

Instructional Program Review Report

Sierra College, 2014-15

Department/Program Name: Mathematics

Date Submitted: 2/20/2015

Submitted By: Charles Buchwald

Ideally, the writing of a Program Review Report should be a collaborative process of full-time and part time faculty as well as the appropriate educational administrator, instructional assistants, classified staff members and students who have an interest in the present and future vision of the program at all sites throughout the district. The Program Review Committee needs as much information as possible concerning the present and future of the program to assess and recommend the resources needed to keep the program viable and robust.

Please attach your Department Statistics Report (DSR) and your ePAR Report when sending in your Program Review.

1) **Relevancy: This section assesses the program's significance to its students, the college, and the community.**

1a) To provide context for the information that follows, describe the basic functions of your program.

Mathematics is one of the top two largest academic departments at Sierra College and our most basic function is to offer math courses that serve the needs of our students. These needs range from a simple desire to enrich their lives with mathematical thinking, to increasing understanding of developmental skills, advancing in their careers, obtaining a certificate or Associate's degree, entering a technical program, or transferring to a four year institution to pursue another goal. To reflect these diverse student needs our department offers a wide variety of math courses (425 - 450 sections per year)

B - Geometry	12 - College Algebra	13 - Elementary Statistics
581 - Arithmetic	10 - Problem Solving	24 - Modern Business Math
582 - Pre-Algebra	42 - Business Calculus	584 - Math Success (Overcoming Anxiety)
8 - Trigonometry	17 - Concepts of Math	33 - Differential Equations and Linear Algebra
29 - Pre-Calculus	A - Beginning Algebra	16A,16B - Calculus for Social and Life Sciences (I & II)
15 - Discrete Math	28 - Independent Study	30,31,32 - Calculus with Analytic Geometry (I & II & III)
18 - Nature of Math	D - Intermediate Algebra	

In addition we work with other departments and programs (Physics, Engineering, Chemistry, CTE, New Legacy, Counseling, and many others) to try and avoid scheduling conflicts, support students' math knowledge needs for requirements in other departments, accommodate any special student needs and in general to help them succeed in whatever their goals they may be. As such, we offer a diverse set of classes in many different modalities (lecture, computer mediated, tutor-supported, hybrid, and online) and at all times of the day and night at all of our campuses.

We also offer tutoring and support services with the help of our Instructional Assistants and student employees through programs like ILP (Individualized Learning Program), SI (Supplemental Instruction) and at several labs at both Rocklin and NCC campuses for math students at all levels such as the Math Center.

1b) How does your program fit within the district mission, as quoted below. Please include an analysis of how your program supports ISLOs (Institutional Student Learning Outcomes).

“Sierra College provides a challenging and supportive learning environment for students having diverse goals, abilities, and needs interested in transfer, career and technical training, and lifelong learning. The College’s programs and services encourage students to identify and to expand their potential. Sierra College students will develop the knowledge, skills and abilities to become engaged and contributing members of the community.”

The department’s mission fits well with the district mission

Provide students with a high-quality mathematics education that supports their academic, career, technical, and personal goals and allows them to excel when they

- *transfer to a four year institution*
- *enter a career or technical program or field*
- *seek to advance in their careers*
- *pursue developmental skills*
- *take classes for enrichment (lifelong learning)*

In the study of mathematics, students will develop insight, analytical skills and the ability to think critically. Through these skills students will be successful in both the academic world and the workforce. Students will demonstrate confidence, persistence, discipline, commitment, and an appreciation of mathematics.

