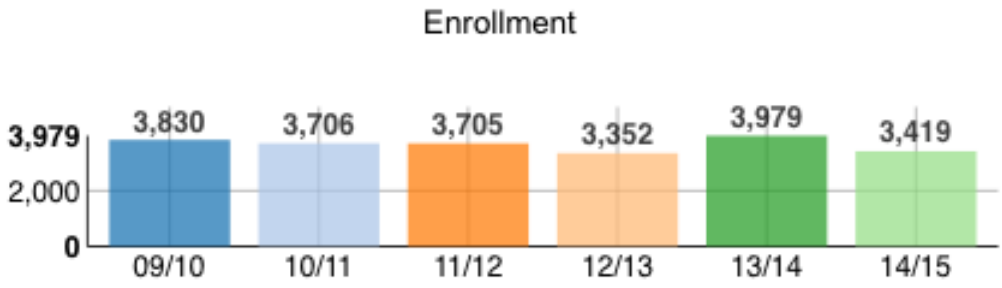
The Mathematics program at Gavilan College offers both developmental and transfer level courses. The Math Faculty and Staff provide instruction and preparation at three levels. We prepare students for the completion of the AA degree (remediation, as needed, and completion of Math 240 requirement), for transfer to four-year institutions (completion of lower division mathematics requirements), and provide essential prerequisite courses for degrees in Math, Science, and Engineering (completion of the Calculus series and other associated courses).

1. Enrollment and FTES

Academic Year	09 / 10	10 / 11	11 / 12	12 / 13	13 / 14	14 / 15
Enrollment	3,830	3,706	3,705	3,352	3,979	3,419
Sections	126	118	108	97	121	101
Avg. Class Size	30	31	34	35	33	34
FTES	567.7	566.08	569.21	508.32	597.21	538.61
Avg. FTES/FTEF	470.2	528.3	557.3	549.6	531	609.9
Retention	74.60%	79.70%	79.90%	82.10%	85.00%	82.70%
Success	51.40%	57.40%	59.10%	61.20%	64.70%	33.50%

-There has been an almost 30% increase in math FTES per full-time faculty member, even as the number of sections has decreased. This supports the need for a sixth full time math faculty member.

i. Enrollment by top code and course over time (4 years)



ii. FTES by top code over time (4 years)

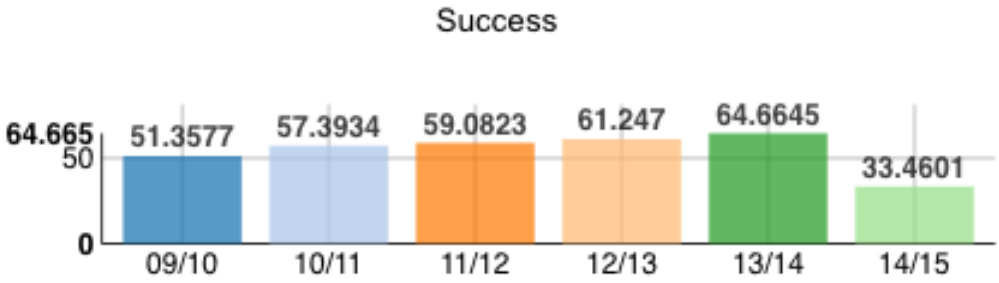
Academic Year	09 / 10	10 / 11	11 / 12	12 / 13	13 / 14	14 / 15
FTES	567.7	566.08	569.21	508.32	597.21	538.61
Avg. FTES/FTEF	470.2	528.3	557.3	549.6	531	609.9

