Santa Rosa Junior College
Program Resource Planning Process

Applied Technology 2016

1.1a Mission

The mission of the Engineering and Applied Technology Department (E&AT) is to provide excellent student learning opportunities to prepare students for careers through our Career and Technical Education, CTE, programs and to prepare students for transfer in our transfer majors. We achieve this through maintaining excellent programs, hiring excellent faculty, providing state-of-the-art technology and advocating for the needs of our students.

1.1b Mission Alignment

The programs in the Engineering and Applied Technology Department mission are in alignment with the District's mission, specifically *Student Learning*, because we offer high quality instruction, using state-of-the-art technology according to current industry standards, so that our students are prepared for transfer and/or the workforce.
In addition, we are advocates of *Continuous Improvement* and several of our programs have recently been reviewed, reorganized and updated to serve our students better, they are: Civil Engineering Technology; Surveying Technology; Geospatial Technology; and Electronics Technology, which is transitioning to a Mechatronics Technology program.

1.1c Description

The department consists of the following 3 transfer disciplines: Architecture (limited classes), Construction Management (under development) and Engineering; and the following 8 CTE (Career and Technical Education) disciplines: Civil Engineering Tech., Digital Media: 3-D Modeling and Animation, Electronics Tech. (soon to be Mechatronics Tech.), Geospatial Tech., Solar Photovoltaics, Surveying Tech., Water Distribution Operations, and Wastewater Treatment Operations; as well as offering several general Applied Tech/Design Graphics/CAD support courses used by several of the programs in our department, as well as other departments. Although we focus on transfer and CTE certificates, our courses are also of interest to professionals who are upgrading their skills, and to the general public

It should be noted that several of the programs are in a state of flux as industry needs have changed and programs are being revised/developed to meet current needs. For example the Electronics program is transitioning to a Mechatronics program (starting Fall 2016) and major revisions are underway in each of the Civil Engineering Tech., Surveying Tech. and Geospatial Tech. programs, as well as in the Water Distribution Operations and Wastewater Treatment Operations programs.

1.1d Hours of Office Operation and Service by Location

The E&AT Department offers classes during the day, the evening and on weekends at the Santa Rosa Campus. The Engineering and Architecture classes are offered primarily during the day. Electronics, Solar Photovoltaics and Animation classes are offered primarily in the evening. While the other disciplines (Civil Engineering Tech., Surveying Tech., Geospatial Tech. and Applied Tech./Drafting) have a mix of day and evening classes, with Applied Tech./Drafting and Solar Photovoltaic classes also offered on Saturday. The Water programs courses, at the Petaluma campus, are offered in the evenings.

At the Santa Rosa Campus, Drafting and CAD labs in Shuhaw Hall are staffed with a full-time (currently 10 month) Microcomputer Lab Specialist I. An IT network administrator is responsible for maintaining our hardware and software needs. In addition there is an STNC Electronics Lab Assistant working in the Electronics program 20 hours per week. For Spring 2016, we also have a part-time (5 hours/week) SLIA serving the Engineering program an STNC SLIA for 10 hours per week serving the CESGT programs and the STNC Electronics Lab Assistant is also working for 5 hours a week to support the Engineering lab courses offered in the Electronics lab in Bussman. In addition the Department has an Administrative Assistant II who works 30 hours per week, primarily during the day, with some early evening hours. At the Petaluma Campus there are no dedicated staff for the Water programs.

1.2 Program/Unit Context and Environmental Scan

The programs in our department are varied and respond to economic conditions differently. Many of the courses in our department serve the construction industry (Architecture, Engineering, Civil Engineering Tech, Surveying, and GIS) which has experienced extremely hard fiscal times over the past few years. Because of this, many of these programs have experienced a reduction in student enrollment. As a result, most of these programs are undergoing major revisions, and the Architecture program has been temporarily discontinued awaiting enrollment demand. Now that the market has returned, it is expected that demand for CTE graduates will climb, and more students will seek transfer. In light of the changing economy a transfer Construction Management program is under development.

Although not related to the Construction Industry (except for the Solar Photovoltaics program) the Electronics program is also in this situation, as are the two water programs: Water Distribution Operations, and Wastewater Treatment Operations. On the other hand, the Engineering program is healthy and experiencing growth and the 3-D Modeling and Animation program is finding its equilibrium.

The Architecture Program is seeking articulation for a final course to allow our students to easily transfer to UC Berkeley, having articulated with Cal Ply SLO. However, the program is being temporarily discontinued at this time due to low enrollment. The local American Institute of Architects is a strong supporter of the program and provides individual mentors for the advanced students.

Degree programs and transfer majors:
There have been no changes in transfer requirements for the department's transfer disciplines (Engineering, Architecture and Construction Management). The Engineering program maintains relationships with local professional organizations. The Architecture program has established a relationship with College of Marin, to guarantee student preparation for transfer, since we only

offer the first year of classes. In addition the American Institute of Architects offer mentorships to our students each year. As the Construction Management program gets underway we anticipate forging ties with the local construction industry.

CTE certificates and majors:
Many of the department's CTE programs are in fields related to construction that were heavily, negatively, impacted by the recession when construction stopped. As a result enrollment declined. As part of the effort to increase enrollment, extensive reorganization and revisions were made to several of our programs. Our CTE programs maintain industry contact through Advisory Committees, which were utilized extensively in the re-design of the following programs: Civil Engineering Tech., Surveying Tech., Geospatial Tech., Electronics Tech. to Mechatronics Tech., Water Utility Operations and Wastewater Treatment Operations. In addition Program Coordinators maintain contact with local professional organizations. Now that the employment situation has improved, the industry need for our students has increased, particularly in the Civil Engineering, Surveying and GIS fields. But because general employment opportunities abound, enrollment has remained low. Student outreach efforts are underway, particularly to high schools, and as the revised programs are established, increased enrollments are anticipated. Currently there are more requests for graduates than there are students.

The CTE programs offered in the E&AT department are technology heavy. The department is well supported in the computer arena, but providing state-of-the-art surveying, GIS, mechatronics, animation and water program equipment is expensive. In order to be effective a major investment in these programs is needed: they all need expensive equipment to provide effective training for our students. Each of these programs has applied for CTE funding to support their equipment needs, but that is not enough. Although industry support is strong, and there are many scholarship opportunities for students, this has not translated to funding resources for programs.

2.1a Budget Needs

Department:
The department budgets (each program area has a differrent one) are used effectively at this time. Overall the Department has made the switch to electronic publishing for most of our student handouts – thus reducing the need to spend as much money as previously on printing costs. And all courses that provide materials for student work are now charging fees to cover the cost of printing and other materials. In the 4000's and 5000's funds are needed to repair equipment that breaks down or needs regular maintenance. Funds for Staff development would also be well used.

The Core Data reveals that our budgets together currently equal slightly more than 1% of the District's total.

NOTE: Most of the programs in our department do not have enough funds to secure the technology, other than computers, needed to teach students to industry standards, or to maintain the equipment we have - which is reflected in the budget requests for instructional equipment. See Budget Requests. And faculty and staff development funds are perennially short. Further, our department would benefit from an additional 2 months of contract for our Micro-computer Lab Specialist I, an additional 10 hours a week of work for our AAII, and we desperately need a Science Lab Instructional Assistant for the department, to serve all of our programs. See Staffing Requests.