Our Program Learning Outcomes (PSLOs) are directly connected to and directly support ISLOs as seen by the mapping below

INSTITUTIONAL STUDENT LEARNING OUTCOMES - ISLOs		
ISLO 1	COMMUNICATION	
1A	Read	
1B	Listen	
1C	Write	
1D	Dialogue	
ISLO 2	TECHNOLOGY AND INFORMATION COMPETENCY	
2A	Demonstrate Technical Literacy	
2B	Apply Technology	
2C	Access Information	
2D	Evaluate and Examine Information	
ISLO 3	CRITICAL AND CREATIVE THINKING	
3A	Inquire	
3B	Analyze	
3C	Problem Solve	
3D	Express	
ISLO 4	CITIZENSHIP	
4A	Ethics	
4B	Diversity	
4C	Sustainability/Global Awareness	
4D	Personal Responsibility	
	MATHEMATICS PROGRAM OUTCOMES - PSLOs	Related ISLOs
PSLO A	Use mathematical techniques to translate, model, and solve applied problems.	1A,1C,2B,2C, 3A,3B,3C
PSLO B	Differentiate between expressions and equations; and, using appropriate mathematical techniques, simplify expressions and solve equations.	1A,1C,2B,3B, 3C
PSLO C	Interpret and construct visual models of mathematical concepts.	1A,1C,2A,2B, 2D,3A,3B,3C, 3D
PSLO D	Clearly communicate mathematical information, concepts, and processes to others.	1B,1C,1D,2A, 2B,3A,3B

1c) Program offerings align with which of the following mission categories (check all that apply):

- Transfer Career Technical Education
 Basic Skills Personal Development/Enrichment Lifelong Learning

1d) Please analyze the role of your department’s programs and offerings in supporting the categories marked in 1c above; please provide evidence in support of this analysis. If any of the following apply to your program, please address them in your analysis.

- The number of degrees, certificates, and/or licenses your department has generated
 - The alignment of these awards with the district’s mission and/or strategic goals. (See the district “Awards Data File, available from Research and Planning, for your numbers).
- Job placement or labor market information for your program’s awards and licenses.
- The contribution your program makes to student transfer.
- Participation in basic skills programs.

	Annual 2009-2010	Annual 2010-2011	Annual 2011-2012	Annual 2012-2013	Annual 2013-2014
Sierra Total - Mathematics	17	29	18	25	31
Associate in Science for Transfer (A.S.-T) Degree				2	7
Associate of Science (A.S.) degree	17	26	18	23	23
Associate of Arts (A.A.) degree		3			1

During our previous program review the AS-T (transfer associate’s degree) was only in development, but now it is a reality. Note that the number of AS degrees has increased and we have added 9 of our new AS-T degrees.

In addition to the above any non-math AA or AS degree require students must complete at least through Math D – Intermediate Algebra. We offer 5 math classes below transfer-level to help remediate students who are not prepared for college-level math. These courses are Math 581 – Arithmetic Review, 582 – Pre-Algebra, 584 – Math Success (Overcoming Anxiety), A – Beginning Algebra, and D – Intermediate Algebra.

Finally, most students transferring to four-year institutions must fulfill educational requirements with at least one math class offered at Sierra College (see catalog for UC, CSU, and IGETC requirements). Our transfer-oriented classes are Math 10, 12, 13, 16A, 16B, 17, 18, 29, 30, 31, 32, 33, and 42 (see course titles above in section 1a.).

1e) Optional Additional Data: Comment on any other relevance to district goals, mission, values, strategies, etc., that your program provides that are not incorporated in the answers above. Consider, for example, contributions to diversity, campus climate, cultural enrichment, community ties, partnerships and service, etc. Include specific data and examples.

Our department and math related clubs regularly participate in campus events. Some examples include facilitating special lectures, participating in campus clean up, Wolverine Week and many other community events, a math booth at Dinosaur Days with catapults for the community to see and study parabolic trajectories of falling objects in a very hands on way, a math mural painted by a local artist and a display case of historical math objects such as old calculators on the third floor of the V-building. We also host a National math contest sponsored by The American Mathematical Association of Two Year Colleges (AMATYC) every semester available to anyone who likes to problem solve – no course specific knowledge required. Each year, we have over 300 (in 2013-2014 we had 346 students) students participate in this contest and we hold group discussion sessions both before and after.

2) Currency: This category assesses the currency of program curricula as dictated by Title 5 and the currency of efforts in meeting accreditation standards as well as improving pedagogy and engaging in professional development.