iii. Current enrollment by term last available census

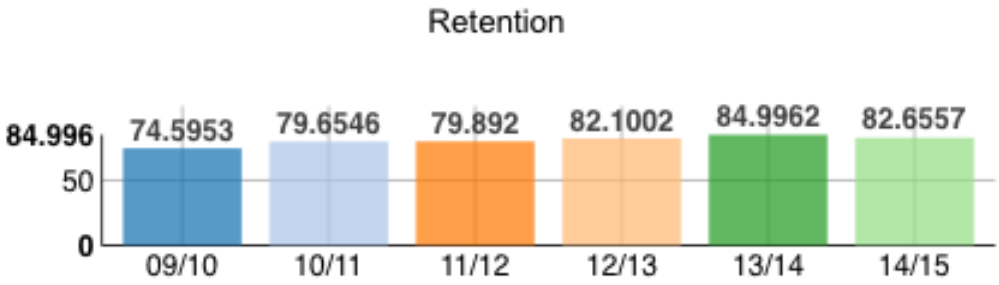
For the current term, the enrollment is 3,419.

2. Student Outcomes

i. Success rate by top code and course and year (4 years).



ii. Retention rate by top code and course and year (4 years).



iii. Number of majors by year (4 years).

2010/11 – 0 majors 2011/12 – 1 major, 2012/13 – 2 majors, 2013/14 – 6 majors

iv. Number of degrees and certificates by top code and year (4 years).

2010/11 – 0 degrees 2011/12 – 1 AS, 2012/13 – 2 AS, 2013/14 – 3 AS and 3 AS-T

3. Staffing Data
   i. Faculty Headcount (by contract and hourly) (past 4 years)

The department had six full-time faculty until a retirement in 2011 dropped it to five where it remains. The current hiring will keep it at five as there will be a retirement this June.

Part-time faculty numbers vary between 17 and 25, depending upon the number of sections the department is allowed to teach due to budget constraints.

   ii. Faculty productivity (Weekly Student Contact Hours [WSCH] divided by Full Time Equivalent Faculty [FTEF]) (past 4 years)

Academic Year	09 / 10	10 / 11	11 / 12	12 / 13	13 / 14	14 / 15
FTES	567.7	566.08	569.21	508.32	597.21	538.61
Avg. FTES/FTEF	470.2	528.3	557.3	549.6	531	609.9

   iii. Current ethnic and gender distribution of faculty

This semester, there are four women and two men full-time. There are nine women and eight men part-time. The full-time are five white and one Hispanic. The part-time faculty this semester are 76% white, 18% Southeast Asian, and 8% Middle Eastern.

   iv. Contract overload by year (past 4 years)

In Spring 2011, full-time faculty taught 14 units of overload. In Spring 2012, the full-time faculty taught 21 units of overload, in Fall 2012, the full-time faculty taught 8 units of overload, in Spring 2013, the full-time faculty taught 8 units of overload, in Fall 2013, the full-time faculty taught 23 units of overload, in Spring 2014, the full-time faculty taught 20 units of overload, in Fall 2014, the full-time faculty taught 7 units of overload, and in Spring 2015, the full-time faculty are teaching 7 units of overload.

   v. Program Release Time (past 4 years)

For 2011/12 and 2012/13, all full-time faculty received 40% release time and the STEM grant director received 100% release time. For 2013/14 and 2014/15, full-time faculty

received either 25% or 10% release time and the STEM grant director received 80% release time.

vi. Classified Staff who contribute to the instructional program, e.g., Instructional Assistant, lab supervisor (past 4 years)

The only person is the half-time Math Lab instructional assistant for the Math Lab which is open over 40 hours a week.

vii. Student Assistants (tutors, Cal/WORKs, Work Study, etc.) (past 4 years)

The department uses many students as tutors in the Math Lab, tutors in classes, and for supplemental instruction.

B. Provide comments on any salient data above.

The STEM grant is ending by October 2016 so all faculty will return to the classroom. The Math Lab is open over 40 hours a week and it's staffed by the half-time assistant and a collection of part-time faculty. The department will be requesting another half-time instructional assistant. This will be particularly crucial as we look to expand support services to the offsites.