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0000	Santa Rosa	02	01	$0.00	SEE SECTION 2.2e AND 2.3e FOR STAFFING REQUESTS
0000	Santa Rosa	02	01	$0.00	SEE SECTION 2.4c FOR KNOWN EQUIPMENT REQUESTS
0001	ALL	04	07	$5,000.00	Equipment repair and maintenance, including water programs in Petaluma
0001	ALL	00	00	$0.00	
0002	ALL	02	01	$5,000.00	Staff development, including water programs in Petaluma

2.2a Current Classifed Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Todd Amos	40.00	10.00	Microcomputer Lab Specialist I: assists faculty and students in our 4 computer and drafting labs
Dawn Urista	30.00	12.00	AAII: Primary support for faculty and staff (as well as unaffiliated depts. in Bussman) and students
	0.00	0.00	

2.2b Current Management/Confidential Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Department Chair	12.00	10.00	Provides administrative liaison for the District

2.2c Current STNC/Student Worker Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Overtime Physics SLIA	5.00	5.00	Support 1767/8 Materials Lab for Engr 45
STNC Electronics Lab Assistant	5.00	5.00	Support engineering labs in Bussman
STNC Electronics Lab Assistant	20.00	10.00	Supports electronics program
STNC SLIA	10.00	5.00	To support CESGT programs

2.2d Adequacy and Effectiveness of Staffing

2.2d Adequacy and Effectiveness of Staffing

Department: All Department programs share the staff allocated to the department. The existing staff are not adequate to support the programs in the E&AT department.

Microcomputer Lab Specialist I: The recently reclassified Microcomputer Lab Specialist I for the E&AT computer labs is a ten (10) month position and does not have summer hours to assist when ALL ANNUAL significant major software and hardware upgrades are implemented. The summer months are a very critical time for the E&AT computer labs and network; arguably the most important three months of the school year when considering the logistics of operations of hardware and software updates. The reader is reminded that technology marches on and technology software manufacturers release updates throughout the year and they are implemented during the summer months. It is a real scramble to effect these operations across two labs and a network while summer classes are also in session. These activities must be co-organized with IT's hardware specialist around the summer course offerings which will be increasing due to the need to extend the new Year-to-Career courses into a third summer semester. This FT position needs to be a 12 month position.

Department Administrative Assistant II: A position that effectively serves 13 programs and a Department Chair requires a full time presence during the work week. The department AA remains a 30 hour/week position with NO student assistant. Current classified and management employees are periodically being utilized beyond their full capacity and routine tasks and routine deadlines are being missed as a result. Programs suffer and faculty become frustrated beyond what is bureaucratically tolerable. This position needs to be increased from 30 to 40 hours/week. Student Assistant support should be re-explored in a progressive fashion starting with a half time position. The department is tired of settling for what manages to barely get done in 30 hours; please consider what more could be done in that additional 10 hours.

Science Lab instructional Assistant (SLIA): Currently the SLIA needs of the department are inadequately being met by an STNC position (CEGST 10 hours/week) and 5 hours of overtime for a classified employee in the Physics/Chemistry Department (for Engineering). Having adequate program support is critical to the success of our programs. At the least a full-time SLIA is needed to support the Engineering and CESGT programs. Set-up for labs, maintaining equipment and assisting in the labs are critical functions, without which the quality of instruction suffers and students are not served well. The current level of support, though better than nothing, is not adequate to address the needs of the department. Lack of continuity and job ownership inherent in the STNC position is also a negative factor. There is enough work to be done in our programs to keep a SLIA occupied 40 hours per week.

Electronics Lab Assistant: Currently the Lab Assistant needs of the department are being served by a 25 hour per week STNC position for the Electronics (20 hours/week) and Engineering (5 hours/week) programs. The needs in the Electronics program have been consistent for the past 30 years and will be increasing as the transition is made to Mechatronics and the Maker Space is established. It is time to hire a full-time Lab Assistant or Science Lab Instructional Assistant to serve the Electronics program.

Student Lab Assistants: The computer labs, and eventually the Maker Space in Bussman, would be well served by student lab assistants to supplement the one classified staff we have.

The current FTEF/FTESS figure is difficult to calculate because figures are given by program, not by department, and some of the data is not correct. However, if we add the FTEF for all programs = 7.69, and divide by the current SS (not including the Administrative Assistant) = 1.21 the ratio is 0.158 support staff per full-time faculty member equivalent - way below average...

2.2e Classified, STNC, Management Staffing Requests

Rank	Location	SP	M	Current Title	Proposed Title	Type
0001	Santa Rosa	01	01	STNC SLIA	Science Laboratory Instructional Assistant	Classified
0001	Santa Rosa	01	01	STNC Electronics Lab Assistant	Electronics Lab Assistant	Classified
0002	Santa Rosa	01	01	Microcomputer Lab Specialist I	Microcomputer Lab Specialist I +2 months	Classified
0003	Santa Rosa	08	07	Adminstrative Assistant II 75%	Administrative Assistant II +25%	Classified
0004	Santa Rosa	01	01	Student Lab Assistants	Student Lab Assistants 40 hrs/wk	Student

2.3a Current Contract Faculty Positions

Position	Description
Ap. Tech	1.0 FTE: NEW F 2016
Architecture	0.6 Retiring May 2016 (NIC in total)
Engineering	1.0 FTE

CESGT	1.0 FTE (NEW F 2015)
Electronics/Mechatronics	1.0 FTE NEW F 2016
Total:	4.0 FTE Faculty as of Fall 2016

2.3b Full-Time and Part-Time Ratios

Discipline	FTEF Reg	% Reg Load	FTEF Adj	% Adj Load	Description
	0.0000	0.0000	0.0000	0.0000	NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.
TOTALS	3.8500	0.0000	4.6800	0.0000	45% taught by full-time faculty Way below District average
ApTech/Anim	1.1800	49.0000	1.2400	51.0000	1 full-time, 11 adjunct
Arch	0.4000	67.0000	0.2000	33.0000	1 full-time at 60% load, 3 adjuncts
Civil Engr./Survey/Geospatial	1.0000	0.0000	0.3100	100.0000	2 adjuncts
Cons	0.0000	0.0000	0.3000	100.0000	2 adjuncts
Electronics/Solar	0.0000	0.0000	1.3700	100.0000	3 adjuncts
Engineering	1.2700	69.0000	0.4200	31.0000	Typically 1.5 full-time faculty and 4 adjuncts. Facuty on sabbatical the year of the data, so it is not characteristic, and .8 facualty memebr retired Dec. 2015
Wastewater Treatment	0.0000	0.0000	0.6500	100.0000	6 adjuncts
Water Distribution	0.0000	0.0000	0.1700	100.0000	4 adjuncts

2.3c Faculty Within Retirement Range

This year 2.1 FTE faculty members retired: 1 FTE Applied Tech, 0.5 FTE Engineering (shared with Physics); 0.6 (reduced load) Architecture. However we have hired 2 new faculty to begin Fall 2016. Of the remaining faculty members of retirement age (3 according to District data: 1 continuing, 2 newly hired), none have indicated a desire to retire next year.

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

We need one faculty position immediately:

- Engineering: This is a replacement and growth position. The engineering program has grown in the past few years and we have experienced the sad necessity of having to close classes and leave students unserved in a timely manner, and with the loss of the 0.5 position, a new faulty member is needed. There is more than enough load in the engineering program for another faculty member in this program. There will still be a need for adjunct faculty in the program.

We will need an additional faculty member in the near future:

- Architecture/Construction Management: This is a replacement position for a retiring full-time faculty member (anticipated May 2016). Once the final course in Architecture is articulated with UC Berkeley (anticipated 2015-16) and the proposed transfer Construction Management program is launched (Fall 2016), there will be ample load for a full-time faculty member as well as several adjunct faculty.

