

Santa Rosa Junior College

Program Resource Planning Process

Planetarium 2014

1.1a Mission

1.1a Mission:

The Santa Rosa Junior College Planetarium's mission is to provide interesting educational programs on astronomy and related science disciplines. These programs are presented for the college, area schools, and general public. They are commensurate with and reflect the high academic standards found in the science academic curriculum.

1.1b Mission Alignment

1.1b Mission Alignment:

The Planetarium reflects the District's mission with its commitment to provide programs that enhance the knowledge of those who attend. We also encourage them to further their knowledge of science.

1.1c Description

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The Planetarium accomplishes its mission by structuring its programs in five basic formats.

1. The Planetarium provides educational programs for the college's academic classes. Although primarily for the Earth and Space Science classes, it is also utilized by other classes such as ESL, Disability Resources, College Skills, etc.
2. The Planetarium offers four public shows (different topics for each show) during the academic year: two in the fall semester and two in the spring semester. This schedule, implemented in 2009-10, is a reduction from previous years when six different shows (three each semester) were offered. The number of performances of each show (typically two shows on Friday night, two shows on Saturday night and two shows on Sunday afternoon per weekend) were further reduced in 2010-011 to save costs. In 2010-11 each show was scheduled for three performances a weekend (one show on Friday and Saturday night and one show on Sunday afternoon).
3. The Planetarium also offers free First Friday Night Sky (FFNS) shows on the first Friday of each month- September through December and February through May. This program began in 2008-09 to help attract new audiences to the Planetarium. These shows provide information about the phenomenon found in that particular night's sky using

demonstrations with special effects and features of the Planetarium. While admission is free; donations are accepted. These FFNS programs attract new customers and have provided an increase in our regular paid public shows.

4. The Planetarium also offers school shows during the week (Tuesday through Thursday) at 10 am and 12 noon and 10 am on select Fridays. These shows are available to public, private and charter schools throughout North-Central California by advance reservation. Admission is \$1.50 per person with a minimum of \$35.
5. The Planetarium provides on a pre-arranged and planned basis special shows for non-profit educational organizations. These organizations include: Memorial Hospital's "Life Learning Center", the astronomy badge requirements for the Girl Scouts, Sonoma State University's Excel and Super Kids programs, and AmeriCorps CalSERVES, etc.

1.1d Hours of Office Operation and Service by Location

1.1d Hours of Office Operation and Service by Location:

All programs are provided at the Planetarium located in Lark Hall on the Santa Rosa campus, room 2001.

1. SRJC faculty schedules time in the Planetarium by contacting the Planetarium's office.
2. Public shows are offered 16 weekends a year (8 in the fall and 8 in the spring). Performances of each show are scheduled Friday and Saturday nights at 7pm and Sunday afternoons at 1:30pm.
3. First Friday Night Sky programs are offered on 8 first Fridays of the months September-December and February-May. Two shows are offered on these Friday evenings: 7:00pm and 8:30pm
4. School shows are provided during the fall and spring academic year at 10am and 12noon on Tuesdays, Wednesdays, Thursdays and at 10am on select Fridays (with the exception of school holidays and weeks in which a new public show is being installed in the Planetarium). The Planetarium's school shows are well-attended and generate revenue for SRJC.
5. Special shows on pre-arranged dates and times are provided during the fall and spring academic year. They are generally on week day afternoons, evenings, and occasionally weekends.

General hours of operation other than the above show times are Monday through Friday 8am to 5pm.

1.2 Program/Unit Context and Environmental Scan

Beginning July 1, 2012 the Planetarium Specialist reports to the Science, Technology, Engineering, Math (STEM) Dean. The public and school shows will be operated as part of the college's Earth & Space Science department, as the Planetarium is a vital resource for the

college's instructional program. The Planetarium Specialist works closely with faculty from Earth and Space Science, helping the faculty utilize the features of the Planetarium to teach astronomy and related science disciplines (such as Geography, Geology, Meteorology, etc.). For example, the Planetarium Specialist created a new school show entitled "Exploring Planet Earth" to utilize the Planetarium's technology to introduce the subject of geology.

