

Santa Rosa Junior College

Program Resource Planning Process

Mathematics 2023

1.1a Mission

The mission of the Department of Mathematics is to increase the knowledge, improve the skills, and enhance the lives of those served by its program. The department accepts its responsibility at all campus locations and in the following obligations:

- Providing a superior program for mathematics majors and students in mathematics-related fields such as engineering and physical sciences.
- Providing a superior program for students in liberal arts fields, which require mathematics as a part of their programs.
- Providing a superior general education program for students pursuing four-year degrees, two-year degrees, and certificates.
- Providing a superior basic skills program for students requiring pre-collegiate mathematical preparation.
- Promoting fair access and opportunities for success to students by eliminating physical and cultural barriers, and by actively recruiting students from all sectors of our community.
- Recruiting, securing and retaining faculty who love teaching, vigorously maintain interest in the field of mathematics and mathematics education, provide leadership in the local, state, and national mathematical communities, actively participate in college governance, and demonstrate sensitivity to the diverse needs and backgrounds of our students.
- Maintaining a high level of instructional quality and integrity, strong academic standards, and respect for learning.
- Fostering an atmosphere for student success by providing students with information to make sound academic decisions, by actively cooperating with the tutorial center, MESA, and Mathematics Computer Lab to help students outside the classroom, and by communicating with the Counseling Department to improve guidance services for all students.
- Providing students with a learning experience in which technology plays an integral part.
- Challenging students to achieve to the maximum of their abilities, and making certain that each understands the responsibility for her/his own academic success.
- Contributing to the cultural life of our community by presenting enrichment opportunities to our students and to community members.
- Providing comprehensive instructional support services such as well-maintained physical facilities, basic supplies, up-to-date technological equipment, adequate support staff (secretaries, computer specialists, student homework graders, lab instructors, and student lab assistants).

- Managing the resources of the department, anticipating future needs, and advocating necessary resources to meet those needs.

1.1b Mission Alignment

The mathematics department's mission is consistent with the district's mission and college initiatives in the areas of

- Focusing on student learning by preparing students for transfer
- Improving students' foundational skills
- Regularly assessing, self-reflecting, adapting, and continuously improving.

1.1c Description

The Mathematics Department serves mathematics majors and students in mathematics-related fields such as engineering and the physical sciences, students in liberal arts fields which require mathematics as a part of their programs, and students needing to satisfy general education requirements in four-year degree, two-year degree, and certificate programs. The Mathematics Department includes a computer lab and tutorial program, both of which are operated by department staff members.

1.1d Hours of Office Operation and Service by Location

The Mathematics Department Office (Kunde 224) is staffed by a full-time administrative assistant M-F during Fall and Spring Semesters and M-Th during SummerTerm and between Semesters/Terms. The Department Chair's office is located within the department office, and the Department Chair may occasionally extend the hours for which the office is open. There is an almost constant flow of students and faculty into the mathematics office M-Th. The department's full-time Administrative Assistant is working very hard to keep up with the needs of the students served by the Mathematics Department and the faculty who teach in the department.

1.2 Program/Unit Context and Environmental Scan

The Mathematics major has not experienced any changes in content or articulation. We have created a Mathematics for Transfer major which articulates with the CSUs. The major includes our optional Math 6 which is a common lower division course for math majors.

Due to the decreased number of students being accepted into the CSU and UC systems, the demand for all our classes, particularly the high level classes, has increased.

Due to a policy at SSU which gives enrollment priority to students taking Statistics for the first time, the students who are not able to register for it there are coming to take Statistics at SRJC. We already had a high demand for this course, but it has increased considerably and we now offer more sections of Statistics than any other single course.

According to an interpretation of the State of California AB705 Mandate, the Math Department is banned from offering any pre-transfer level math classes to any students, so we no longer offer the following classes starting Fall 2022. We hope the Chancellor's office will discontinue this oppressive interpretation of the law that will hurt many of our students who do not want to transfer or are not quite ready to be successful in a transfer level math class.

Banned classes (all prefix MATH): 101, 161, 150, 156, 154

The Mathematics Department developed additional corequisite courses to help students succeed in transfer level math courses, Math 200 and Math 225. Math 225 launches in Fall 2024. This corequisite course requires additional revisions to comply with the new law AB1705.

The Mathematics Department developed Math 74, Math for Elementary Teachers which is needed for students wanting an Elementary Teachers AA degree, allowing SRJC to offer that program again.

Written below was the Mathematics Department's response to the AB705 before we learned the Chancellor's office would use this law to close educational opportunities for many of our students.

To serve those students seeking an AA degree, and not planning on transferring to a four-year school, the Mathematics Department offers Math 101: Mathematics for the Associate Degree.

In response to the push for acceleration in non-transfer level courses, the mathematics department developed Math 154, an 8-unit combined Elementary and Intermediate Algebra course. This course will be offered for the first time in Fall 2016.

The demand for all math courses is extremely high for basic skills students, degree-seeking students, and transfer students. This demand continues to increase as high tech employers and politicians alike push for more students to major in Science, Technology, Engineering, and Math. Not only does our department have too few instructors and too little space, but we continue to fall farther behind in our ability to serve all who are seeking our courses.

Due to State of California AB705 mandates, as of 2019, the department has inactivated, by Fall Semester 2019, many courses and created new ones:

Inactivated courses (all prefix MATH): 70/71, 150A, 150B, 151, 155

New courses: 150, 156, 161, 215

At the end of Spring 2023 the Math Department will have at one, unfilled full-time vacancy.