Recruitment:

- Traditionally we have had difficulty recruiting adjunct faculty in most of our disciplines. For example there were only 4 water program adjunct candidates and 3 architecture candidates to interview the last time we interviewed. All programs have interviewed for adjunct faculty hiring in the past year.

Other:

In the past six years we have had 3.5 retirements, with 1 more approved for May 2016 = 4.5 FTE. During that time we have had 3 replacement hires – 1 effective Fall 2015, and 2 effective Fall 2016. This bring the total to 4 FTE, net down 1.5 FTE from six years ago. We still have programs fully staffed and coordinated by adjunct faculty. And, it is difficult to do the "business" of the college (curriculum updates for 108 courses, evaluations of 10-20 adjuncts per year, etc...) with so few full-time faculty members.

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0001	Santa Rosa	02	01	Engineering	Adequate faculty in the engineering program will facilitate completion of SLOassessments in a timely manner - this a replacement and growth position
0002	Santa Rosa	02	01	Arch/Construction Management	This position will be needed in Fall 2017 to serve the new Construction Management program

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

Each program has different equipment, technology and software needs necessitated by their unique disciplines, or facilities they inhabit. Many of our needs have a technology component as the E&AT Department has 4 computer labs and 1 manual drafting lab. Currently all E&AT programs (as well as programs in other departments) share our labs.

This year our needs reflect the major changes underway in the Electronics/Mechatronics Program as well as the Civil Engineering Tech, Surveying and GIS programs as they begin to upgrade to industry standards. In the past programs in our department have received CTE funding for equipment, and we will be applying for that again.

NOTE: The equipment requests are listed by priority within the department, several of these needs are **major and equally important** as our programs retool for success.

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	02	00	Combined E&AT Department requests follow:	0	$0.00	$0.00			vbertsch@santarosa.edu
0002	Santa Rosa	04	07	Replace projector in 1752	1	$2,500.00	$2,500.00	Robert Grandmaison	1752	rgandmaison@santqrosa.edu
0003	Santa Rosa	04	01	PLC lab training station and control software	1	$30,000.00	$30,000.00	MJ Papa	Bussman 1447	mpapa@santarosa.edu
0004	Santa Rosa	02	01	Topcon DS 203 Robotic Total Stations w/next item	6	$15,025.00	$90,152.00	Reg Parks	Shuhaw 1799	rparks@santarosa.edu
0005	Santa Rosa	02	01	Topcon FC5000 Tablet Data Collectors w/above	8	$1,496.25	$11,970.00	R. Parks	Shuhaw 1799	
0006	Santa Rosa	04	01	Elmo projection system	2	$2,500.00	$5,000.00	MJ Papa	1452 and Southwest Center	
0007	Santa Rosa	04	01	Laser printer and scanner	1	$5,500.00	$5,500.00	R. Grandmaison	1752	
0008	Santa Rosa	02	01	Industrial robotic arm w/ teaching pendant	1	$40,000.00	$6,000.00	MJ Papa	1447	
0009	Santa Rosa	02	01	Faceware Markerless Facial Mocap System	1	$388.00	$776.00	R. Grandmaison	1799	
0010	Santa Rosa	02	01	Perception Neuron Body Mocap System	1	$1,295.00	$1,295.00	R. Grandmaison	1799	
0011	Santa Rosa	02	01	Topcan DS201 Robotic Stations	24	$833.33	$19,999.92	R. Parks	1799	
0012	Petaluma	02	01	Various Water lab equipment	1	$2,500.00	$2,500.00	Vince Bertsch	PC 204	
0013	Petaluma	02	01	Water Test media and various accessories	3	$1,000.00	$1,000.00	V. Bertsch	PC 204	
0014	Petaluma	02	01	Water lab microscopes	3	$300.00	$900.00	V. Bertsch	PC 204	
0015	Santa Rosa	02	01	VRHeadset and control (Playstation, Occulus Rift)	1	$780.00	$780.00	R. Grandmaison	1779	
0016	Santa Rosa	02	01	Greenscreen kit	1	$1,150.00	$1,150.00	R. Grandmaison	1799	
0017	Santa Rosa	02	01	Topcon HiPer Network Rover Kit	8	$6,489.00	$51,912.00	R. Parks	1799	
0018	Santa Rosa	02	01	Laser printer and scanner	1	$5,500.00	$5,500.00	R. Parks	1779	
0019	Santa Rosa	02	01	25 task chairs	25	$150.00	$3,850.00	MJ Papa	1452	
0020	Santa Rosa	02	01	Topcon GLS-2000 Laser Scanner w/software	1	$52,346.25	$52,346.25	R. Parks	1799	
0021	Santa Rosa	02	01	Topcon HiPer V GNSS systems (rover and base)	4	$16,140.00	$64,560.00	R. Parks	1779	
0022	Santa Rosa	02	01	Topcon Digital Level w/Rod kit	8	$1,661.25	$13,290.00	R. Parks	1799	
0023	Santa Rosa	02	01	Various traffic safety cones and vests	1	$2,050.00	$2,050.00	R. Parks	1799	

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

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	04	07	Replace broken blinds	2	$400.00	$800.00	Robert Grandmaison	1752	rgrandmaison@sanrtarosa.edu
0002	Santa Rosa	04	07	Repace clerestory curtains w/blinds	4	$400.00	$1,600.00	R. Grandmaison	1752	
0003	Santa Rosa	04	01	Two Roof Mounts for GPS receivers	2	$2,500.00	$5,000.00		TBD	rparks@santarosa.edu
0004	Other	04	07	Security cameras for Solar program at SW center	3	$150.00	$450.00	MJ Papa	SW center	mpapa@santarosa.edu

2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
0001	Santa Rosa	04	01	Urgent	Shuhaw	1783	$25,000.00	Remove steps in 1783 and replace existing, inadequate, broken, fixed chairs with tables and moveable chairs
0002	Santa Rosa	02	01	Urgent	Shuhaw Hall	1799	$6,000.00	Build partition to create animation studio and relocate electrical and cabeling as needed
0003	Santa Rosa	04	07	Urgent	Shuhaw Hall	1799	$3,000.00	Create a door to enter the office space on the east side of 1799 to allow spaces to be used when students are in the classroom without bothering them

2.5b Analysis of Existing Facilities

The primary engineering lecture room (1783) is in desperate need of an upgrade to the 40+ year old chairs. Each semester, chairs break and are a danger to the students. Some have been removed and not replaced. The small & sloped "steno pad" size desks are totally inadequate for the engineering students who must use notebooks, textbooks and calculators all at the same time. Collaborative learning is an important element in all our classes and this is greatly hampered by the small fixed desks. The existing stepped floor and the fixed desks need to be removed and replaced with tables and chairs on a flat surface.

By building a partition (with doors) in 1799, the "back" portion of the room can be separated in order to create a stage for animation motion capture work.

The proposed door to 1799 would facilitate use of that space for meeting with students and accommodating staff meetings when classes are in session. It might also provide a space for adjunct faculty to meet with students. We have about 45 adjunct faculty any given semester, and next year there will only be 1 space for them to use.

3.1 Develop Financial Resources

Goal G: Develop Financial Resources
Many of the programs in the E&AT Department are CTE programs, and actively seek alternative funding sources. This past year we were successful in bringing over $50,000 to the department in the form of Prop. 39 funding. In addition individual faculty have lobbied successfully for additional funding from CTEA to support equipment purchases and professional development.

