

Santa Rosa Junior College

Program Resource Planning Process

Applied Technology 2015

1.1a Mission

The Engineering and Applied Technology Department (E&AT) is in a new configuration effective Fall 2014. Currently the department consists of the following programs: 2 transfer programs: Engineering and Architecture, with Construction Management under development as a transfer program; 8 CTE certificate programs: Civil Engineering Tech, Digital Media: 3-D Modeling and Animation, Electronics Tech, Geospatial Tech, Surveying Tech, Solar Photovoltaics, Water Distribution Tech, and Wastewater Operations Tech; as well as a general Applied Tech/Design Graphics support courses.

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 and major revisions are underway in each of the Civil Engineering Tech., Surveying Tech. and Geospatial Tech. programs as well as Water Distribution and Wastewater Treatment.

Our mission is to provide excellent student learning opportunities in career and technical education as well as prepare students for transfer.

NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

1.1b Mission Alignment

The Engineering and Applied Technology Department mission is 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.

1.1c Description

The Engineering and Applied Technology Department is in a new configuration effective Fall 2014. Currently the department consists of the following programs: 2 transfer programs: Engineering and Architecture, with Construction Management under development as a transfer program; 8 CTE certificate programs: 3-D Modeling and Animation, Civil Engineering Tech, Electronics Tech, Geospatial Tech, Surveying Tech, Solar Photovoltaics, Water Distribution Tech, and Wastewater Operations Tech; as well as a general Applied Tech/Design Graphics support courses. Our department is home to 4 computer labs that serve the needs of all of our programs.

Our transfer programs are designed to prepare our students for transfer. Our CTE Certificate programs prepare our students to take a productive place in the local economy. Our courses are also of interest to professionals that 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 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 and Wastewater Treatment 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. Our CAD labs in Shuhaw Hall are staffed with a full-time classified lab assistant. An IT network administrator is responsible for maintaining our hardware and software needs. In addition the classes related to the Water Technology programs are offered in Petaluma, typically in the evening, as are limited Engineering and GIS courses.

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, 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.

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 Resources programs: Water Distribution and Wastewater Treatment. 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. The local American Institute of Architects is a strong supporter of the program and provides individual mentors for the advanced students.

And a new Construction Management transfer program is under development.

2.1a Budget Needs

NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

Yes our budget is allocated and 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.

Here is a look at the budget statistics for the programs in the E&AT department. NOTE: not all the information in the Core Data is correct. For example, some of the budget related to the Water Programs are reported in ApTech, and an extra full-time faculty member is ascribed to the Architecture program, which totally skews the data.

Program	Total	% District
Applied Tech/Animation:	\$341,419.26	0.28%

(some of the Water Programs budget reported here, also all Administrative Staff, Lab Assistants and STNC)

Architecture/Cons Mgt	229,699.43	0.19%	
Civil/Survey Tech/GIS	87,554.01	0.07%	
Electronics/Solar	270,167.67	0.22%	
Engineering	187,529.89	0.16%	
Both Water Programs	30,252.94	0.03%	(part reported in Ap Tech above)

Note: Since this snap shot was taken there has been 1 FT retirement in Electronics, and there will be 1 FT in Ap. Tech, and 0.5 FT in Engineering this December, with 1 FT in Architecture this May. However, we now have a FT faculty member in Civil/Survey/GIS program. SEE SECTION 2.2e AND 2.3e FOR STAFFING REQUESTS

Note: The budget needs for this department will increase as plans for modified and new programs are solidified. SEE SECTION 2.4c FOR KNOWN EQUIPMENT REQUESTS.