2.1a Budget Needs

We would like to maintain or increase the current level of staffing and the maintain number of hours for our Mathematics and Computer Lab, but increase the number of student assistants and/or math lab faculty during those hours as we return to in person instruction. We have seen an increase in the number of students seeking tutoring as we offer more in person sections and as students struggle with passing their classes in the wake of the pandemic and AB 705. We have also seen an increase in the number of mental health issues from students and having two math lab faculty at the same time has been important for maintain the safety of those working or studying in the lab. At the current level, we need to retain the \$4500 for the year and add approximately \$4000 to our 2361 account for salary adjustments and to avoid mid-year supplementation by the STEM dean.

The graphics budget is severely inadequate for the department's needs and has been overspent every year for at least the last eleven years before the pandemic. Although we have taken measures to cut back significantly on using graphics, we are still falling short since our already insufficient graphics budget was cut. When IT decided they would no longer support printers, and suggested all printing be done to the copy machine, our graphics expenditures skyrocketed. The maintenance of the copy machine has us wary of its reliability. We must be able to depend on a machine for all our printing and copying needs.

Since IT will no longer support printers, some of which are required to be in compliance with FERPA, (department chair and AA offices), the department must now pay for repairs to printers and printer supplies. While the additional expense has been passed along to the department, the supply budget has not been increased and is now insufficient for needed maintenance costs.

Our STEM dean made a one-year commitment to pay for an institutional membership to AMATYC in 2016-2017 and we would like this to be an ongoing membership. With an institutional membership, we have free access to Webinars offered through AMATYC for professional development, we receive one free registration for an AMATYC conference, and free advertising in its publications. Through AMATYC, several of our new faculty partipated in Project ACCCESS, a two year program designed to develop new community college mathematics faculty. We request the budget include \$508 for the AMATYC institutional membership dues. The budget for the 5000 category needs to include staff travel. There are no funds allocated for staff travel although Mathematics Department faculty regularly attend

Mathematics conferences many times yearly to enhance their professional development and to represent SRJC within various mathematical organizations. We have several math faculty that give talks at various conferences, including AMATYC, statewide and some are not reimbursed for their travel expenses. We would like to support our colleagues by attending their talks at these conferences. We would like to see travel and conference money restored that is separate from Student Equity funds.

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	Santa Rosa	01	01	\$10,000.00	We are asking for a permanent increase to the student worker fund to pay the extra student workers during peak times in the STEM Success Center (covers all of STEM).
0002	Santa Rosa	02	04	\$5,000.00	We desperately need to update textbooks and reference books in the Math Lab, moving soon to the STEM Success Center. Publishing companies are no longer providing enough desk copies for our instructors so we are unable to provide the Math Lab faculty with the necessary materials to do their jobs.
0003	ALL	02	01	\$5,000.00	We overspend our graphics budget every year before the Covid-19 Pandemic and expect to continue to do so in spite of the efforts of the faculty to use electronic documents whenever possible. For 2016-17 we had \$11,200 and will overspend by approximately \$4,800.
0004	ALL	02	07	\$8,608.00	With an AMATYC institutional membership, we have free access to Webinars offered through AMATYC for professional development, we receive one free registration for an AMATYC conference, and free advertising in its publications. AMATYC Institutional Membership \$508. Travel: Our instructors are extremely dedicated to renewing their knowledge base and take on a great amount of expense in order to attend conferences. Many of our instructors are involved in organizing these conferences for faculty from other two-year colleges and yet our travel remains unfunded. Although \$300 per instructor would not cover all travel costs, it would alleviate some of the burden and demonstrate the college's commitment to professional development.

2.2a Current Classified Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Administrative Assistant III	40.00	12.00	The Administrative Assistant II provides detailed administrative support for the Mathematics Department Chair and math faculty, acts as liaison with other District departments, and provides information and assistance to students who come to the Mathematics Department office. Responsibilities include budget development, tracking and monitoring budgets and expenditures and providing budget assistance to faculty and staff, curriculum support, assisting in the schedule development process, monitoring faculty loads, assisting students and the Department Chair with Prerequisite Challenges and Petitions, and initiating schedule changes. The position requires the ability to perform administrative duties using initiative, confidentiality, independence and problem-solving skills with a high level of expertise in office management on a daily basis. Furthermore, this position requires a thorough working knowledge of several complex software systems, including but not limited to Escape, SIS, and the new EMS. Student and faculty contact require an extensive knowledge of District Policy & Procedure. The position should be classified as Administrative Assistant III.

2.2b Current Management/Confidential Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Department Chair, Mathematics	32.00	12.00	Manage a very large and complex multi-campus program. The Chair duties alone - aside from the required teaching duties - make up a full-time job in this department. The job includes, but is not limited to being responsible for scheduling credit and non-credit FT and adjunct faculty, dealing with personnel, addressing student concerns, making decisions on student petitions, keeping SLO assessments on track, oversee the revision of curriculum and satisfying C-ID requirements, knowing policy and procedure and contract, having budget and staffing awareness, advocate for faculty while maintaining a relationship with administration, dealing with facility issues, health and safety of colleagues, represent the Math department and SRJC locally and globally, and teach.

2.2c Current STNC/Student Worker Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Student Lab Assistants	80.00	12.00	Assist students and faculty in the Kunde Hall Math Computer Lab. The lab currently is open almost 80 hours/week, and student lab assistant coverage is needed to supplement the assistance provided by the adjunct lab instructors. Technically these students are now hired by and supervised by an IT employee, but they are still paid through the Math budget.