2a) Curriculum: Considering the information provided on your Department Statistics Report (DSR), comment on the currency of your program's curricula. Please describe your process for evaluating and revising curriculum, including the use of SLOs.

This year three outdated courses (Math 20 – Finite Math and Math 46 & 47 – Technical Math) were archived. A new course was created (Math 24 – Modern Business Math) to address the needs of some students in the Business program that did not need the full extensive Calculus study required in the Math 42 – Business Calculus class. The course student learning outcomes (CSLOs) for this course were developed to ensure that the appropriate level of mathematical rigor was included but not overly emphasized as the course was designed with the needs of specific business majors mentioned above in mind.

All existing courses are current and have made it through our curriculum review process during 2012/2013 year; however, we have two classes Math 33 and Math 42 that are still awaiting C-ID approval.

In addition we have a new course (Math E – Practical Math) that is going through the curriculum review process at this time. This six unit math course is designed with the concept of combining skills from beginning and intermediate algebra taught in a project based manner utilizing group work and in some sense addressing the current acceleration discussion and getting more students into a transferable level math course given they are not a STEM major. The CSLOs for this course are designed to create a corporative learning environment with a component of investigatory learning that is much more in line with the common core discussion at the high school level.

2b) Student Learning Outcomes Assessment: Analyze your program's assessment of course outcomes, analysis of results, and improvements/changes made to the program as a result of this assessment. Please provide specific data and analysis in the space provided.

The Math department has made great strides forward with SLOs since our last program review. Every semester, during our planning and assessment meeting held Tuesday of our FLEX training week, we look at the previous semester's course level assessment summary results. Our department breaks into groups to analyze the results by class groups (similar, connected courses that are considered together as they affect each other and transitions from one group to another in relevant ways). Possible action plans are discussed and recorded both at the class and department level and recorded on the Department Assessment Analysis (DAA) form. Currently the department chooses certain classes to collect and submit assessment results going forward to the next semester and a designated responsible person from each group submits the results to the department chair to combine into summary form. It is these results that are used to start the next semesters meeting. Our current plan is to simply guarantee that every course is assessed within a three year period and action plans are reviewed when a course is assessed a second time. However, a new proposed schedule (see below) that is more systematic guarantees that all classes are assessed within a two year period. Thus it should be evident that the cyclical nature of plan, implement, assess, and report/revise is continued each semester within our department.

	2012	2013	2014
Total Number of Courses (from last number assigned)	22	22	22
Total Number of CSLOs	90	90	90
Number of CSLOs Assessed Per Year	7	16	24
Percentage of CSLOs Assessed (per formula)	8%	18%	27%
Number of Courses Assessed Per Year	7	15	17
Percentage of Courses Assessed (per formula)	32%	68%	77%

In the space below, please describe or attach the cycle you have developed for outcomes assessment.

Below is the proposed schedule that we would like to implement going forward to ensure all courses are assessed in a three year cycle compared to our current plan.

As mentioned above the grouped courses that the department will discuss in our breakout sessions are shown in color below (3-4 groups each semester).

Course	Year #1		Year #2		Year #3	
	Spring	Fall	Spring	Fall	Spring	Fall
581	X					
582		X				
584			X			
A				X		
D					X	
12						X
13	X					
8		X				
29			X			
10				X		
17					X	
18						X
B	X					
15		X				
16A			X			
16B				X		
24					X	
30						X
31	X					
32		X				
33			X			
42				X		

2d) Professional development: Describe how your department's planned activities and professional development efforts serve to improve teaching, learning and scholarship. Please be sure to include flex activities, departmental meetings and activities, conferences, and the like.

Every semester we offer FLEX training in a variety of areas for our staff. Some that are offered every semester include the math technology training session which discusses any math tech items in a hands on lab setting that allows faculty to practice and demonstrate mastery of the specific tech related item they are working towards implementing (such as web site development, math server access via file transfer protocol (ftp), program specific training (winplot, MyMathLab, ALEKS, etc..), Canvas or Inside Sierra, WebCMS or other campus tech refresher discussions), a and department meeting on Friday to meet other members (especially helpful for part-time faculty) and discuss important announcements for that semester.