As in every other department we are striving to fine-tune our schedule to manage enrollment and course offerings to maximize apportionment funding. Hopefully with the ending of the recession, which affected many of the disciplines in our department because of their connection to the construction industry, we will be able to build enrollment in the weaker programs.

3.2 Serve our Diverse Communities

Goal C:
The E&AT Department seeks to serve our diverse communities in many ways. Most of our adjunct and several of our full-time instructors work as professionals within the engineering, architecture, drafting/design, electronics, computer animation, surveying, GIS and water industries. Many of our faculty belong to professional organizations in the community, keeping them in touch with the needs of the community. Our Advisory Committees are a vital link in providing relevant career and technical education. For example major changes in the Electronics, Civil Engineering Tech., Surveying Tech., GIS and Water programs were undertaken in response to community input. Alliances with employers in the region allow us to understand the needs of the industries we serve. In addition special relationships exist for the architecture students through the Redwood Empire American Institute of Architects organization's sponsoring of mentors for our students.

3.3 Cultivate a Healthy Organization

Goal F: Cultivate a Health Organization
Probably because there are so many adjunct faculty in our department, some of them Program Coordinators, we have always tried to integrate them into the workings of the department. For example, we hold department meetings on PDA Day evenings so that all faculty can attend and learn about the changes in our programs and about changes in the District. For example we held a study session about the changes to Article 16 at the Fall 2015 gathering. These meetings are very collegial. In addition we include our classified staff in our meetings and encourage them to particpate in District activities.

3.4 Safety and Emergency Preparedness

- **Injury and Illness Prevention Program (IIPP)**
  Information about this issue is being reviewed in order to incorporate it into the orientation handbook we prepare for our faculty

- **Safety Trainings**
  Most of the offerings in our departmnt do not require special safety training. However, that may change if/when a fabrication lab is implemented.

- **Building and Area Safety Coordinators**
  I believe these are current...

BUILDING AND AREA SAFETY COORDINATORS						
Bldg #/Name	**BSC Area**	**ASC Area**	**Department**	**Name**	**Responsible Area**	**Phone**
Engineering & Applied Technology **- Bussman Hall**						
Bussman Hall #1400				To Be Decided	Bussman Hall	Employee Phone #
Bussman Hall #1400		Bussman South Offices	Bussman Service Center	Dawn Urista	Bussman Hall rm. 1471-1478	707-524-1535
Bussman Hall #1400		Bussman Classrooms	STEM Dean (Asst.)	Lynn Dolce	Bussman Hall rm. 1447 - 1454	707-527-4400
Engineering & Applied Technology **-**				**Shuhaw**	**Hall**	
Shuhaw Hall #1700		Shuhaw North Wings	Applied Technology, Engineering & Physics (ATEP	Greg Davis	Shuhaw Hall rm. 1751 - 1799	707-527-4750

3.5 Establish a Culture of Sustainability

Goal E: Establish a Strong Culture of Sustainability
E&AT courses have strived over the past few years to go "paperless", as much as possible. It is common to send electronic versions of assignments and handouts for students to access on their computers.

In addition, since much of our curriculum deals with the construction industry, which has a strong sustainability focus, many of our courses have a sustainability component.

4.1a Course Student Learning Outcomes Assessment

We made a concerted effort last year and completed the assessment of at least one SLO in every course in our department. We intend to continue that effort this year to broaden the number of SLOs assessed. Faculty within programs have discussed the results of SLO assessments and have used that information to fine-tune courses and course content.
A master list for all the courses in the department is under development, and will be added at a later date. For now, individual programs are reporting on SLO accomplishments in program PRPPs.

Ap. Tech Courses

Course	SLO #s	Participating Faculty	Semester Initiated or to Be Initiated	Semester Completed	Comment
APTECH 43 Computer Animation	1 2	W Atchison W Atchison	Spring 2012 Spring 2012	Spring 2012 Spring 2012	
APTECH 63 3D Anim: Model, Rig	1 2 3 4	W Atchison W Atchison W Atchison W Atchison	Spring 2014 Spring 2011 Spring 2015 Fall 2015	Spring 2014 Spring 2011	
APTECH 64 3D Anim: VFX, Char Anim, Com	1 2 3 4 5	W Atchison W Atchison W Atchison W Atchison W Atchison	Fall 2012 Fall 2013 Fall 2013 Fall 2014 Fall 2015	Fall 2012 Fall 2013 Fall 2013	
APTECH 65 Adv. 3D Animat. Wkshp.	1 2 3 4 5 6	W Atchison W Atchison W Atchison W Atchison W Atchison W Atchison	Spring 2014 Spring 2015 Spring 2013 Spring 2013 Spring 2016 Spring 2016	Spring 2014 Spring 2013 Spring 2013	
APTECH 45 Basic Drafting Skls	3	G Pasqualetti R Grandmaison	Fall 2010	Spring 2011	
APTECH 46 Intro to CAD	2	G Pasqualetti	Fall 2011	Spring 2012	
APTECH 57 Advanced AutoCAD	1	G Pasqualetti	Spring 2012	Fall 2012	
APTECH 58 Mech CAD Design					Not offered since 2010
APTECH 59 Arch CAD Basics	1	G Pasqualetti	Spring 2012	Spring 2013	
APTECH 82 More Adv CAD Applications					Not offered since
APTECH 84 Comp Anim for Drafting/Design					Not offered since 2007
APTECH 87 3D Model and Render using CAD					Not offered since

APTECH 90A Applied Mathematics					Not offered since
APTECH 90B Quant Reason/ApTech					Not offered since 2011

4.1b Program Student Learning Outcomes Assessment

Most Program/Certificate SLO assessments have been completed for our department. Some of the programs are undergoing revisions and will be establishing appropriate new outcomes. This will be an area of focus for the department. The 2 charts that follows do not reflect the entire departmenet.

A master list for all the programs in the department is under development, and will be added at a later date. For now, individual programs are reporting on program SLO accomplishments in program PRPPs.

4.1c Student Learning Outcomes Reporting

Type	Name	Student Assessment Implemented	Assessment Results Analyzed	Change Implemented
Course	NOT for entire department	N/A	N/A	N/A
Course	Ap Tech 43	N/A	N/A	N/A
Course	Ap Tech 45	Fall 2010	Spring 2011	N/A
Course	Ap Tech 45	Fall 2010	Spring 2011	N/A
Course	Ap Tech 45	Fall 2010	Spring 2011	N/A
Course	Ap Tech 46	Fall 2011	Spring 2012	N/A
Course	Ap Tech 53	N/A	N/A	N/A
Course	Ap Tech 57	Spring 2012	Fall 2012	N/A
Course	Ap Tech 58	N/A	N/A	N/A
Course	Ap Tech 59	Spring 2012	Spring 2013	N/A
Course	Ap Tech 63	Spring 2011	Fall 2011	N/A
Course	Ap Tech 64	Fall 2012	Spring 2013	N/A
Course	Ap Tech 65	Spring 2013	Spring 2013	N/A
Course	Ap Tech 82	N/A	N/A	N/A
Course	Ap Tech 87	N/A	N/A	N/A
Course	Ap Tech 90a	N/A	N/A	N/A
Course	Ap Tech 90b	N/A	N/A	N/A
Course	Ap Tech 90b	N/A	N/A	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
APTECH 45	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 46	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 53	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 57	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 58	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 59	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 63	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 64	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 65	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 82	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 87	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 90a	X	X	X		X	X		X	X	X	X	X	X	X	X	X
APTECH 90b	X	X	X		X	X		X	X	X	X	X	X	X	X	X
Not for entire Dept																
See last year's PRPPs																
z by discipline																

4.2b Narrative (Optional)

This portion of the PRPP is a work in progress. For the first time we are attempting to incorporate SLO data about ALL our programs in one document. When this is completed it will be submitted at a later PRPP. For now SLO re[porting can be found in individual program PRPPs.