2.2d Adequacy and Effectiveness of Staffing

The ratios from our department that have been provided in the core data for 2019-2020 are:

Data Element	Value	Change from 2020-21	District Total	% of District Total
FTE-S : FTE-F	17.198	-24.16%	0.0000	0.00%
FTE-AF : FTE-CF	1.0729	8.63%	0.0000	0.00%
FTE-F : FTE-SS	11.8690	29.47%	0.0000	0.00%
FTE-F : FTE-M	59.5946	108.58 %	0.0000	0.00%
FTE-SS : FTE-M	5.0210	61.11%	0.0000	0.00%
FTE-ST : FTE-C	1.8757	-23.19%	0.0000	0.00%
Average Faculty Salary per FTE-F	\$74,291.43	-3.66%	\$0.00	0.00%
Average Classified Salary per FTE-C	\$74,400.00	5.33%	\$0.00	0.00%
Average Management Salary per FTE-M	\$110,170.00	102.53 %	\$0.00	0.00%
Salary/Benefit costs as a % of total budget	99.73%	-0.03%	0.00%	0.00%
Non-Personnel \$ as a % of total budget	0.27%	13.05%	0.00%	0.00%
Restricted Funds as a % of total budget	1.33%	-24.06%	0.00%	0.00%
Total Unit Cost per FTE-F	\$103,900.06	-3.52%	\$0.00	0.00%
Total Unit Cost per FTE-C	\$4,953,508.05	0.62%	\$0.00	0.00%
Total Unit Cost per FTE-M	\$6,191,885.06	101.23 %	\$0.00	0.00%
Total Unit Cost per FTE-S	\$6,041.36	27.22%	\$0.00	0.00%
Total Unit Cost per student served/enrolled	\$797.54	0.99%	\$0.00	0.00%

Our staff is not adequate in the following areas:

Administrative Assistants:

In previous years, the Mathematics Department office was staffed by an AA III and a half-time AA I. The job duties and demands have increased, especially with ever-changing software requirements, but are now being done by one AA III.

Student employees - Student Lab Assistants:

The Student Lab Assistants assist with the daily maintenance of the Math Lab. In addition, they tutor students who need help with mathematics, chemistry, physics and engineering courses. The number of students employed varies depending on the number of hours that the student can individually work. In the beginning of the semester it is better to have double shifts of students working in the morning and early afternoon hours since the demand for tutorial help is overwhelming during that part of the semester. The total student work hours per week is

about 80 not including the double shifts. Some students are needed to help with the setup of the computers in the Math Lab between semesters.

Currently, we have to carefully balance the number of hours worked by FWS students to make sure that we can have the lab open for the entire semester. If we were to lose one of our FWS students, we would have to either overspend our budget or close the lab at the end of the semester when math students really need help.

We are hoping to obtain more permanent funding for both math lab rooms in the amount of \$3500-\$7500 per semester depending upon whether enough qualified student lab assistants could be hired, or if it would be necessary to hire classified staff for that purpose. The orientation of new student math lab workers is also a best practice and compensation is therefore needed for these sessions.

Student employees - Graders/Readers:

In previous years, the Mathematics Department has had a budget for homework graders/readers. This program was completely eliminated in 2009. The Mathematics Department still feels strongly that daily homework feedback, which is very difficult if not impossible for faculty to provide for all of our students, is vital to student success.

Math Lab Coordinator:

This position was formerly staffed by IT and has return to the Mathematics Department in the middle of Spring 2022 semester. When the lab is moved to the STEM Success Center, the chair of College Skills will take on much of the duties that the Math Lab Coordinator had in coloboration with the Mathematics Chair, the Mathematics Administrative assistant, as well as additional faculty. The coloboration is a work in progress.

Math Lab Faculty:

Our math lab faculty met with the department chair and our dean to discuss the move to Lindley and how the Math Lab will be organized in the future. We discussed many of the logistical issues regarding the move and in the Success Center space itself. We need to have these meetings at least once a year, or better yet, once a semester for workplace effectiveness and student success. We should include compensation for attending these meetings so it will be budgeted.

2.2e Classified, STNC, Management Staffing Requests

Rank	Location	SP	M	Current Title	Proposed Title	Type
0001	Santa Rosa	01	01	Student Lab Assistants (several)		Student
0002	ALL	01	01		Mathematics Graders (many)	Student

2.3a Current Contract Faculty Positions

Position	Description
Mathematics Instructor 20	(SCHEDULED FOR THE BEGGINNING OF FALL 2023) The staffing has decreased from 28 since 2015 due to retirements that have not been replaced. Out of the current 22 FT mathematics faculty, 18 are at the Santa Rosa Campus and 4 are at the Petaluma Campus.

2.3b Full-Time and Part-Time Ratios

Discipline	FTEF Reg	% Reg Load	FTEF Adj	% Adj Load	Description
Mathematics	23.0000	48.2400	24.6800	51.7600	<p>FT overload is computed under Adjunct. Note that 6.067 FTEF was taught by full-time instructors as overload. Some instructors were happy to do this, but others teach overload in order to serve the needs of the department when there are not enough adjunct instructors. This does not include reassigned time.</p> <p>(The data provided is only from Fall 2019 & Spring 2020.)</p>

2.3c Faculty Within Retirement Range

Faculty at retirement age: Tom Falbo and Dean Gooch.

Since Fall 2022 through the end of Spring 2023 we will have lost no Contract Faculty due to retirement.

2.3d Analysis of Faculty Staffing Needs and Rationale to Support Requests

We are requesting that, in the near future, all retirements be replaced immediately. These vacancies are in Santa Rosa and Petaluma; there is a need for additional full-time faculty in Santa Rosa which will need to be addressed when enrollment is beginning to recover.