2.1a Budget Needs

2.1a Resources: Budget Needs

Budget Category 4000: present budget is adequate, allocated, and used effectively.

Budget Category 5000: present budget is adequate, allocated, and used effectively except for the following:

5652 - A planetarium maintenance trust is established for general planetarium maintenance: Specialized Goto star projector maintenance is done on a 2 to 3 year schedule as needed. We contract with an outside planetarium installation and maintenance firm to do this specialized maintenance. This was last done in July of the 2011-2012 school year at a cost of \$4,277.68. To facilitate ongoing and future maintenance of the planetarium the following funding streams will begin July 1, 2012. All incoming revenue streams including: Public Show sales, School Show sales, and all donations will be deposited in the Planetarium's maintenance trust.

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	Santa Rosa	00	00	\$400,000.00	Replace all non-GOTO Star Projector control circuitry and wiring with safer, easier to maintain, and more cost-effective computer/slave control system. This system would be digital-ready for future conversion from analog to digital. Additional information regarding this request is found in sections 2.4c, 2.4e, 2.5a, 2.5b, and 6.3b. Note: The budget estimate for this item and the other two listed in this area is a rough estimate based on data from 2008. A more current estimate would have to be done should these projects receive funding priority.
0002	Santa Rosa	00	00	\$200,000.00	Replacement and Upgrade the Planetarium's Special Effects and Visual Projection Systems from Analog-to-Digital. Brief rationale: digital special effects and projection systems for the planetarium environment are in their most early stages, very expensive, and not yet capable of achieving the current analog resolution and clarity. However; as this new technology becomes more affordable (with improved resolution and clarity) the analog technology will become obsolete.. For example: we use 33 carousel analog slide projectors. These units are no longer being manufactured. With parts availability, proper maintenance, and a reserve on hand we should be OK until quality digital projection for the planetarium becomes available and affordable. The planetarium has, in total, some 120 analog special effects and visual projection projectors. The \$200,000 is an estimate. With luck, by the time we need this equipment, the cost will be significantly less.
0003	Santa Rosa	00	00	\$650,000.00	Replacement of the current Electro-Mechanical "GOTO GX-10" Star Projector and Control system. Estimate based on today's technology and pricing), Brief rationale: the state of planetarium star projectors appropriate for our type and size planetarium is currently in a state of hybrid change from electro-mechanical to digital. Although some of the features of these new hybrid systems has great educational advantages over our present GOTO GX-10 projector, the star field quality is not good and the present control systems do not have the ease and versatility desired for use in an educational environment. However, even though our present GOTO GX-10 projector should (with proper pro-active maintenance) last for another 10 to 15 years, it will become ever more

					expensive to maintain, will become more difficult to integrate with the newer planetarium technologies, and will eventually fail.
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2.2a Current Classified Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Planetarium Specialists	40.00	11.00	The Planetarium Specialist coordinates, creates, designs, and presents planetarium shows including selecting appropriate content, visual effects, and soundtracks to educate, entertain, and inspire audiences about astronomy and the physical sciences; performs demonstrations; and gives lectures. The Specialist must have the ability to design, develop, and present planetarium shows for various groups; use optical, electronic, and mechanical equipment within the planetarium; maintain and perform minor repairs on planetarium projectors and audio systems; entertain and inspire both children and adults; communicate effectively in English; demonstrate commitment and sensitivity to diversity; follow and give oral and written directions; perform clerical work with accuracy; train and direct the work of Administrative Assistance, Planetarium Lecturers, and student assistants; maintain records; generate budget requests; maintain cooperative working relationships; demonstrate sensitivity to, and respect for a diverse population; translate complex theories and phenomena into everyday language. Knowledge of telescopes, projectors, and optical equipment used in planetarium; audio systems and electronic equipment; photography used to create planetarium visual effects, as well as knowledge of a wide variety of music scores; physics and astronomy is required. Minimum qualifications are a bachelor's degree in astronomy; a masters is preferred. In general the Planetarium specialist oversee the operation of the SRJC Planetarium including supervision of STNC and Student Employees.