In addition we bring in experts to manage training sessions related to publisher specific math technology such as MyMathLab, ALEKS, WebAssign, and LearnSmart Master just to name a few.

We offer training for faculty who work in the Development Math Lab or the Individualized Learning Program (ILP).

Our department members attend educational trainings, and conferences including the California Mathematics Council of Community Colleges (CMC3)

We hosted the Sac Valley Community College Mathematics (SVCCM) conference in 2012 and continue to participate regularly.

Finally we have 2 department meetings every month to discuss issues and plan. Our trouble area here is inclusion of our NCC and Truckee campus staff. It is not convenient or reasonable to always ask them to commute for meetings and training at those campuses in somewhat limited.

2d) Optional Additional Data: Enter additional data here that you believe to be an indicator of your program's currency? and explain why.

We also make certain that we have at least two copies of all our current textbooks on reserve in the library for students to check out.

3) **Effectiveness:** This section assesses the effectiveness of the program in light of traditional measurements.

3a) Retention and Success: Identify and explain the trends in your program's data. Address separately the data for on ground and on-line course. Comment on the significance of the trends as well as the challenges experienced within the program, including any relevant data/analysis from your course and program outcomes assessments. If you see a need to improve the statistical trends, outline a plan that will achieve the changes you are seeking, including the results or your outcomes assessment, as appropriate. Please refer specifically to the data in your Department Statistics Report, as supplied by the Research and Planning Office, in supplying your answer.

The math department's retention average over the last three years for all classes is 80% which is only 6 points lower than the district average over that same time period. It should be noted that the trend since our last program review is increasing. In fact we have risen from 79% in Spring 2013 up to 81% in Spring 2014 so hopefully we can continue this climb. Using linear regression analysis from the values given on our DSR (see attached at end of report) we obtain the following linear model

$$\text{Department retention percent} = 0.31(\text{number of semester past spring 2011}) + 79.4$$

This linear model shows that (since the slope is positive) this should continue to increase over a quarter of a percent each semester. Of course the correlation coefficient with this model is rather low (only 0.18) so this analysis should be considered with that in mind.

The statewide retention rate is only 79.79% (see 1st table below) so we are just a bit higher. This is a much more appropriate gauge or measure of our department's performance since it is discipline specific.

A very similar trend is seen with our online courses. Our three year average is 71% retention but the DSR does not give a district online retention to compare with even though we suspect it would be lower. Again we should point out that the trend in online retention is also increasing. In fact we have increased from 67% retention in Spring 2013 up to 72% in Spring 2014. Again performing linear regression analysis we obtain the following model

$$\text{Online retention percent} = 0.14(\text{number of semester past spring 2011}) + 70$$

This linear model shows that (since the slope is positive) this should continue to increase over a 10th of a percent each semester. The correlation coefficient with this model is 0.02 which is still very low so again this analysis should be considered only preliminary. A more detailed conclusion might be drawn over a longer period of time with a broader scope of analysis.

The statewide online retention rate is only 74.27% (see 2nd table below) so we are just a bit lower. This is a much more appropriate gauge or measure of our department's performance since it is discipline specific.

California Community Colleges Chancellor's Office	
Credit Course Retention/Success Rate Summary Report	
http://datamart.cccco.edu/Outcomes/Course_Ret_Success.aspx	
State of California Total for Math Spring 2014	
Basic Skills	
Retention Rate	Success Rate
81.58%	53.06%
Credit	
Retention Rate	Success Rate
80.50%	56.36%
Degree Applicable	
Retention Rate	Success Rate
80.14%	57.45%
Transferable	
Retention Rate	Success Rate
80.64%	61.67%
Vocational	
Retention Rate	Success Rate
76.10%	50.15%
Averages	
Retention Rate	Success Rate
79.79%	55.74%

The math department's success average over the last three years for all classes is 60% which is 12 points lower than the district average over that same time period. It should be noted that the trend since our last program review is increasing. We have risen from 60% in Spring 2013 up to 61% in Spring 2014 so hopefully we can continue this climb. Using linear regression analysis from the values given on our DSR (see attached) we obtain the following linear model

$$\text{Department success percent} = 0.43(\text{number of semester past spring 2011}) + 59$$

This linear model shows that (since the slope is positive) this should continue to increase almost half of a percent each semester. The correlation coefficient with this model is 0.58 so this analysis should be considered with that in mind.