Historically, we have had a difficult time staffing our classes. This is due to a number of reasons that are ongoing:

- Inadequate number of full-time instructors
- Inadequate number of qualified adjunct instructors
- Sabbaticals in the mathematics department
- Current adjunct instructors taking full-time jobs elsewhere or retiring

It is important that we have enough full-time faculty so that we have the stability to continue to offer as many math classes as we are allowed. The incredible growth in STEM disciplines has required us to add sections of higher level courses, such as Math 4 & Math 1C. These courses are not suitable for adjunct instructors because they require a lot of time and collaboration with colleagues. We expect the need for these courses to continue increasing as the economy improves and the high tech sector grows, both locally and nationally. We expect that the time needed to support our students will increase as well. Students enrolling now are still recovering from the pandemic and benefit more from smaller class sizes and adequate support from all student services as well as from their instructor.

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0001	Santa Rosa	02	01	Mathematics	Retirement Replacement (George Sturr retired end of Spring 2020)
0002	Santa Rosa	02	01	Mathematics	Retirement Replacement (Dan Munton retired end of Spring 2020)
0003	Santa Rosa	02	01	Mathematics	Retirement Replacement (Jeff Clark retired end of Spring 2021)

2.4b Rationale for Instructional and Non-Instructional Equipment, Technology, and Software

We are in need of four surface-pro tablet computers and their keyboards for the Math Lab

With many of our textbooks only available digitally and with scratch paper becoming harder to come by, the Math Lab requests that they be provided with Surface Pro tablet computers to help them both access digital materials for their students and as a substitute for the scratch paper.

General Printer for STEM Success Center (Lindley Center)

Printing services are needed for students who will be collaborating to do work in the STEM Success Center. A printer - whether networked with the new "GoPrint" services the District has or independently monitored by the STEM Cluster -- is needed so students can print their class assignments and learning materials.

2.4c Instructional Equipment Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	02	04	Surface Pro tablet computer (digital textbook)	4	\$1,100.00	\$4,400.00	Jen Carlin-Goldberg	153 Kunde	Jen Carlin-Goldberg
0002	Santa Rosa	02	04	Surface Pro tablet computer keyboard	4	\$200.00	\$800.00	Jen Carlin-Goldberg	153 Kunde	Jen Carlin-Goldberg
0003	Santa Rosa	02	04	Network Printer for STEM Success Center	1	\$2,500.00	\$2,500.00	Victor Tam	Lindley Center - STEM Success Ctr	Victor Tam
0004	Santa Rosa	02	01	ITG APPROVED: Laser Printer for use by students in Math Lab	1	\$470.00	\$470.00	Tim Melvin	153 Kunde	Tim Melvin

2.4d Non-Instructional Equipment and Technology Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	04	07	Printers for faculty and staff (secure printing)	2	\$550.00	\$1,100.00	Tim Melvin	221 & 224 Kunde	Jennifer Carlin-Goldberg

2.4f Instructional/Non-Instructional Software Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	02	01	GoPrint software and card reader	1	\$3,300.00	\$3,000.00	Mark Ferguson	1733	Mark Ferguson

2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
0001	Santa Rosa	04	07	Urgent	Kunde Staff Bathroom	208	\$0.00	Deadbold lock with an external "occupied" indicator. Staff outside the Math department have access to the staff bathroom and several faculty have entered using our only key to find the bathroom being used by staff who have their own access cards.

2.5b Analysis of Existing Facilities

Kunde Hall is new and we are getting used to it. It has its share of key problems and the water pressure is always low. The TV monitors in the classrooms need to be moved upward about a foot and the entire building (inside) needs to be cleaned more often. We request that keycard lock access is installed on the outdoor elevator, so we can lock the elevator when classes are not in session. We have had some issues with people smoking in the elevator overnight or on the weekend. The air conditioning units in several classrooms break down and the classrooms are either too cold or too warm depending on the weather. The staff bathroom is accessed using a keycard. We additionally request that a deadbolt lock with an "occupied" indication on the outside of the door be installed because Math Department faculty have used our only key card to enter the bathroom to find it already occupied.

3.1 Academic Quality

3.2 Student Success and Support

For privacy concerns, I will not comment on the Math Department's faculty and staff diversity in regards to their ethnicities, socio-economic backgrounds, disabilities, sexual orientation, age, and other personal qualities. I can simply say that we are a much more diverse faculty than we were 10 years ago.

In addition, I can assure the reader of this document that we hire and maintain staff and faculty who are extremely sensitive to and knowledgeable of the diverse needs and backgrounds of the students we serve.

The question of how to best serve the many needs of our diverse student population is always of major importance at any interview we conduct. When we recruit for positions in mathematics, we work closely with Human Resources in order to broaden our recruitment and in order to ask questions, both on the written application and at the interview, which will allow us to hire instructors dedicated to the various learning styles and backgrounds of the students in our classes.

Our department has always maintained a very close working relationship with DRD. Not only are we careful to follow all requirements as listed by DRD for each individual student, our faculty work closely with DRD specialists so that each DRD student is accommodated the best way possible. We value and support our DRD students and value the collaborative relationship with our colleagues in DRD to meet their needs.

We know that one model does not serve all when it comes to mathematics instruction, and our instructors consistently work towards shaping our teaching in ways that are best for each of the individuals in the classroom.

We realize that in K-12 education, teachers have been given fewer and fewer individual pedagogical choices in recent years – so much of what and how they teach is now dictated at the statewide level. This is upsetting and rather ironic because how, then, can they individualize their teaching methods in order to help out a wide variety of learning styles in their classrooms?

Fortunately, our mathematics department has been an advocate of not dictating pedagogy. Therefore, each instructor has the freedom – and the responsibility – of striving to best meet the educational needs of each of his or her students.