5.0 Performance Measures

The Engineering and Applied Technology Department has been hampered by lack of full-time faculty, as explained in Section 2: Resources. This has meant that some of the work of the college is not getting done. For example, not all of the scheduled evaluations could be done by the 2.5 full timers (in addition to the department chair). It has also affected the completion of the PRPP, as several of the program coordinators are adjunct faculty and cannot be expected to complete the PRPP. The reliance on adjunct faculty affects all aspects of the department. As our newly-hired faculty become integrated into our department, positive changes will occur.

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

The Engineering and Applied Technology Department offers program courses in several configurations from entirely at night (Water Programs/Construction Management), to day-only classes (Engineering), to a combination of day/night classes (CESGT/Electronics/Architecture), to Friday and Saturday classes (Ap. Tech, Solar Photovoltaics). Program coordinators try hard to schedule classes at times and in places convenient to students. As the programs change and evolve, there is some experimentation with scheduling to fine tune our efforts. We recently surveyed our students and are in the process of analyzing that date to determine if we can do a better job in this area.

At this time we have only one on-line course (Water Distribution). Since so many of our classes have a lab component it is difficult to imagine them being offered on-line.

In cases of persistent low enrollment various scheduling options have been tried and program revisions undertaken. Changes are eminent in the following programs: Electronics/Mechatronics; Architecture; Civil Engineering Tech, Geospatial Tech, Surveying Tech, Water Distribution Tech, and Wastewater Operations Tech.

Our courses are being offered in a consistent rotation pattern, though there have been some glitches. We intend to honor the One Year to Career promise for many of our CTE programs - that will require reconsideration of some scheduling.

Programs in our department engage in outreach programs at SRJC (Career Days, DUO, etc...), The Construction Expo, Science Day, as well as maintaining contact with feeder high schools and destination university colleges. However, this is an area where we could be doing more.

5.2a Enrollment Efficiency

Following is a chart that shows enrollment efficiency data for programs in the E&AT Department: Note the Wastewater Treatment program was initiated in 2012 :

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Applied Technology and Animation	83.3%	90.7%	87.5%	93.1%	88.1%	79.2%	87.5%	86.2%	78.
Waste Water Treatment	0.0%	88.2%	78.7%	0.0%	90.0%	79.8%	0.0%	71.8%	56.
Water Treatment	0.0%	67.5%	0.0%	0.0%	78.2%	22.5%	0.0%	60.9%	22.
ALL Disciplines	**83.3%**	**86.5%**	**85.8%**	**93.1%**	**86.5%**	**74.7%**	**87.5%**	**78.0%**	**69.**

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Civil & Surveying Technology	0.0%	0.0%	0.0%	0.0%	69.0%	54.2%	54.2%	54.2%	46.
Surveying	0.0%	87.5%	50.0%	0.0%	48.1%	37.5%	0.0%	35.9%	37.
ALL Disciplines	**0.0%**	**87.5%**	**50.0%**	**0.0%**	**60.9%**	**48.6%**	**54.2%**	**40.2%**	**42.**

This data does not show any GIS courses at the Santa Rosa or Petaluma campuses

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Architecture	0.0%	98.1%	79.2%	0.0%	94.4%	68.0%	0.0%	64.3%	60.
Construction Management Technology	0.0%	86.7%	75.0%	0.0%	93.3%	85.7%	0.0%	66.7%	69.
ALL Disciplines	**0.0%**	**94.0%**	**77.3%**	**0.0%**	**94.2%**	**72.8%**	**0.0%**	**65.1%**	**64.**

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Electronic Technology and Solar	0.0%	85.2%	87.2%	94.3%	89.3%	81.5%	60.0%	76.4%	72.

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Engineering	0.0%	88.9%	112.5%	80.6%	100.7%	95.7%	86.1%	92.2%	84.

As can be seen, enrollment efficiencies reflect the downward enrollment trends in several programs… In addition, since beginning classes are in the fall semester, enrollments are generally higher in the fall and less in the spring as some students do not continue their education. Revitalization of the programs will help address this issue.

5.2b Average Class Size

Many of the classes offered in the E&AT program occur in lab classes with limited number of stations - typically 24, although Engineering labs are less. Keeping that in mind, the table below shows the average class sizes for programs in our department. You will notice there are some gaps in the information for data that was not retrievable from the PRPP data sets:

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Applied Technology and Animation	20.0	21.8	21.0	22.3	21.2	18.1	21.0	20.7	1
Waste Water Treatment	0.0	32.3	23.3	0.0	33.0	23.7	0.0	26.3	1
Water Treatment	0.0	27.0	0.0	0.0	28.7	9.0	0.0	22.3	
ALL Disciplines	**20.0**	**24.1**	**21.4**	**22.3**	**24.2**	**18.5**	**21.0**	**21.8**	**1**

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Civil & Surveying Technology	0.0	0.0	0.0	0.0	19.3	13.0	13.0	13.0	1
Surveying	0.0	21.0	12.0	0.0	13.0	9.0	0.0	9.3	
ALL Disciplines	**0.0**	**21.0**	**12.0**	**0.0**	**16.8**	**11.7**	**13.0**	**10.3**	**1**

This data does not show any GIS courses at the Santa Rosa or Petaluma campuses

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Architecture	0.0	26.5	19.0	0.0	23.8	17.0	0.0	16.2	1
Construction Management Technology	0.0	26.0	21.0	0.0	28.0	24.0	0.0	20.0	1
ALL Disciplines	**0.0**	**26.3**	**19.8**	**0.0**	**24.5**	**18.8**	**0.0**	**17.3**	**1**

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Electronic Technology and Solar	17.0	19.5	19.4	21.5	20.7	17.0	16.0	17.3	1

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Engineering	0.0	21.3	27.0	29.0	24.2	22.1	31.0	23.7	1

The trend of decreased enrollments is reflected in this data as well. Again successful re-vitalization of programs will address this issue.

5.3 Instructional Productivity

Following is a table with information about productivity for the programs in the E&AT Department, however it seems like some of the calcuations might be incorrect (Ex. FTES = 8.56; FTEF = 0.57 ratio = 15.01, not 14.98). In addition there is information missing from this table, for example all the data about the GIS program.

Note: With very few exceptions the productivity ratios for programs in this department are below the District goal of 18.7. This may be partially due to the fact that the lab classes do not have the ability to accept more students than the number of stations. And, in part, reflects the reality of the recession and the relationship of many of our programs to the construction industry. As mentioned earlier in the PRPP this information has helped to drive the program revisions that are currently underway. The hope is that changes in the programs will be reflected in improvements in enrollment and therefore increased productivity.