The statewide math success rate is only 55.74% (see table above) so we are 5 points higher. This is a much more appropriate gauge or measure of our department's performance since it is discipline specific.

A very similar trend is seen with our online courses. Our three year average is 49% but again the DSR does not give a district online success rate to compare with even though we suspect it would be lower. Again we should point out that the trend in online retention is also increasing. In fact we have increased from 48% success in Spring 2013 up to 53% in Spring 2014. Again performing linear regression analysis we obtain the following model

$$\text{Online success percent} = 0.4(\text{number of semester past spring 2011}) + 48.3$$

This linear model shows that (since the slope is positive) success should continue to increase almost half of a percent each semester. The correlation coefficient with this model is .06 is still not very high so again this analysis should be considered only preliminary. A more detailed conclusion might be drawn over a longer period of time with a broader scope of analysis.

California Community Colleges Chancellor's Office	
Credit Course Retention/Success Rate Summary Report	
http://datamart.cccco.edu/outcomes/Course_Ret_Success.aspx	
State of California Total for ONLINE Math Spring 2014	
Basic Skills	
Retention Rate	Success Rate
77.61%	45.54%
Credit	
Retention Rate	Success Rate
75.01%	47.68%
Degree Applicable	
Retention Rate	Success Rate
73.42%	48.36%
Transferable	
Retention Rate	Success Rate
74.32%	53.29%
Vocational	
Retention Rate	Success Rate
70.97%	45.74%
Averages	
Retention Rate	Success Rate
74.27%	48.12%

The statewide math success rate is only 48.12% (see table above) so we are just a bit higher. This is a much more appropriate gauge or measure of our department's performance since it is discipline specific.

In summary, the data shows that we are performing close to or above the state wide math levels in retention and success. While we always strive to improve we take great pride and comfort in this fact. To aide us in maintaining and improving these numbers we will be hiring three new full-time math faculty (one developmental specialist). However with three retirements in the last two years we are really not growing so these numbers should not be expected to improve with only these positions. However, the department feels very strongly that if we could hire additional full-time faculty this would benefit our students greatly in both retention and success. Additionally we need more funding for our student tutors and the NCC campus is in great need of a Math Instructional Assistant. We also feel that better placement might also improve both our retention and success numbers.

3b) Enrollment Trends: Identify and explain the enrollment trends in your program's data.

Address separately the data for on ground, on-line, and enrollment at the various centers. Comment on the significance of the trends as well as the challenges experienced within the program. If you see a need to improve the statistical trends, outline a plan that will achieve the changes you are seeking. If applicable, comment on both the past performance and the future direction of the program as a whole as well as by location and mode of delivery. Please refer specifically to the data in your Department Statistics Report, as provided by the Research and Planning Office, in supplying your answer.

The math department enrollment is very similar to the district's enrollment data which is basically flat and reflective of most of the state. Our online enrollment was 654 in Spring 2014 which was up from only 506 in Fall 2013, but not as high as our peak of 683 back in Spring 2012. Our enrollment in Western Nevada County has been on a steady but slow decline dropping from 646 back in Fall 2011 down to only 564 in Spring 2014. It could be argued that the increase of online enrollment cannibalizes some of the NCC enrollment, but the fact that Tahoe Truckee enrollment is high and increasing steadily contradicts that somewhat. Finally our enrollment at Roseville is almost gone and will be for the future as no classes are being offered at that campus any longer.

3c) Productivity: Comment on how the program contributes to overall district productivity.

Comment on the significance of the trends as well as the challenges experienced within the program. If you believe the statistical trends need improvement, outline a plan that will achieve the changes you are seeking.