3.3 Responsiveness to Our Community

The Mathematics Department strongly supports the professional development of its classified staff. Staff are encouraged to attend PDA days and other activities promoted by the Staff Development Resource Center and to take seminars, workshops, and instructional courses that enhance professional development.

Faculty in the SRJC Mathematics Department are extremely active in state-wide and national Mathematics organizations, such as CMC3, MAA and AMATYC. Many of the faculty attend colloquia at Sonoma State University and Humboldt State University. We have faculty that regularly serve on committees grading AP Calculus and AP Statistics exams for the entire country. We run weekend workshops called Calculus Camp to help high school students to prepare for their AP Calculus exams. The SRJC Math Department is very well know statewide for it's level of involvement in Professional growth activities and organizations.

3.4 Campus Climate and Culture

Ying Lin continues to be the trained and certified safety leader for the Mathematics Department and Kunde Hall.

4.1a Course Student Learning Outcomes Assessment

ASSESSMENT PLAN:

Every sixth year, beginning with the 2010/2011 academic year, the Mathematics Department will assess all mathematics courses and the mathematics major.

Course	SLO #s	Participating faculty	Semester Initiated	Semester Completed	Year of
150	All	Wheeler, Clark,	Spring 2014	Spring 2021	2026-2
154	All	Nieto, Carlin-Goldberg, Lin	Spring 2019	Spring 2022	2025-2
215	All	Lin, Darji	Spring 2019	Spring 2023	2028-2
15	All	Carlin-Goldberg,	Spring 2014	Fall 2021	2027-2
10		Jones	Spring 2014	Spring 2020	2025-2
9	All	Collier, Martin	Spring 2014	Fall 2019	2025-2
16	All	Melvin	Spring 2014	Spring 2020	2025-2
6	All	Melvin, Gooch	Spring 2014	Fall 2022	2025-2
7	All	Schultz	Spring 2014	Fall 2022	2025-2
156	All	Ichikawa	Spring 2014	Fall 2021	2027-2
25	All	Brown	Spring 2014	Fall 2022	2025-2
2	All	Gooch	Spring 2014	Fall 2014	2019-2
25	All	Kwon, Jones, Eurgubian	Spring 2014	Fall 2014	2019-2
58	All	Clark, Lin	Spring 2014	Fall 2019	2025-2
161	All	Gooch, Kwon, Falbo	Spring 2019	Spring 2022	2027-2
4	All	Melvin, Sturr	Spring 2014	Fall 2021	2026-2
49	All	Melvin	Fall 2011	Fall 2021	2026-2
9	All	Martin, Gooch	Spring 2014	Fall 2014	2019-2
1A	All	Wheeler, Gorgievsk, Falbo	Spring 2014	Fall 2020	2026-2
1C	All	Morre, Wheeler, Melvin	Spring 2014	Fall 2021	2026-2
1B	All	Ichikawa, Bunas, Gooch	Spring 2014	Fall 2022	2024-2
5	All	Jones	Spring 2014	Fall 2021	2026-2
770	All	Carlin-Goldberg	Fall 2014	Spring 2023	2028-2
27	All	Ichikawa, Gorgievsk, Falbo, Clark	Spring 2014	Spring 2022	2027-2
101	All	Carlin-Goldberg	Fall 2014	Spring 2023	2028-2
74	All	Not completed	Fall 2024		
2	All	Gaye	Spring 2014	Spring 2023	2028-2
225	All	Not completed	Fall 2024		
Math for Transfer Major	All		Spring 2014	Fall 2014	2019-2

4.1b Program Student Learning Outcomes Assessment

Program Assessment Plan

In the spring of 2023, SLOs for all math courses were assessed. Once all of the individual courses SLO assessments were in, the Mathematics Major was assessed based on the individual assessment outcomes of the courses.

The Student Learning Outcomes in the Mathematics Major relate to the individual courses within the major according to the chart below.

SLOs	CORE COURSES				PICK ONE	Math 4
	Math 1A	Math 1B	Math 1C	Math 5		
Demonstrate the ability to use symbolic, graphical, and numerical representations of mathematical ideas and to communicate mathematical results in a clear, organized and contextually accurate manner	X	X	X	X	X	X
Perform advanced operations with functions of one or more variables, including algebraic, transcendental, and vector-valued; understand the characteristics and graphs of functions; and apply this knowledge to modeling problems	X	X	X		X	
Apply mathematical techniques including solving equations and inequalities, solving systems of equations and inequalities, differentiation, and integration, to problems that arise in the real world	X	X	X	X	X	
Use and apply conic sections, polar graphs, parametric equations, vectors, complex numbers, sequences, and series		X	X			
Engage in logical and critical thinking in mathematics	X	X	X	X	X	X

Most Recent Major Assessment Information

In the spring of 2014, all major courses were assessed. For the courses that did not achieve success, the action deemed appropriate was at the level of the instructor. No changes to the major are indicated at this time.

4.1c Student Learning Outcomes Reporting

Type	Name	Student Assessment Implemented	Assessment Results Analyzed	Change Implemented
Course	Math 1A	Spring 2014	Spring 2014	N/A
Course	Math 1B	Spring 2014	Spring 2014	N/A
Course	Math 1C	Spring 2014	Spring 2014	N/A
Course	Math 2	Spring 2014	Spring 2014	N/A
Course	Math 4	Spring 2014	Spring 2014	N/A
Course	Math 5	Spring 2014	Spring 2014	N/A
Course	Math 9	Spring 2014	Spring 2014	N/A
Course	Math 10	Spring 2014	Spring 2014	N/A
Course	Math 15	Spring 2014	Spring 2014	N/A
Course	Math 16	Spring 2014	Spring 2014	N/A
Course	Math 25	Spring 2014	Spring 2014	N/A
Course	Math 27	Spring 2014	Spring 2014	N/A
Course	Math 49	Spring 2014	Spring 2014	N/A
Course	Math 58	Spring 2014	Spring 2014	N/A
Course	Math 70	Spring 2014	Spring 2014	N/A
Course	Math 71	Spring 2014	Spring 2014	N/A
Course	Math 101	Spring 2014	Spring 2014	N/A
Course	Math150A	Spring 2014	Spring 2014	N/A
Course	Math 150B	Spring 2014	Spring 2014	N/A
Course	Math 151	Spring 2014	Spring 2014	N/A
Course	Math 155	Spring 2014	Spring 2014	N/A
Course	Math 770	Fall 2010	Fall 2010	N/A
Certificate/Major	Mathematics	Spring 2014	Spring 2014	N/A