C. Budgetary allocations over the past 3 years (4-5-6's and 1-2-3's if applicable). See sample below.

Operational Costs	11/12	12/13	13/14
Enter your data: 1s, 2s, and 3s	$726,000	$661,000	$900,000
4s, 5s, and 6s	$10,000	$5,500	$2,000

D. Provide an overview of how budget allocations have changed over the past three to five years.

Due to the funding from the STEM grant, the department hasn't been actively pursuing college funding for many purchases such as new overheads, computers in the classrooms and other support materials, and even basic supplies and copier costs. This will all change in October 2016 and the college will have to be ready to pick up these costs again. In 2013/14, full-time faculty reduced the amount of release time from the STEM grant and so the costs in the 1s, 2s, and 3s have increased significantly since then.

E. What were the results of any significant additional budget or resource allocations/reductions over the past three to five years?

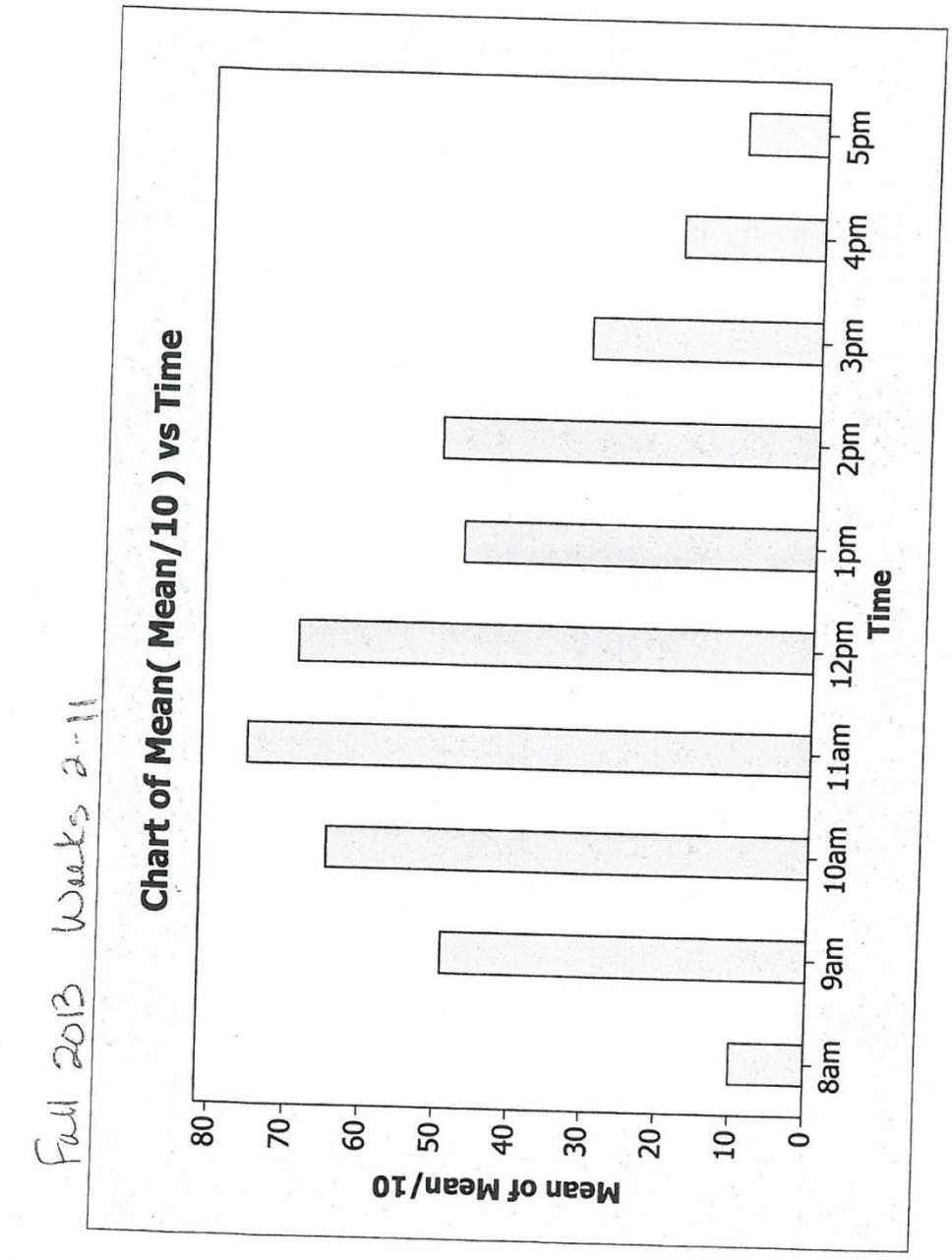
From the STEM grant, our classrooms are modernized, faculty have attended conferences or gone to other local campuses to review best practices. With the release time, the faculty have been able to completely redesign the basic skills curriculum and offer a variety of options for students to succeed at their own pace.