2.2b Current Management/Confidential Positions

Position	Hr/Wk	Mo/Yr	Job Duties
none	0.00	0.00	

2.2c Current STNC/Student Worker Positions

Position	Hr/Wk	Mo/Yr	Job Duties
STNC	18.00	10.00	Administrative Assistant 1: STNC employees in the Planetarium are paid an hourly wage from the Planetarium Trust; they are not funded by the District. The Administrative Assistant 1 position performs all the administrative function once handled by the Community Education department. In the Fall Semester 2012 the Planetarium and all function were removed from the Community Education department and placed in the STEM cluster. The functions provided by the STNC Administrative Assistant 1 includes, but is not limited to: handling all school show reservations, billing, deposits, communications, general office duties such as mail, phone, customer service, typing, researching data, updating Facebook and Twitter, and generating reports as assigned. This function is a permanent, part time, position requiring up to 25 assigned hour per week for the months August through mid June and as so needs to be established as such ASAP. This position can be combined with AA1 requirements/needs in MESA and E&SS

			establishing a full time 40 hour per week 11 month a year position.
Student Workers	12.00	9.00	Planetarium Student Workers are paid an hourly wage from the Planetarium Trust; they are not funded by the District. Student Workers provide assistance for the various public planetarium programs. They greet, sell tickets to, and issue parking permits for planetarium customers attending the public programs. They also do basic accounting associated with ticket sales, parking permits, and attendance numbers. In addition they assist the planetarium lecturer with running the audio system and providing for the safety of the planetarium customers during the public programs.
STNC	20.00	9.00	Planetarium Lecturer: STNC employees in the Planetarium are paid an hourly wage from the Planetarium Trust; they are not funded by the District. They are utilized to give occasional school shows during the week and public shows on the weekends; and when necessary on an emergency basis (i.e. in cases where the Planetarium Specialist is ill). To be able to adequately assist giving shows, these STNCs must train to be able to present the shows and must have experience giving shows. To maintain this level of presentation skill we make sure STNCs have an opportunity to do a sufficient number of public shows and variety of school shows. Depending on the number of school and public shows an STNC could work, with pay, as much as 20 hours a week updating, practicing, and giving shows.

2.2d Adequacy and Effectiveness of Staffing

Staffing at the STNC Planetarium Lecture level, is difficult because these are specialized positions and require someone who is available on weekends for public shows (Friday & Saturday nights and Sunday afternoons) as well as during weekdays for school shows.

These employees need to have or develop a hard-to-find skill set of knowledge and abilities such as:

- Knowledge of astronomy, physics and related sciences.
- To interface effectively with the general public.
- Simplify scientific concepts.
- Effective public speaking.
- Solve and correct minor technical problems (such as changing projector bulbs, properly setting-up the planetarium's Goto star projector and other projection systems, etc.).
- Multi-task by effectively/artistically operating the planetarium's vast visual and audio technology.
- Supervise the planetarium's environment.
- Monitor and plan where he/she is in the program, while being the oratorical presenter.

We do not consider this (as noted in 2.2e) an STNC position. Given the needs of this position requires a high level of commitment to SRJC's Planetarium program. We see this as in fact a part-time Classified position with work assignment hours. This position is primarily a back-up and load relief function to assist the Planetarium Specialist; who would otherwise be on campus seven days a week. This position does not fit as a Short Term Non Continuing position and is an on-going function with at least part-time commitment required for the overall function of the Planetarium.