4.2a Key Courses or Services that address Institutional Outcomes

Course/Service	1a	1b	1c	2a	2b	2c	2d	3a	3b	4a	4b	5	6a	6b	6c	7
Math 10	X	X	X	X				X	X	X	X	X			X	X
Math 15	X	X	X	X				X	X	X	X	X				X
Math 150A	X	X	X	X				X	X	X	X	X				X
Math 150B	X	X	X	X				X	X	X	X	X				X
Math 151	X	X	X	X				X	X	X	X	X				X
Math 154	X	X	X	X				X	X	X	X	X				X
Math 156	X	X	X	X				X	X	X	X	X				X
Math 16	X	X	X	X				X	X	X	X	X				X
Math 1A	X	X	X	X				X	X	X	X	X				X
Math 1B	X	X	X	X				X	X	X	X	X				X
Math 1C	X	X	X	X				X	X	X	X	X				X
Math 2	X	X	X	X				X	X	X	X	X				X
Math 200	X	X	X	X				X	X	X	X	X				X
Math 225	X	X	X	X				X	X	X	X	X				X
Math 25	X	X	X	X				X	X	X	X	X				X
Math 27	X	X	X	X				X	X	X	X	X				X
Math 4	X	X	X	X				X	X	X	X	X				X
Math 5	X	X	X	X				X	X	X	X	X				X
Math 58	X	X	X	X				X	X	X	X	X				X
Math 6	X	X	X	X				X	X	X	X	X				X
Math 70	X	X	X	X				X	X	X	X	X				X
Math 71	X	X	X	X				X	X	X	X	X				X
Math 74	X	X	X	X			X	X	X	X	X	X			X	X
Math 770	X	X	X	X				X	X	X	X	X				X
Math 9	X	X	X	X				X	X	X	X	X				X

4.2b Narrative (Optional)

Our department worked collaboratively to make sure our SLO's were evaluated in a timely manner. The work was organized by Nora Wheeler and was completed through the effort of nearly every full time faculty in the department and some associate faculty

5.0 Performance Measures

The Mathematics Department of Santa Rosa Junior College has as its goal to serve the students efficiently and at the same time keep mathematics education accessible to its students. As a faculty, we work hard to be available to our students, try to keep up on the latest innovations in mathematics as well as that which is used in the teaching of mathematics. I have never worked with a more dedicated faculty anywhere else.

5.1 Effective Class Schedule: Course Offerings, Times, Locations, and Delivery Modes (annual)

We offer a wide variety of times and days for our sections, including weekends and hybrid courses. We offer courses from entry level transfer level courses like Statistics, precalculus, Mathematics in Nature, and Math for Elementary School Teachers through second year calculus on the Santa Rosa Campus and we offer all courses through first year calculus on the Petaluma Campus. We would like to offer more advanced courses at the Petaluma Campus, but since more advanced science and engineering classes are all or mostly in Santa Rosa, there isn't enough demand for them in Petaluma. We would like to offer students the option to take Elementary and Intermediate Algebra because we feel it is important to give students the option to take longer to improve their math skills *if that is what they want* then to force them all through transfer level math immediately.

Due to student demand, we are offering more evening courses as well as piloting a Friday course in Santa Rosa. We are adjusting and expanding our corequisite course offering to better meet the needs of our student population. We now offer more advanced courses in our evening program. It has been a success and at this time, we are seeing huge increases in the enrollment of these more advanced mathematics courses. We are hoping that as the Petaluma Campus grows, we will be able to start offering more advanced courses there as well.

We expected to see a drastic increase in enrollment in the entry transfer-level courses after the elimination of pre- and non-transfer level math courses, but we did not. Those students didn't enroll in math courses much at all.

Student Headcount:

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	846	3215	3685	605	2754	2553	481	1910	231

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	61	850	665	155	825	733	114	561	47

5.2a Enrollment Efficiency

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	92.7%	110.9%	103.7%	97.2%	99.3%	94.9%	78.1%	84.9%	81.9%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	108.9%	108.4%	91.3%	110.7%	101.6%	104.7%	81.4%	95.7%	85.4%

The enrollment efficiency numbers mirror the decline in enrollment across the District. Petaluma maintains a higher efficiency because we drastically decreased the number of classes offered there.

5.2b Average Class Size

Nearly all mathematics courses at SRJC have a class enrollment limit of 28 which we maintain in order to spread students out over more classes to not overwhelm any one class with more students. We add a 6-student wait list which can generally be accommodated into the class if the majority of the sections get close to or are full. In normal enrollment times, there are normally completely full sections with students on the floor hoping to add the course. The current average enrollment, though less efficient, allows instructors to better focus on their students in need.