IV. Trends Affecting your Program (Data-Driven)

A. Briefly describe your program's strengths and challenges (utilize data to support your contentions).

Some of the program strengths are:

1. Our Relationships With Our Students: We are very student-oriented department and strive to develop a good working relationships with our students. Besides holding required office hours, we also spend hours in the Math Lab helping any student needing support.
2. The Math Lab has continued to grow in popularity and accessibility. The Math Lab is open to all students 43 hours a week on Monday through Saturdays. In terms of student popularity, we serve an average of over 300 students a day (see chart below from a 2013 survey).


Fall 2013 Weeks 2-11
Chart of Mean(Mean/10) vs Time
Mean of Mean/10
0
10
20
30
40
50
60
70
80
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
Time

3. Continued efforts to increase student achievement and modify our curriculum and teaching techniques to better serve our Basic Skills students.
4. Our continued community outreach efforts which to date include Science Alive and articulation meetings with all the local high school math departments.

Some of the needs and challenges facing our program are:

1. Increasing success rates in Algebra 2 (Math 240).
2. Increasing the Math Lab coverage by the instructional assistants.
3. Creation of Math Labs at both the Morgan Hill and Hollister sites due to accreditation concerns.
4. Increasing the number of full-time instructors back to six, the level we were at in 2011.
5. Increasing the number of students earning an AS degree in mathematics. This will be especially challenging with the college having completely cut the second year of the engineering program since we won't be able to offer the upper level classes of both the AS and AS-T degrees.

B. Provide a brief review of the past three Program Plans and any emerging themes identified in them.

The department needs another full-time faculty member. The department needs to keep working on improving success rates for basic skills classes. The Math Lab needs another instructional assistant (to appear in the 2015/16 program plan since it was inadvertently omitted for 2014/15).

C. If not mentioned above, what are some of the needs or challenges facing your program (include support and documentation for your contentions)?

See above in part A.

V. Program/Student Learning Outcomes

A. Complete the program/student learning outcome matrix for your program(s). Complete separate matrices for each Chancellor's approved Degree or Certificate. If assessments have not been completed, provide an update of your program's work to assess your program-level student learning outcomes.

Program/Student Learning Outcomes	Assessment / Measurement	Result	Use of Results

1) Identify and utilize appropriate mathematical operations in the simplification of expressions and solution of equations. 2) Compare and contrast various mathematical models and then apply the appropriate model to real world problems. 3) Describe, compare, and contrast various mathematical functions using everyday language. 4) Describe, compare, and contrast various mathematical functions using everyday language.	These are all set to be reviewed in our Math 2 and 2C classes in Spring 2015. We will report the results to the IEC.		

B. What percentage of course-level student outcomes has your program assessed?

Currently, the department is teaching 21 courses and 14 of them are up to date on assessment. Four are currently being done this semester and three will be reassessed next fall.