Staffing at the STNC Administrative Assistant 1 position is not in any way a Short Term Non-Continuing position. This position as an STNC was done to facilitate a fast transfer of all support functions previously done in the Community Education department to STEM. This position needs to be established as a regular Classified full time, part time, position working 20 hours per week on a set time schedule from August through May.

We propose hiring a full-time staff member to combine the staffing needs of part time administrative needs in the Planetarium and another such needs department such as MESA. This position will be called STEM Program and Outreach Assistant. This re-engineering strategy seeks to make efficient use of district resources by combining two positions into one with shared IT support. It will be partially funded by the Planetarium trust revenues.

2.2e Classified, STNC, Management Staffing Requests

Rank	Location	SP	M	Current Title	Proposed Title	Type
0001	Santa Rosa	00	00	STNC	Planetarium Lecturer	Classified
0001	Santa Rosa	00	00	STNC	STEM Programs and Outreach Assistant (w/MESA)	Classified
0002	Santa Rosa	00	00	STNC	Administrative Assistant 1	Classified

2.3a Current Contract Faculty Positions

Position	Description
NA	

2.3b Full-Time and Part-Time Ratios

Discipline	FTEF Reg	% Reg Load	FTEF Adj	% Adj Load	Description
NA	0.0000	0.0000	0.0000	0.0000	

2.3c Faculty Within Retirement Range

NA

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

NA

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0000	ALL	00	00	NA	

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

The Control Console and associated equipment (Special Effects Projectors, circuitry, etc.) technology was established in the late 1970s and early 1980s. This technology is old, frail, and replacement parts as simple as projection bulbs (let alone such things as IC circuitry) is becoming ever increasingly hard to find.

As noted in 2.1b, 2.4e and 3.5; the console control circuitry and wiring needs to be replaced with a safer, easier to maintain, and more cost-effective computer/slave control system. This new system must be able to support digital systems in the future. This will require the coordinated effort and planning of both SRJC and outside contractors.

SRJC resources should include, but not limited to, Planetarium, Earth & Space Science, Purchasing, Facilities Operations, academic Affairs/Administrators, Accounting, Administrative Services, Environmental Health & Safety, Media Services, Public Relations, SRJC Foundation, and Warehouse.

Outside Contractors: should include, but not limited to, oversight contractor to provide a Single Point of Contact for all preliminary and specific estimates, development, design, engineering, on-site removal of control console circuitry and wiring, installation of new control console circuitry and wiring, testing, and SRJC personnel training. In addition, SRJC may choose to initiate some form of maintenance contract(s). Significant steps or actions should include, but not limited to: First Year an internal planning and funding group, and an internal overall design and coordination group to initially interface with outside resources; Second Year an internal development, design, and engineering group to interface with outside resources on item specific issues; and, Third Year an internal implementation group to oversee all outside resource activities through turn-up, testing, and training of SRJC personnel.

Conventional audio & visual instructional equipment (such as: 35mm projectors, audio amplifiers, etc.) needs should be adequate with successful maintenance for the next several years. Planetarium specific instructional equipment (such as: special effects projectors and their control systems) needs should also be adequate given our ability to obtain parts for maintenance of these units.

Please also note that planetarium technology in general is beginning a transition from analog to digital. As this occurs over the coming years the ability to obtain replacement parts for the older analog technology will become even more difficult to the point of requiring the purchase of newer replacement units; this is not easily projected as it depends on unforeseen equipment failure and parts availability.

2.4c Instructional Equipment and Software Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	00	00	Replace & upgrade Console wiring & technology	1	\$400,000.00	\$400,000.00	Betsy Roberts	Planetarium	Ed Megill
0002	Santa Rosa	00	00	Upgrade from analog to digital projection media	1	\$200,000.00	\$200,000.00	Betsy Roberts	Planetarium	Ed Megill
0003	Santa Rosa	00	00	Replace GOTO Star Projector with Digital Equipment	1	\$650,000.00	\$650,000.00	Betsy Roberts	Planetarium	Ed Megill

2.4d Non-Instructional Equipment, Software, and Technology Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
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2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
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2.5b Analysis of Existing Facilities

3.1 Develop Financial Resources

3.2 Serve our Diverse Communities

There is only one, regular full time position in the Planetarium at this time and that is the Planetarium Specialist. Recruitment and retention of the planetarium's Student Workers and STNC positions are based only on their ability to perform the job responsibilities including their ability to interface with the wide diversity of our students and community.