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	25.9	31.1	29.0	27.2	27.8	26.6	21.9	22.7	22.7

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	30.5	30.4	31.8	25.6	28.4	29.3	22.8	26.7	23.3

- Recruiting, securing and retaining faculty who love teaching
- Maintaining a high level of instructional quality and integrity
- Actively cooperating with the Tutorial Center, MESA, Mathematics Computer Lab, DRD, and the Counseling Department to help students outside the classroom
- Challenging students to achieve to the maximum of their abilities, and making certain that each understands the responsibility for her/his own academic success.
- Consistently working with students making sure that they are aware of student services that can aid in their success.
- Contributing to the cultural life of our community by presenting enrichment opportunities to our students and to community members.
- Providing comprehensive instructional support services such as well-maintained physical facilities, basic supplies, up-to-date technological equipment, adequate support staff (secretaries, computer specialists, student homework graders, lab instructors, and student lab assistants).

Currently we are focusing on how to support the students who would have started with intermediate or elementary algebra or prealgebra in College Skills as their first SRJC math class. We developed a corequisite course for Math 25, the best class in the STEM track for students to start with if they need extra support or if they have never passed an intermediate algebra equivalent course prior to attending SRJC.

Core to student success is good study habits. The best-proven method of motivating students to do daily homework is to collect and grade homework on a daily basis. This is impossible without student homework graders. We have had student graders in the past, but lost the funding due to budget cuts. The college should make it a priority to promote practices, like the grader program, that will increase student success.

5.6 Student Success

Retention

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	68.0%	62.7%	62.2%	73.4%	59.8%	61.1%	0.0%	58.0%	62.4%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	63.3%	60.4%	59.7%	86.0%	69.2%	69.4%	0.0%	65.9%	67.9%

Successful Course Completion

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	61.7%	56.0%	59.3%	69.2%	55.5%	56.7%	0.0%	53.0%	56.5%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	53.3%	51.2%	56.6%	83.3%	66.3%	65.2%	0.0%	62.0%	64.3%

GPA

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	2.30	2.12	2.65	2.69	2.25	2.36	0.00	2.21	2.20

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022
Mathematics	2.09	1.82	2.52	2.63	2.48	2.54	0.00	2.19	2.24

We have seen a decrease in student retention and completion, largely due to the pandemic. Mathematics is difficult to learn in an online environment, no matter how skilled the instructor is, without the in-class component where students can learn working with their peers as well as support each other's learning. Many students didn't even try or quit soon after starting, especially our most vulnerable, most underprepared students.

As we all adjust to the post AB 705 improvement plan and AB 1705's passing, we have to find new ways to support student completion in classes that they do not feel ready for. It starts with correct placement, due entirely to their high school gpa and whether they successfully completed Math 3 or intermediate algebra in high school. We will analyze student success data based on their placement constantly, especially now that we are past the pandemic (though not its effects on student success) to make sure the placement metric and guidelines are correct for our student population. We must also create (that part is mainly done), analyze, and revise if necessary corequisite courses where our students need help the most, namely the entry transfer-level courses. We are exploring cohort course models where the same group of students take a math class, a counseling class, and another class. Then we must find new ways to re-capture those students who fail or drop their classes in order to make it more likely that they will return and try again. We see too many students not trying again when they fail after attempting a class once.

We cannot, however, lower our standards. It is our responsibility to ensure that students who pass our classes are prepared for the subsequent classes. Otherwise, the problem compounds itself. This situation is not unique to SRJC.

Having student graders to give daily feedback on homework is one practice that can improve student success. It seems that the small cost of hiring student graders would be greatly offset by the increase in the student success rates. If fewer students are repeating our courses, more students will be served.

5.7 Student Access

The students who we served by ethnicity are:

Mathematics	Ethnicity	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23
	White	2714	36.7%	2203	37.7%	1892	39.0%	1892
	Asian	441	6.0%	364	6.2%	290	6.0%	290
	Black	188	2.5%	141	2.5%	116	2.4%	116
	Hispanic	2877	38.9%	2228	38.1%	1877	38.7%	1877
	Native American	33	0.4%	20	0.3%	24	0.5%	24
	Pacific Islander	29	0.4%	19	0.3%	14	0.3%	14
	Filipino	57	0.8%	48	0.8%	37	0.8%	37
	Other Non-White	399	5.4%	293	5.0%	275	5.7%	275
	Decline to state	659	8.9%	525	9.0%	323	6.7%	323
	ALL Ethnicities	7397	100.0%	5841	100.0%	4848	100.0%	4848

The students who we served by gender are:

Mathematics	Gender	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23
	Male	3729	50.4%	2676	45.8%	2417	49.9%	2417
	Female	3534	47.8%	3050	52.2%	2349	48.5%	2349
	Unknown	134	1.8%	115	2.0%	82	1.7%	82
	ALL Genders	7397	100.0%	5841	100.0%	4848	100.0%	4848

The students we served by age are:

Mathematics	Age Range	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23
	0 thru 18	2210	17.9%	2104	17.0%	1844	15.5%	1844
	19 and 20	3992	32.3%	3920	31.7%	3869	32.4%	3869
	21 thru 25	3485	28.2%	3635	29.4%	3595	30.1%	3595
	26 thru 30	1235	10.0%	1220	9.9%	1207	10.1%	1207
	31 thru 35	523	4.2%	555	4.5%	530	4.4%	530
	36 thru 40	309	2.5%	356	2.9%	317	2.7%	317
	41 thru 45	211	1.7%	238	1.9%	230	1.9%	230
	46 thru 50	185	1.5%	165	1.3%	171	1.4%	171
	51 thru 60	216	1.7%	183	1.5%	170	1.4%	170
	61 plus	33	0.3%	44	0.4%	34	0.3%	34
	ALL Ages	12366	100.0%	12376	100.0%	11933	100.0%	11933

Our service to the various groups of students is right in line with that which would be expected. We do our best to provide a positive learning environment for all students.