The Math Department's efficiency is above the district average (567 average over the past 3 years compared to 496 for the district). This is partially due to the strong demand during the first 2 weeks of the semester from students wanting to add our classes when they are all full. Many instructors add students well above the cap to partially accommodate the overwhelming demand. Our average fill rate from Fall 2011 to Spring 2014 100%. In fact only two semesters in the last three years were we under 100% fill rate. (again see DSR at end of report)

At Nevada County Campus and Tahoe-Truckee Campus there are a few classes that do not fill but they are needed to round out the programs at those centers.

3d) Analysis and Planning: Referring to your ePAR Report of Goals, Strategies, Actions, and outcomes assessment cycle and relevant assessments/evaluations, comment on how your program plans to maintain or increase its effectiveness and whether it has taken actions to do so.

The department is optimistic that our new systematic plan to implement for next semester that guarantees all courses are assessed in a two year period will lead to improved overall success.

We work very diligently to update Goals and Strategies and follow through on actions and reporting results to our SLO advisor. As was mentioned previously we meet each semester to review and update Program Outcomes as well as Course Outcomes and ePar reports

The Math Department's current focus areas are:

- Investigating the possibility of an Acceleration Model
- Collaborating with CTE departments to support their students' math needs
- Improving communication and collaboration with local high schools including investigating the potential of dual / concurrent enrollment and EAP.
- Increasing course offerings within programs serving underrepresented students, especially for below-transfer level courses

3e) Optional Additional Data: Enter additional data here that you believe to be an indicator of your program's effectiveness and explain why.

You may add additional data here if desired:

4) Resources: This category assesses the adequacy of current resources available to the program and describes and justifies the resources required to achieve planning goals by relating program needs to the assessments above. (Refer to the bottom row of your DSR in your response to this category. You may include budget information if you have it.)

4a) Please describe the future direction and goals of your program for the next three years in terms of sustaining or improving program effectiveness, relevance, and currency. Please include any analysis of relevant outcomes assessment data noted above.

The department is investigating possible acceleration models that could benefit some of our targeted populations. We would like to increase support for all of our students, but especially our lower division math students (Math 581,582,A, and D). We would like to offer more online and developmental math sections while maintaining our expectations. We would like to try and find some in class technology that can be used to engage our modern students more effectively. We would like to improve student placement and the assessment process as a whole so they do not struggle with math because they are in the wrong class (too difficult or too easy).

- 4b) Equipment and Technology: Comment on the adequacy of the program's equipment and technology funding level for the District as well as specific sites. Include a projection of equipment and technology needs for the next three years as well as a justification for needs. Please include any analysis of relevant outcomes assessment data noted above.

With the need to increase and improve online offerings and with needs of our technologically inclined student population we will most definitely require a cyclical plan to update all of our technology needs in the classroom, labs, and offices. This includes desktop computers, projectors, printers and scanners, web cameras for online communication (especially with online office hours), better smart pens and microphones to record and capture problem solving that can be made available online. We have a desire to create an interactive classroom with students working on tablets in a very comfortable and modern setting. We need to increase some of our more basic technology resources as well such as calculators and math symbol software. There is also a desire to look at interactive whiteboards in the classroom.

- 4c) Staffing: Comment on the adequacy of your program's faculty, classified, and student help staffing levels for the overall District as well as specific sites. Include a projection of staffing needs for the next three years and justification for any increases. Please include any analysis of relevant outcomes assessment data noted above.

In order to tackle the need to investigate and possibly implement any type of acceleration model in the math department we will need to address our staffing concerns. We need more full-time faculty to take on these research projects and make a solid informed decision that will help our students. To that end we must hire more full-time faculty. We have more than half of our department taking 4-12 units of overload every semester so there is no time to invest in extra research. In addition to maintain and improve our program we will also need at least one Math Instructional Assistant at NCC and increased tutor budgets for all of our labs.

- 4d) Facilities: Comment on the program's fill rate and the adequacy of the facilities for the District as well as specific sites. Include a projection of facility needs for the next three years as well as a justification for any increases. Please include any analysis of relevant outcomes assessment data noted above.