3.3 Cultivate a Healthy Organization

- The Planetarium Specialist regularly attends PDA day meetings and spends hours on a weekly basis to keep updated on the latest developments in the field of astronomy and related science fields. This includes, but is not limited to, daily use of the internet for research and updates from sources such as: NASA, JPL, relevant books, DVD courses, attend many of the “What Physicists Do” programs at Sonoma State, and ongoing communication with colleagues.
- Student Workers are supported through job-training to upgrade their planetarium job skills including interfacing skills with students and the general public. The Planetarium Specialist works with these students to ensure they achieve academic success as well.
- STNC Planetarium Lecturer position, is encouraged to continuously improve (through SRJC classes and their own initiated reading) their knowledge of astronomy, related science fields, public speaking, and interacting with the public. In addition, they receive on-the-job training and supervision in these areas.
- STNC Administrative Assistant 1 position, is encouraged to continuously improve (through SRJC classes and their own initiated reading) their knowledge and skills of (but not limited to) office functions, customer service, marketing, and research. In addition, they receive on-the-job training and supervision in these areas.

3.4 Safety and Emergency Preparedness

The Planetarium Specialist is located in Lark Hall. The Planetarium Specialist makes sure that all STNC workers and Student workers in the Planetarium are aware of safety procedures and know the location of emergency/safety supplies.

3.5 Establish a Culture of Sustainability

The biggest safety issue in the Planetarium is the wiring in the console. See 2.4e

4.1a Course Student Learning Outcomes Assessment

NA

4.1b Program Student Learning Outcomes Assessment

NA

4.1c Student Learning Outcomes Reporting

Type	Name	Student Assessment Implemented	Assessment Results Analyzed	Change Implemented
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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
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4.2b Narrative (Optional)

The planetarium supports student learning. Earth & Space Science instructors bring their classes into the planetarium for presentations on specific academic subjects using the planetarium's technology. Many Earth & Space Science instructors also offer extra credit for attending planetarium public shows.

The planetarium supports assessing student learning outcomes by providing subject specific preview and follow-up review questions to the teachers of various educational institutions in conjunction with their participation in the planetarium's school show programs.

All persons attending SRJC planetarium's public and school shows (which includes SRJC students) are exposed, through the content and delivery of our shows, to the overall educational values of SRJC; especially in the following Institutional Learning Outcomes: Personal Development and Management (appreciate the value of lifelong learning), Communication (listening actively& respectfully), Critical Analysis, and Creativity.

All programs presented in the SRJC planetarium are first, educational and, second, entertaining. These programs strive to inspire the audience to learn more about astronomy and related science disciplines. The programs are designed to be of interest to people who know little about these subject areas as well as those who are quite knowledgeable in these fields.

5.0 Performance Measures

In 2010-11, we cut the number of public show performances from 96 to 48 (a 50% reduction). The total audience dropped by 23%. In fact, attendance per show increased from an average of 33 per show in 2009-10 to an average of 52+ per show in 2010-11 and an average attendance in 2011-12 was 55, making a more efficient use of limited resources. In the 2012-2013 school year we increased our fees from \$5 to \$8 for General Admission and from \$3 to \$5 for Students and Seniors. Although our total attendance dropped to 82.2% as a result, our admission revenues increased from \$8,887 in 2011-2012 to \$11,958 in 2012-2013.

From March 1, 2013 through February 28, 2014 our regular paid public shows were attended by 3,076 customers, producing \$12,526 in sale and an additional \$424.13 in donations.