Applied Technology and Animation		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	7.04	29.45	34.53	7.59	28.52	30.94	7.04	29.84	25.01
	FTEF	0.56	2.24	2.67	0.56	2.24	2.67	0.84	2.36	2.11
	Ratio	**12.61**	**13.15**	**12.91**	**13.58**	**12.74**	**11.57**	**8.40**	**12.63**	**11.84**
Waste Water Treatment		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	0.00	12.27	8.00	0.00	12.54	8.43	0.00	9.51	3.70
	FTEF	0.00	0.67	0.67	0.00	0.56	0.67	0.00	0.57	0.40
	Ratio	**0.00**	**18.40**	**12.00**	**0.00**	**22.47**	**12.65**	**0.00**	**16.59**	**9.25**
Water Treatment		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	0.00	1.84	0.00	0.00	3.34	0.90	0.00	2.89	0.9
	FTEF	0.00	0.17	0.00	0.00	0.27	0.19	0.00	0.27	0.1
	Ratio	**0.00**	**10.82**	**0.00**	**0.00**	**12.30**	**4.85**	**0.00**	**10.64**	**4.8**

Civil & Surveying Technology		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	0.00	0.67	0.87	0.00	6.54	3.47	1.48	2.25	2.7
	FTEF	0.00	0.00	0.00	0.00	0.62	0.47	0.24	0.27	0.3
	Ratio	**0.00**	**0.00**	**0.00**	**0.00**	**10.47**	**7.44**	**6.16**	**8.45**	**7.7**
Surveying		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	0.00	4.34	2.40	0.00	4.31	1.80	0.00	4.33	2.2
	FTEF	0.00	0.33	0.33	0.00	0.53	0.33	0.00	0.82	0.4
	Ratio	**0.00**	**13.02**	**7.20**	**0.00**	**8.08**	**5.40**	**0.00**	**5.27**	**4.8**

<u>This data does not show any GIS courses at the Santa Rosa or Petaluma campuses</u>

Architecture		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	0.00	6.16	6.45	0.00	13.84	11.99	0.00	9.39	5.4
	FTEF	0.00	0.40	0.57	0.00	1.05	1.24	0.00	1.01	0.6
	Ratio	**0.00**	**15.40**	**11.39**	**0.00**	**13.24**	**9.64**	**0.00**	**9.28**	**8.0**
Construction Management Technology		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	0.00	2.87	3.18	0.00	2.99	3.06	0.00	3.04	3.0
	FTEF	0.00	0.20	0.26	0.00	0.20	0.26	0.00	0.26	0.2
	Ratio	**0.00**	**14.37**	**12.20**	**0.00**	**14.93**	**11.74**	**0.00**	**11.64**	**11.8**

Electronic Technology and Solar		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	1.29	22.90	16.85	4.11	27.87	20.49	2.52	23.69	16.2
	FTEF	0.14	1.82	1.60	0.33	2.03	2.12	0.33	2.03	1.8
	Ratio	**9.42**	**12.62**	**10.53**	**12.46**	**13.70**	**9.66**	**7.64**	**11.65**	**8.9**

Engineering		**X2012**	**F2012**	**S2013**	**X2013**	**F2013**	**S2014**	**X2014**	**F2014**	**S2015**
	FTES	0.00	15.45	19.35	1.33	17.62	27.67	1.42	17.21	33.8
	FTEF	0.00	1.20	1.20	0.10	1.20	2.03	0.10	1.29	2.3
	Ratio	**0.00**	**12.88**	**16.13**	**13.36**	**14.68**	**13.61**	**14.29**	**13.32**	**14.1**

5.4 Curriculum Currency

Curriculum is updated on a regular basis. With so many different programs and courses it is difficult for the adjunct program coordinators to keep things up to date. There are still a few courses that need to be updated, but those should be completed prior to Fall 2016.

5.5 Successful Program Completion

All of our programs and certificates have rotation plans to guarantee completion in a timely manner. During the recession it was necessary to cancel some classes due to low enrollment, which did impact the ability of students to complete in a timely manner. Several of the CTE programs are being revised to fit the One Year to Career model and, despite any low enrollment as program revisions are implemented, the District has pledged to offer all the courses required according to the rotation plan.
The tables below shows sucessful Certificate and Degree completers of the programs in our department, though this data differs from data collected by the Department. The trend is toward an increase in Degrees awarded (700% increase in ten years) and a decrease in Certificates awarded (a 55% drop from 2004 to 2013 - though there were variations along the way). Anecdotally we know that many of our CTE studentes get jobs before they complete their certifiate or degree. As we emerge from the recession, we are hopeful that the former trend of all, or almost all, of our CTE students receiving gainful employment will return.

Cert Code	Certificate Description	PA	2004 – 05	2005 – 06	2006 – 07	2007 – 08	2008 – 09	2009 – 10	2010 – 11	2011 – 12	2012 – 13	2013-14
3174	Architectural Technician	T	0	0	1	0	0	0	0	0	0	0
3133	Architecture & Construction Technology	T	3	0	1	0	0	1	0	0	0	0
3213	Architecture and Construction Tech: Architecture	T	0	0	2	0	1	4	1	0	0	0
3215	Architecture and Construction Tech: Construc Mgmt	T	2	0	0	0	0	9	0	0	1	0
3244	Architecture: Basic Skills	E	1	0	0	0	0	0	0	0	0	
3283	Architecture: Residental	E	4	6	3	3	1	1	0	1	0	0
3131	Civil and Surveying Technology	T	0	0	0	0	0	0	0	0	0	0
3267	Civil and Surveying Tech: Civil Engineering	T	4	1	2	4	7	13	11	2	0	1
3268	Civil and Surveying Tech: Land Surveying	T	13	7	10	5	9	8	3	2	0	0
3245	Construction Management: Basic Skills	E	6	2	3	2	1	2	0	0	1	0
3238	Electro-Mechanical Maintenance Technician	E	0	0	0	0	0	0	0	0	0	3
3039	Electronic Technology	L	7	1	0	0	0	14	12	17	10	9
3178	Electronic Technology Extended	T	5	3	9	9	1	0	0	0	0	0
3273	Geographic Information Systems	E	0	4	4	7	6	4	5	0	1	0
#####	Geospatial Technology	T	0	0	0	0	0	0	0	1	0	1

3334	Solar Photovoltaics	E	0	0	0	0	0	0	0	0	2	4
3333	Wastewater Treatment Operations	L	0	0	0	0	1	2	0	0	5	7
3323	Water Utility Operations	E	0	0	0	0	0	6	5	6	0	0

Dept. Certificates Awarded	**45**	**24**	**35**	**30**	**27**	**64**	**37**	**29**	**20**	**25**

NOTE: Some of these Certificates have been discontinued

Associate Of Science (A.S.) Degree	2004 – 05	2005 – 06	2006 – 07	2007 – 08	2008 – 09	2009 – 10	2010 – 11	2011 – 12	2012 – 13	2013-14
ARCHITECTURE	0	0	0	0	0	0	0	0	0	2
ARCH AND CONS TECH:CONSTRUCTION MGMT	0	1	1	0	0	4	3	0	0	0
ARCHITECT & CONSTRUC TECH: ARCHITECTURE	0	0	0	0	0	2	3	1	0	0
CIVIL & SURVEYING TECH: CIVIL ENGINEER	2	0	0	3	2	4	6	1	0	3
CIVIL & SURVEYING TECH: LAND SURVEYING	2	1	1	6	6	6	4	0	1	1
DIGITAL MEDIA: 3D MODELING & ANIMATION	0	0	0	0	0	0	0	0	0	6
ELECTRONIC TECHNOLOGY	1	2	3	0	1	3	4	4	2	3
ELECTRONIC TECHNOLOGY Extended	0	1	2	0	0	0	0	0	0	0
ENGINEERING	0	0	0	0	0	4	4	6	8	12
GEOSPATIAL TECHNOLOGY	0	0	0	0	0	0	1	0	0	4
WASTEWATER TREATMENT OPERATIONS	0	0	0	0	0	0	0	0	3	3
Department Total	**5**	**5**	**7**	**9**	**9**	**23**	**25**	**12**	**14**	**34**

5.6 Student Success

The tables below shows the retention rates, successful course completions and grade point averages for the programs in the E&AT Department. It is interesting to note that the retention rate for most programs are at about the District average. As mentioned earlier, problems with the Electronics, Civil Engineering Tech., GIS, Surveying and both Water programs have led to major revisions that are underway.