If we are granted more full-time faculty the department finds that it is absolutely IMPARITIVE that we keep our continuity and as such proximity between members so some office space consideration must be taken into account. Also the Math Center Instructional Assistant does not currently have an office space. His desk is out in the open in the lab and does not offer the required privacy for working on sensitive material including student tutor information. Also the ILP lab has some a need to improve their testing area with portioned walls and viewing windows to help maintain test security and still offer the required services.

- 4e) Please check the appropriate boxes in the chart below [not yet provided; it will resemble the chart in the yearend report] indicating in general the reasons for your requests (e.g., "program maintenance" or "outcomes assessments")

5) Summary/Closing

5a) Evaluate the program's strengths, weaknesses, opportunities, and challenges.

Strengths:

Full-time faculty

- Spend extra time in math center to assist students
- Hold review sessions outside of normal class hours
- Share new ideas and creative techniques
- Develop innovative teaching methodology
- Attend conferences and workshops
- Collaborate with other programs, such as counseling and CTE
- Maintain community outreach, such as EAP and SLATE
- Are outstanding educators
- Are represented at all three campuses and work hard to collaborate across the district

Support staff

- IAs go above and beyond what's required
- Knowledgeable and approachable student tutors assist large numbers of students
- Retention and success rates are inline of above the state averages for math

Weaknesses:

Insufficient number of full-time faculty

NCC has no Instructional Assistant for their math center and developmental math lab

Future Directions/Opportunities:

Increase FT/PT ratio within the department by hiring more full-time faculty

Incorporate CTE into math curriculum

Continue work to ease transition of students from high school to college

Evaluate current offerings and decide on growth of math program within budgetary constraints

Challenges:

Keep technology current with limited resources

Continue to collaborate as our department grows

Class schedule management due to roller coaster budget information

5b) Please provide any other information the Program Review Committee should consider that was not expressed in questions above.

Enter additional information here...

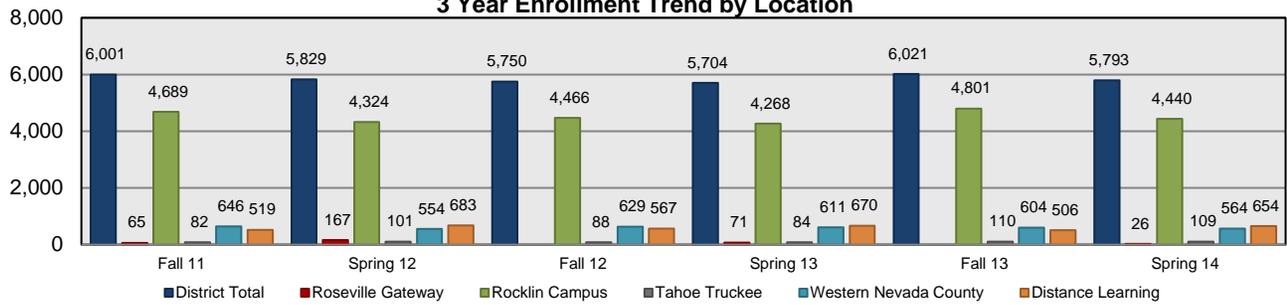
5c) How has the author of this report integrated the views and perspectives of those who have interests in the future of this program, e.g. full time and part time faculty, educational administrators, instructional assistants, classified staff, and students at Rocklin, Roseville Gateway, NCC and/or Tahoe Truckee?

Report was crafted with input from all members of our department. A department meeting was held to review the initial report (a first rough draft was sent to everyone in the department electronically a head of time). After that meeting suggestions for changes, additions or deletions were collected and added. A second draft was sent to those that offered suggestions for review and then the final draft created and submitted.