Many SRJC instructors and teachers from surrounding schools give students extra credit if they attend a public Planetarium show (number of extra credit slip issued from March 1, 2013 through February 28, 2014 totalled 457), further evidence of the high regard instructors have for the educational quality of these presentations.

SRJC Earth and Space Science instructors also use the planetarium in their regular credit classes. As of March 1, 2013 to February 28, 2014 SRJC instructors have used the Planetarium 37 times numbering 2,070 SRJC student experiences.

In addition to our regular paid planetarium shows we provide a series of First Friday Night Sky programs on the first Fridays of the month September through December and February through May. The intent of these programs is promotional and therefore give at no cost to customers; we do ask for and receive donations for the programs. From March 1, 2013 through February 28, 2014 the free "First Friday Night Sky" shows attracted 1,227 visitors and donations were \$1,459.32.

As for our school show program last year, 2012-2013, we had 84 school visits with 4,625 attendees with revenues of \$6,962.70. Budget cutbacks at public, private, home, and charter schools has negatively impacted attendance in our School Shows.

Even so we have school from as far away as San Francisco and Napa attend our school show programs saying that we are the only remaining planetarium that provides significant and valued educational programming.

From March 1, 2013 through February 28, 2014 our school show results are as follows:

- Presented 108 school shows to 115 schools
- Totaling 6,331 attendees

- Revenues were \$10,516

This represents a notable increase over the previous couple years, as California's school funding begins to improve.

In addition the planetarium provides special planetarium programs to non-profit educational organizations. From March 1, 2013 through February 28, 2014 we presented 9 special planetarium programs for 6 non-SRJC educational organizations including SSU Science Club, SantaRosa Recreation and Parks Department, The Boys and Girls Club and the YMCA. This exposed the SRJC and the Planetariumn to an additional 582 community residents.

The Planetarium is publisized through the SRJC web-site, Constant Contact subscribed e-mail newsletter, and Facebook. In addition this year, Jessica Carter our STNC Admin. Asst.1, has established an SRJC Planetarium "Twitter" account that is very active and appear to have had a positive effect on our overall attendance. We are constantly analyzing attendance statistics to help plan future show content and scheduling.

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

NA

5.2a Enrollment Efficiency

NA

5.2b Average Class Size

NA

5.3 Instructional Productivity

NA

5.4 Curriculum Currency

NA

5.5 Successful Program Completion

NA

5.6 Student Success

NA

5.7 Student Access

NA

5.8 Curriculum Offered Within Reasonable Time Frame

NA

5.9a Curriculum Responsiveness

NA

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

5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

NA

5.11a Labor Market Demand (Occupational Programs ONLY)

NA

5.11b Academic Standards

NA

6.1 Progress and Accomplishments Since Last Program/Unit Review

Rank	Location	SP	M	Goal	Objective	Time Frame	Progress to Date
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6.2a Program/Unit Conclusions

Location	Program/Unit Conclusions
ALL	The Planetarium Specialist and supervised staff are fully committed SRJC team players in maintaining the planetarium and college's mission and goals in this challenging economic environment.

6.2b PRPP Editor Feedback - Optional

SRJC's Planetarium is a jewel. It links SRJC to the community through its public and school shows and provides a wonderful laboratory for the students in the Earth and Space Sciences department as well as other academic departments. Although the GOTO equipment is more than 30 years old, it has been lovingly cared for and maintained and at least to date, outperforms the latest digital attempts at star projection.

While it is understandable, in the current budget climate, that money will not be allocated to upgrading the Planetarium equipment, it should definitely be on the District's radar for the future. There may be grant funding to help but the college does not have the resources to pursue that avenue at this time.

Luckily for SRJC the current Planetarium Specialist is a "jack of all trades" and can help maintain the equipment as well as design and implement spectacular Planetarium shows. Should he decide to retire, he will be difficult to replace.
(This is Kerry's statement from the previous year.)

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
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