Retention

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Applied Technology and animation	88.3%	84.9%	89.4%	90.9%	87.5%	83.1%	93.5%	83.1%	82.
Waste Water Treatment	0.0%	79.6%	81.4%	0.0%	78.6%	78.1%	0.0%	77.5%	67.
Water Treatment	0.0%	68.5%	0.0%	0.0%	53.1%	88.9%	0.0%	73.8%	88.
ALL Disciplines	**88.3%**	**81.6%**	**88.0%**	**90.9%**	**79.3%**	**82.3%**	**93.5%**	**80.5%**	**80.**

Sucessful Course Completion

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Applied Technology and animation	88.3%	82.4%	87.0%	81.8%	83.4%	79.7%	90.3%	80.5%	78.
Waste Water Treatment	0.0%	75.5%	75.7%	0.0%	73.5%	75.3%	0.0%	73.8%	64.
Water Treatment	0.0%	64.8%	0.0%	0.0%	51.9%	88.9%	0.0%	73.8%	77.
ALL Disciplines	**88.3%**	**78.6%**	**85.0%**	**81.8%**	**75.6%**	**79.0%**	**90.3%**	**78.1%**	**76.**

Grade point Average

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Applied Technology and animation	3.46	3.19	3.26	3.34	3.20	3.18	3.57	3.00	3.
Waste Water Treatment	0.00	2.79	2.69	0.00	2.90	2.75	0.00	3.02	2.
Water Treatment	0.00	2.96	0.00	0.00	2.51	3.25	0.00	3.14	3.
ALL Disciplines	**3.46**	**3.05**	**3.14**	**3.34**	**3.06**	**3.08**	**3.57**	**3.02**	**3.**

Retention

Civil & Surveying Technology	0.0%	100.0%	85.7%	0.0%	77.6%	74.1%	84.6%	84.6%	80.
Surveying	0.0%	87.5%	66.7%	0.0%	73.1%	77.8%	0.0%	85.7%	94.
ALL Disciplines	**0.0%**	**89.5%**	**73.7%**	**0.0%**	**76.2%**	**75.0%**	**84.6%**	**85.4%**	**85.**

Sucessful Course Completion

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Civil & Surveying Technology	0.0%	100.0%	71.4%	0.0%	74.1%	70.4%	84.6%	84.6%	80.
Surveying	0.0%	78.1%	66.7%	0.0%	73.1%	66.7%	0.0%	78.6%	83.
ALL Disciplines	**0.0%**	**81.6%**	**68.4%**	**0.0%**	**73.8%**	**69.4%**	**84.6%**	**80.5%**	**81.**

Grade point Average

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Civil & Surveying Technology	0.00	4.00	3.22	0.00	2.52	2.74	3.67	3.08	3.
Surveying	0.00	2.73	2.70	0.00	2.38	3.14	0.00	3.32	3.
ALL Disciplines	**0.00**	**2.93**	**2.89**	**0.00**	**2.47**	**2.87**	**3.67**	**3.24**	**3.**

Retention

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Architecture	0.0%	62.3%	72.4%	0.0%	68.9%	65.4%	0.0%	59.3%	80.
Construction Management Technology	0.0%	40.7%	78.6%	0.0%	50.0%	77.1%	0.0%	70.0%	71.
ALL Disciplines	**0.0%**	**55.0%**	**75.0%**	**0.0%**	**65.3%**	**69.1%**	**0.0%**	**62.8%**	**76.**

Sucessful Course Completion

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Architecture	0.0%	58.5%	65.5%	0.0%	66.4%	62.5%	0.0%	53.1%	78.
Construction Management Technology	0.0%	37.0%	76.2%	0.0%	50.0%	72.9%	0.0%	65.0%	66.
ALL Disciplines	**0.0%**	**51.3%**	**70.0%**	**0.0%**	**63.3%**	**65.8%**	**0.0%**	**57.0%**	**73.**

Grade point Average

Architecture	0.00	2.10	2.16	0.00	2.55	2.37	0.00	2.26	3.
Construction Management Technology	0.00	1.74	2.55	0.00	2.18	2.72	0.00	2.51	2.
ALL Disciplines	**0.00**	**1.98**	**2.30**	**0.00**	**2.48**	**2.47**	**0.00**	**2.33**	**2.**

Retention

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Electronic Technology and Solar	94.1%	62.9%	74.2%	86.0%	70.1%	70.0%	75.0%	75.6%	79.

Successful Course Completion

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Electronic Technology and Solar	94.1%	62.1%	74.2%	79.1%	68.8%	67.5%	75.0%	72.3%	78.

Grade Point Average

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Electronic Technology	4.00	2.68	2.83	2.88	2.90	2.87	2.96	2.57	2.

Retention

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S2015
Engineering	0.0%	75.6%	78.5%	77.8%	75.3%	81.2%	86.7%	79.5%	86.

Successful Course Completion

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S201
Engineering	0.0%	71.7%	73.6%	74.1%	71.2%	78.4%	86.7%	75.9%	82.

Grade Point Average

Discipline	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014	S201
Engineering	0.00	2.81	2.55	3.09	2.76	2.95	3.77	3.39	2.

5.7 Student Access

A look at the student ethnicity figures for all the programs in our department reveals a preponderance of white students and, over the past several years, a marked increase in Hispanic students. In many programs we are seeing 25% or better Hispanic enrollments. Again, in almost all of our programs, males outnumber females, in some programs 2 to 1. This is not so surprising since most of the disciplines offered in our department are male dominated. We actively seek female instructors to act as role models for students, trusting that seeing a successful female in a male-dominated field will inspire the students. Finally the age spread in our programs varies, but typically the largest age group is 21-25, and secondarily the 26-30 age group. Program Coordinators are undertaking outreach efforts to improve student access.

5.8 Curriculum Offered Within Reasonable Time Frame

5.8 Last updated S 2015
Information about the adopted rotation plans for timely completion of programs can be found on the SRJC website. Although low enrollments have disrupted these plans recently, we anticipate offering all required courses according to each rotation plan. It should also be noted that major changes are underway in more than half of our CTE programs (Electronics, Civil Engineering, Surveying, Geospatial Technology and the two Water Programs) some of which is designed to have the new programs conform to the Year to Career option. This will mean a reduction in Certificate requirements and the ability to offer all the courses needed in a more timely manner.

5.9a Curriculum Responsiveness

5.9a Last updated S 2015
Updating curriculum is an ongoing process for most of the programs in our department. In CTE programs, advice from Advisory Committees guides change. As already mentioned, major revisions are underway in six of the eight CTE Certificate programs to better reflect industry needs. Each of these programs will reconstitute Advisory Committees in order to become more reflective of the greater community and both the public and private sectors. The focus for the coming year in our CTE programs is to build our Advisiory Committees and have committed people who will attend meetings and contribute to the development of our programs. Industry members who are also adjunct faculty members are not permitted to vote on subjects related to their teaching assignment.

There are few General Education courses offered in our department, but all of them comply with State requirements.

The Applied Technology portion of our department offers support courses, primarily in enginnering and design graphics, for all the disciplines in our department as well as many others - such as Interior Design and Landscape Architecture.