VI. Program Plan/Budget Requests

A. List goals and objectives for the next three to five years that will address the needs and trends identified above and in your course and program level SLO assessment results.

Adding another full-time instructor will allow more basic skills classes to be taught by full-time faculty and the department clearly needs to keep improving on the success rates in basic skills classes. The number of students taking Math classes and the average full-time contact support this request. The administration needs to reinstate the second year engineering program. Gavilan students in that program are predominantly

minority, underserved students and are the students companies are looking to hire. This wasn't in the program plan as the plan was submitted before the administration made the cuts a second semester.

B. Provide your current Program Plan (required) which should include these goals and objectives.

The current plan is below:

Vision / Narrative

The Mathematics program is one of the four degree programs in the Natural Science Department. The program offers both developmental and transfer level courses. Instruction is provided at three levels: preparation for completion of the A.A. degree; fulfillment of transfer and STEM prerequisite requirements; and fulfillment of requirements for an A.S. degree in Mathematics.

Our primary goals are:

1. To deliver quality instruction in mathematics to a diverse group of students in a manner that is both rigorous and sensitive to student needs. Accomplishing this goal requires increasing the proportion of math classes taught by full time faculty.
2. To increase retention and first time success rates of students enrolled in remedial math courses (Math 400, Math 402, Math 430, Math 240, and Math 242).
3. To increase the number of students completing an AS degree in mathematics.
4. To continue to work cooperatively with area middle schools and high schools to increase student preparedness and align curriculum.
5. To incorporate more technology into our classrooms.
6. To continue to promote interest in mathematics and science on our campus and in our community via existing outreach programs such as Science Alive, Mathematics competitions, and working closely with MESA.

One of the unique characteristics of our program is the breadth of course offerings. Our students run the gamut from those at an elementary school level (Math 400 and Math 402), requiring extreme remediation to those preparing for transfer to a four institution with the intention of pursuing a degree in science, technology, engineering, and mathematics, requiring the full lower division program. This situation coupled with a departmental policy that all instructors teach all courses, requires that all instructors be both content experts and students of remedial pedagogical techniques.

Two major trends continue to affect departmental decisions related to course offerings and staffing needs. The first trend is the presence of severely underprepared students requiring basic skills remediation (Math 400, Math 402, Math 411, and Math 430), whose lack of preparation extends beyond mathematical skills to general student behavior skills. The second trend is the increase in the number of CSU/UC bound students who are eligible to attend the university but are unable to afford tuition due to the current economic situation and the rise in fees, resulting in a significant increase in enrollment in our Calculus sequence.

This year, we will introduce three new courses in our core remedial level. Math 430 and Math 240 will replace Math 205 and Math 233. Math 242 will be the equivalent of Math 240 for students who are going on to Math 5 ONLY.

Our significant accomplishments include:

1. Expansion of the Math Boot Camps, offered at the end of summer and winter break, to include remedial up to Precalculus and Calculus.
2. Expansion of a Supplemental Instruction model, including some in-class tutors.
3. Our continued outreach efforts which include:

a. Creation of an Articulation Council which fosters increased contact and a better relationship with district high school math teachers.

b. Science Alive, a math and science conference for middle school children.

4. Completely transforming the Introductory and Intermediate Algebra sequence to reduce the repetition of the topics in the two courses. We've replaced the previous Math 205/233 with Math 430/240 where there is more in-depth coverage of fewer topics instead of the repetition of topics.

5. Creation of Math 242, the Algebra 2 equivalent course for students going on to Statistics, Math 5.
6. Expansion of the facilitated workshops for Precalculus and Calculus students.