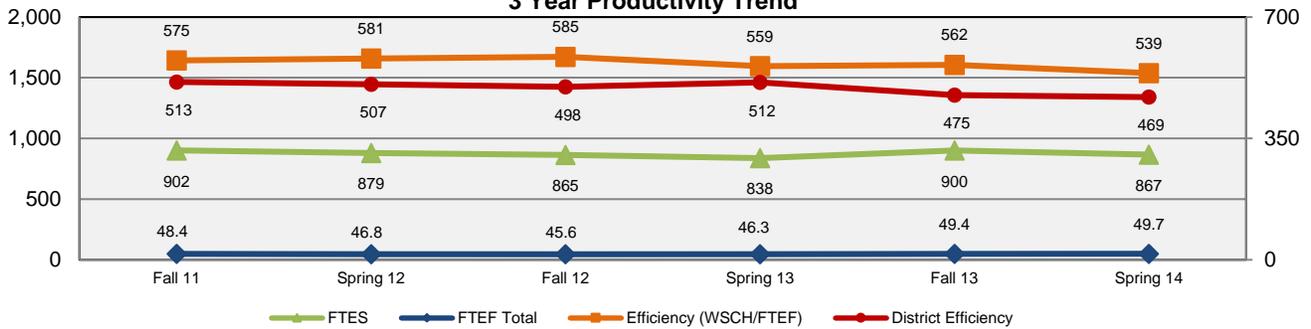
Mathematics

Sciences and Mathematics

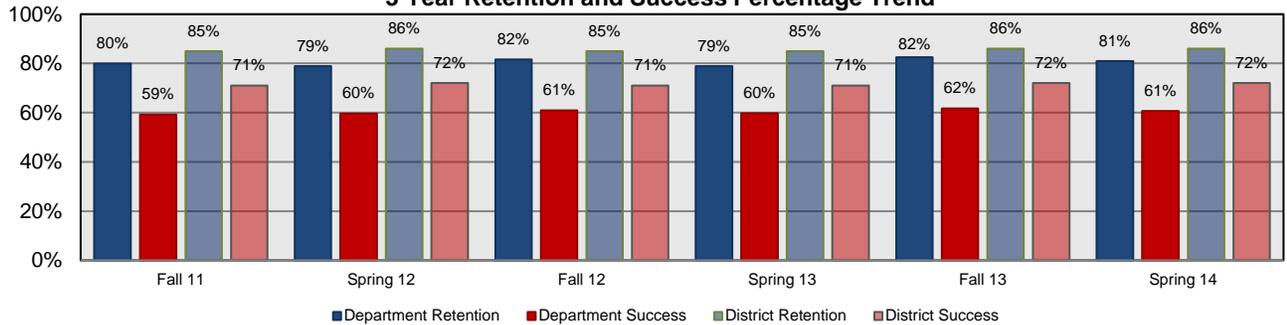
3 Year Enrollment Trend by Location



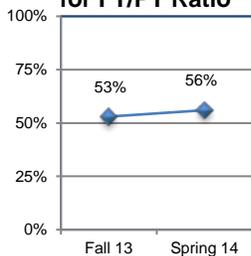
3 Year Productivity Trend



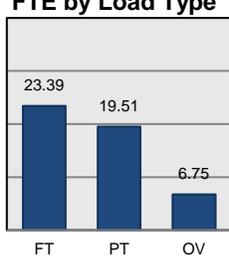
3 Year Retention and Success Percentage Trend



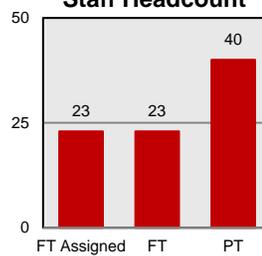
2013/14 FT% for FT/PT Ratio



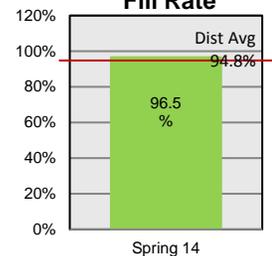
Spring 2014 FTE by Load Type



Spring 2014 Staff Headcount



Spring 2014 Fill Rate



Course Outcomes	# of Active Courses	# with Outcomes	# with Assessments	# with Results	# with Actions	# with Follow Ups
Program Outcomes	# of	Outcomes	Assessments	Results	Actions	Follow Ups
Curriculum Currency SP 14						