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

5.9b Last update S 2015
Not all of our CTE programs have been aligned with Tech Prep or 2+2 programs. That is something to work on. When this most recent redesign of programs is complete we can make the effort to align them. However, the drafting/design and animation courses are aligned with high school preparation through a tech prep agreement.

5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

5.10 Last updated S 2015
The Engineering Program is fully articulated with transfer institutions. The Architecture major is one course shy of articulation with UC Berkeley and is fully articulated with Cal Poly SLO. And, although we have not yet finalized the proposed Construction Management major, many of those courses are already aligned and articulated due to the former certificate and major.

5.11a Labor Market Demand (Occupational Programs ONLY)

5.11a Last updated S 2015
EMPLOYMENT GROWTH DATA

- Applied Technology is a set of support courses that are required for several Certificates and Degrees but does not constitute either one on its own - therefore no data is available to review. However, design graphics continues to be a course required for engineers, architects, and designers of all types.
- Animation: There are no figures specific to Animation in the EDD data. However, in the computer occupations area the demand is high with (overall) 830 new position at a growth rate of 31.8% for 2012-22.
- Architecture: The need for architects in Sonoma projected by EDD is 7 per year, 3.3% per year - 33.3% over 10 years. But anecdotally we know that there will be a major retirement phenomenon during the 10 year period that the projection covers, since approximately 50% of architects are 60 years or older.
- Civil/Survey/GIS (mapping) Technicians: EDD projects the need for approximately 32 per year (15.7% change from 2012-2022).
- Electronics Tech: EDD Projects the need at 7 per year, an increase of 14.3% over 10 years. NOTE: This is partly why we are moving towards Mechatronics, where the need is higher, though no specific category exists for Mechatronics in the EDD data. A 2014 job survey conducted by the Bay Area Community College Consortium (BACCC) projects about **1200 jobs** available in the 2015/2016 time frame in Sonoma County. Compared to 2013, this represents a **2.86%** growth in jobs related to mechatronics. The broad applicability of the mechatronics curriculum to many technical occupational groups (33 different SOC codes) significantly increases the range of job opportunities available to mechatronics certificate holders. This program is exploring collaborative efforts with other colleges as the new program evolves.
- Electronics: Photovoltaics: EDD does not have a category specifically related to Solar installation. However, this is a growth industry and our graduates are getting jobs.

- Construction Management: The Certificate programs were discontinued and a new Transfer program is under development. The need for Construction Managers is high, EDD projects the need for 160 construction mangers over the next ten years, at a growth of 23.9%.
- Engineering: Engineering is also a growth area, over a 10-year period in Sonoma County 400 additional engineers will be needed. The department collects its own data which shows that in spring 2015, **58** Engineering majors transferred to UC, CSU, and private universities.
- The Water Distribution and Wastewater Treatment disciplines also show growth potential: EDD does not provide projection figures for this occupation. However, the courses we offer provide preparation for Certification Testing which are required for operators.

Which local community colleges (North Bay) and private higher education institutions provide a degree, certificate or major in the same discipline?

- Many of the Community Colleges in the Bay area offer similar Certificates and Degrees. This information will be included in the next PRPP...

5.11b Academic Standards

Instructors in the same program regularly meet and engage in dialogue about academic standards. Multiple section courses are aligned regarding curriculum and grading. Periodic discussions about academic standards are held at department meetings, and among faculty teaching the same courses as well as between those teaching pre-requisite courses and destination courses.

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	Hire 2 faculty members	Support programs and do the work of the college	2015-16	salary and benefits
0003	Santa Rosa	02	01	Complete program development plans for: Electronics/Mechatronics, Civil Engineering, Surveying, GIS, Water Distribution and Wastewater Treatment programs.	Improve instruction and better meet the needs of industry	2015-16	Hourly payment to adjunct faculty program coordiators to participate
0004	Santa Rosa	04	01	Convert 1447 and 1448 to become a fabrication lab for use of all our programs	Enhance instruction.	2015-16	$50,000 (Paul Bielen estimate)
0006	Santa Rosa	02	01	Explore possibility of adopting the Interior Design and Landscape Architecture programs	Include similar disciplines in the department and determine the extent to which curriculum can be shared - such as drafting, design studios, etc...	2015-16	Coordinator payment for these programs
0007	Santa Rosa	02	01	Explore expansion of Engineering program	Buid on existing excellence	2015-17	Unknown
0008	Santa Rosa	02	01	Complete planning and curriculum development for a new Construction Management transfer program	Initiate new program Fall 2016	2015-16	no additional

6.2a Program/Unit Conclusions

Location	Program/Unit Conclusions
Santa Rosa	As we contemplate the reduction in full-time faculty due to retirements, the ability to replace those faculty will be critical to the future of the E&AT Department.
Santa Rosa	It is impossible for 2.0 full-time faculty (which will be the number of full-time faculty remaining at the end of 2015-16) to do the work of a department with 13 programs and 108 courses.
Santa Rosa	We need to complete the curriculum updating and figure out how to complete needed adjunct evaluations.
Santa Rosa	Support will be needed to make the transitions to new programs (Electronics, Civil Engineering, Surveying, GIS, Water Distribution and Wastewater Treatment).
Santa Rosa	In addition, the department is willing to consider adopting the Interior Design program - and developing classes that can serve both architecture and interior design (thus building enrollment in both).
Santa Rosa	Likewise with the Landscape architecture program.
Santa Rosa	Finally, the Engineering program is growing and has the potential to become a "jewel in the crown" of SRJC. We want support to see that happen.
Santa Rosa	It is a critical need to hire SLIA and Electronics Lab Coordinators to support our students
Santa Rosa	There is a demonstrated need to increase the Microcompter Lab Specialist to a 12 month position
Santa Rosa	There is a demonstrated need to increase the AAII position from 30 to 40 hours per week

6.2b PRPP Editor Feedback - Optional

–

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
0001	Santa Rosa	01	01	Hire 1 faculty member	Support Engineering program and do the work of the college	2016-17	Salary and benefits: $80,000 ?
0002	Santa Rosa	02	01	Implement Classified staffing improvements as specified in 2.2e	Improve instruction and better meet the needs of industry	2016-17	Salary and Benefits: varies SLIA: $50,000; Lab Assistant: $36,000; 2 month for Microcomputer Lab Specialist 1: $9,000; 10 hours/week for AAII: $8,000
0003	Santa Rosa	02	01	Complete articulation of final architecture course with UC Berkeley	Complete architecture program	2016-17	no additional
0004	Santa Rosa	02	01	Explore possibility of adopting the Interior Design and Landscape Architecture programs	Include similar diaciplines in the department and determine the extent to which curriculum can be shared - such as drafting, design studios, etc...	2016-17	Coordinator payment for these programs
0005	Santa Rosa	02	01	Complete planning and curriculum development for a new Construction Management transfer program	Initiate new program Fall 2017	2016-17	no additional
0006	Santa Rosa	04	01	Create animation workspace for motion capture in 1799	Improve ability to teach students in our programs reflecting the industry standard work environment	2016-17	
0007	Santa Rosa	01	01	Hire faculty member to anchor Const. Mgt. program	Initiate new program Fall 2017	2017-18	Salary and benefits: $80,000
0008	Santa Rosa	04	01	Computer workstations & Monitors for 1752 to create Manual/Computer Drafting Stations. Hardware should be equivalent to our current computer lab hardware. Need 25.	Improve ability to teach students in our programs reflecting the industry standard work environment	Within next 2 years	Purchase and installation of 25 computers and monitors