Program Objectives from Previous Program Plans

Select **Close** if the objective has been completed or will no longer be pursued. *(This will take you to the previous program plan)*
Select **Copy** to resubmit this objective for this academic year. *(This will close the objective from the previous program plan automatically)*

AY 10/11	Research and apply for additional grants which will enable us to continue funding some of the important and successful programs we have begun with the STEM grant .	
AY 11/12	Investigate and implement the incorporation of technology into pedagogy at all levels.	
AY 13/14	Improve the success rates of students in Math 8A and Math 8B, allowing them to complete their transfer and major requirements.	
AY 13/14	Hire two new fulltime Mathematics Instructors	
AY 13/14	Pilot Math 242, Algebra 2 for Statistics students	
AY 13/14	Improve the success rates of students in all developmental math classes.	
AY 13/14	Improve the success rates of students in Math 8A and Math 8B, allowing them to complete their transfer and major requirements.	
AY 13/14	Increase community outreach efforts by providing science-based activities and events for middle school and high school students in the Gavilan district.	

VII. Self Study Summary

The Mathematics program at Gavilan College offers both developmental and transfer level courses. The Math Faculty and Staff provide instruction and preparation at three levels:
1. We prepare students for the completion of the AA degree (remediation, as needed, and completion of Math 240 requirement).
2. We prepare students for transfer to four-year institutions (completion of lower division mathematics requirements).
3. We prepare students for degrees in Math, Science, and Engineering (completion of the Calculus series and other associated courses).

The primary goals of the Mathematics program are:

1. To deliver quality instruction in mathematics to a diverse group of students in a manner that is both rigorous and sensitive to student needs
2. To increase retention and first time success rates of students enrolled in remedial math courses (Math 400, Math 402, Math 430, Math 240 and their various iterations)

3. To increase the number of students completing an AS degree in mathematics
4. To provide opportunities for faculty members to communicate with math faculty at other institutions and enhance both our curriculum and their teaching skills.
5. To continue to work cooperatively with area high schools to increase student preparedness and align curriculum.
6. To incorporate more technology into our classrooms.
7. To continue to promote interest in mathematics and science on our campus and in our community via existing outreach programs such as Science Alive and Mathematics competitions.

One of the unique characteristics of our program is the breadth of course offerings. Our students run the gamut from those at an elementary school level (Math 400 and Math 402), requiring extreme remediation to those preparing for transfer to the four institution with the intention of pursuing a degree in science, technology, engineering, and mathematics, requiring the full lower division program. This situation coupled with a departmental policy that all instructors teach all courses, requires that each instructor be both content experts and students of remedial pedagogical techniques. In addition, the Math Lab is crucial to these students success and the department is looking to add instructional support on the Gilroy campus and to expand support to the offsites.

Several trends continue to affect departmental decisions related to course offerings and staffing needs. The first trend is the presence of severely underprepared students requiring basic skills remediation (Math 400, Math 402, and Math 430). Their lack of preparation extends beyond mathematical skills to general student behavior skills.

The second trend is the increase in the number of CSU/UC bound students who are eligible to attend the university but are unable to afford tuition due to the increase in fees. Due to the influx of these students due to GECA and the engineering program, the enrollment numbers for the Calculus sequence increased significantly. This trend will be cut off at the highest level due to the cancelling of the second year engineering courses.

Our significant accomplishments have been:

1. Expansion of the Math Boot Camps, offered at the end of summer and winter breaks. Including camps for Precalculus students has been a success.
2. Science Alive, a math and science conference for middle school children. In its thirteenth year of operation, this annual conference has become a staple of the Natural Sciences Department which is widely anticipated and well attended by the middle school students in the Gavilan College district.

Over the last 7 years, the Natural Sciences Department has had a considerable influx of funds from the STEM grant. These additional resources have enabled the mathematics department to increase the number of student and professional tutors, expand Math Lab hours, fund materials and assistants for the Math Boot Camp, fund reassigned time for

full time instructors thereby allowing them the additional time necessary to study trends in achievement and attend conferences, and fund student internships over the summer. This funding will be ending within the next 18 months and the department is concerned at the level the college will pick up the crucial programs and support services necessary for continued student success.