It appears that we serve male and female students equally, though in the past few years a higher proportion of males have been enrolling in our classes.

We have more Hispanic students than any other ethnic group. The work of Darci Rosales and the MESA center have contributed to this very positively.

STEM	Mathematics	Mathematics	MATH 10				
			MATH 15				
			MATH 1A				
			MATH 1B				
			MATH 1C				
			MATH 25				
			MATH 27				
			MATH 58				
			MATH 9				
			MATH 215				
			MATH 200				
			MATH 150				
			MATH 156				
			MATH 161				
		Mathematics Total					
	Mathematics Total						
Grand Total							

Location	SANTA ROSA CAMPUS			Updated 05/2			
Count of Course			Semester				
Cluster	Department	Discipline	Course	2019 SU	2019 FA	2020 SP	2020 SU 2
STEM	Mathematics	Mathematics	MATH 10	0	4		
			MATH 15	6	26		
			MATH 16	0	2		
			MATH 1A	3	10		
			MATH 1B	0	7		
			MATH 1C	0	3		
			MATH 2	0	1		
			MATH 200	0	0		
			MATH 215	0	5		
			MATH 25	1	5		
			MATH 27	3	7		
			MATH 4	1	1		
			MATH 49	0	0		
			MATH 49	0	0		
			MATH 49	0	0		
			MATH 5	0	2		
			MATH 58	1	3		
			MATH 6	0	0		
			MATH 7	0	0		
			MATH 770	0	1		
			MATH 9	1	2		
			MATH 101	0	0		

			MATH 150B	1	0		
			MATH 150	2	4		
			MATH 154	0	2		
			MATH 156	1	8		
			MATH 161	1	3		
		Mathematics Total		21	96	0	0
	Mathematics Total			21	96	0	0
Grand Total				21	96	0	0

Location	PETALUMA CAMPUS			Updated 05/2			
Count of Course			Semester				
Cluster	Department	Discipline	Course	2019 SU	2019 FA	2020 SP	2020 SU
STEM	Mathematics	Mathematics	MATH 10	0	0		
			MATH 15	1	12		
			MATH 1A	0	2		
			MATH 1B	0	0		
			MATH 1C	0	0		
			MATH 25	0	1		
			MATH 27	0	2		
			MATH 58	0	0		
			MATH 9	0	1		
			MATH 215	0	3		
			MATH 200	0	0		
			MATH 150	0	2		
			MATH 156	1	2		
			MATH 161	0	2		
		Mathematics Total		2	27	0	0
	Mathematics Total			2	27	0	0
Grand Total				2	27	0	0
				2	27	0	0

5.9a Curriculum Responsiveness

We offer a very standard mathematics curriculum. We have created corequisite courses for Math 15, Math 25, and an additional support course for a variety of other mostly B-STEM courses.

The rest of our curriculum remains robust in order to satisfy the myriad transfer needs of our students.

5.9b Alignment with High Schools (Tech-Prep ONLY)

Through the Cal-PASS program, we had been meeting with local high school instructors to determine our mutual expectations. We have implemented an assessment project that the high schools use to determine the readiness of incoming students to Santa Rosa Junior College. We have also sponsored the JUMP-Start program which allows students to review specific areas of mathematics to prepare the students to assess into more advanced mathematics courses at Santa Rosa Junior College. This will help these students to move through the mathematics curriculum more quickly.

Since not all high schools teach the curriculum in the same way, we give our newly entering students from high school a placement exam that will properly place them into the mathematics curriculum at Santa Rosa Junior College.

We meet annually with high school mathematics faculty from all over Sonoma County to discuss what is going on at our different levels and what we could all do to help our students transition from high school to SRJC.

5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

We have been meeting on a yearly basis with the Professors at Sonoma State University and part of our discussions center around curriculum. We take the time to check in with our most common transfer universities like SSU, UCD, UCB, UCSC, UCSB, Cal-Poly SLO, SFSU, CSUS, HSU among others in order to see how they handle their lower division courses. We are in alignment with most of these programs.

Our current transfer courses align with those of the CSUs and UCs. We are in the process of creating a Mathematics For Transfer degree and we continue to align our transfer courses with the C-ID descriptors in order to receive state approval of the courses and the Math for Transfer major.

5.11a Labor Market Demand (Occupational Programs ONLY)

Not applicable.

5.11b Academic Standards

It is always the goal of the Mathematics Department to ensure that the proper academic standards are maintained to insure the success of our transfer students. Periodic checks of our curriculum's alignment with our numerous transfer institutions are made and when we notice a problem we make sure that the problem is addressed so that our students will transfer seamlessly. The SRJC Math department has very rigorous academic standards. It is important to us that students who take our courses can succeed in subsequent courses at any institution. In light of the current push to get students through this institution quickly, and with an evolving definition of success that seems to be less about education and more about completion, we will have to work hard to maintain our high standards.

6.1 Progress and Accomplishments Since Last Program/Unit Review

Rank	Location	SP	M	Goal	Objective	Time Frame	Progress to Date
0001	Santa Rosa	01	01	We hope to have the Math lab funded in a more reliable and permanent method.		6 months	Funds to provide additional Lab Instructors and Student or Classified Lab Assitants.

6.2b PRPP Editor Feedback - Optional

The PRPP addresses the vital need for additional faculty and financial resources. Some data needs to be updated in this document to accurately address the current status of the Mathematics program.

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
0001	Santa Rosa	01	01	We hope to have the Math lab funded in a more reliable and permanent method.		6 months	Funds to provide additional Lab Instructors and Student or Classified Lab Assitants.