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0000	ALL	00	00	\$0.00	SEE SECTION 2.2e AND 2.3e FOR STAFFING REQUESTS
0000	ALL	00	00	\$0.00	SEE SECTION 2.4c FOR KNOWN EQUIPMENT REQUESTS
0000	ALL	00	00	\$0.00	NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

2.2a Current Classified 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 labs

2.2b Current Management/Confidential Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Department Chair	0.00	0.00	Provides administrative liaison for the District

2.2c Current STNC/Student Worker Positions

Position	Hr/Wk	Mo/Yr	Job Duties
STNC SLIA	8.00	10.00	Support 1767/8 Materials Lab for Engr 45. Support 1452 Electronics Labs for Engr 16. Assist cleanout of Electronics areas.
Student Assistant	20.00	10.00	Support electronics program in rooms 1452 & 1447. Assist in cleanout of unused/broken/outdated equipment in the electronics areas of Bussman.
STNC	8.00	10.00	Supports electronics program

2.2d Adequacy and Effectiveness of Staffing

The existing staff are not adequate to support the programs in the E&AT department.

- We need to hire a full-time SLIA to support all the programs in our department housed at the Santa Rosa Campus.

- We need a 100% Administrative Assistant (currently a 75% employee under the STEM Dean)
- Our Microcomputer Lab Specialist needs to be available 12 months, not just 10
- We currently are running four computer labs and a manual drafting lab on the Santa Rosa campus with no student help. Future funding for student lab assistants is essential.
- Filling these positions would allow us to serve our students to meet the Mission and serve the objectives of the Strategic Plan.

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

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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
0002	Santa Rosa	02	02	Adminstrative Assittant II	Administrative Assiatant II +25%	Classified
0003	Santa Rosa	01	01	Microcomputer Lab Specialist I	Microcomputer Lab Specialist I +2 months	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 Full-time graphics instructor
Architecture	0.6 Full-time architecture instructor reduced load
Engineering	1.0 Full-time engineering instructor
Engineering	0.5 engineering instructor (other 0.5 with Physics)
CESGT	1.0 Full-time CESGT instructor (new 2014-15)
Total:	4.1 FTE Faculty
Total:	4.1 FTE Faculty

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.
ApTech/Anim	1.0000	0.4100	1.3800	0.5900	1 full-time, 11 adjunct
Arch	1.0000	0.4000	0.6100	0.6000	1 full-time at 60% load, 3 adjuncts
Civil/Survey	0.0000	0.0000	0.2700	100.0000	2 adjuncts
Cons	0.0000	0.0000	0.2600	100.0000	2 adjuncts
Electronics	1.0000	44.0000	0.9300	56.0000	2 adjuncts
Engineering	0.3300	26.0000	0.9600	74.0000	Typically 1.5 full-time faculty and 4 adjuncts. Faculty on sabbatical the year of the data, so it is not characteristic
GIS	0.0000	0.0000	0.5300	100.0000	2 adjuncts
Wastewater Treatment	0.0000	0.0000	0.5700	100.0000	6 adjuncts
Water Distribution	0.0000	0.0000	0.2700	100.0000	4 adjuncts
Z TOTALS	0.0000	27.0000	0.0000	73.0000	Way below District average

2.3c Faculty Within Retirement Range

In May 2015 there were 3.1 FTEF (1 ApTech, 1.5 Engineering and 0.6 Architecture/ Construction Management). Although we have hired one new faculty member to start in Fall 2015 (CESGT), two other faculty members have already submitted resignations effective December 2015 (1.0 Aptech, 0.5 Engineering), which will reduce our operating capacity by 1.5 FTEF to 2.6 FTEF. For the Spring semester one full-time faculty member will be on sabbatical. At the end of the Spring 2016 semester another faculty member will retire (0.6 Architecture/Construction Management), bringing the effective workforce to 2.0 FTEF, if there are no additional hires.

The 13 programs in our department need coordination by full-time discipline experts. Currently that is not the case.

The "business" of the college (curriculum updates for 108 courses, evaluations of 10-20 adjuncts per year, etc...) cannot be completed by so few full-time faculty members.

NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

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

NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

Currently several of our programs are coordinated by adjunct faculty - typically each adjunct faculty member coordinates 2 of them. While our adjunct faculty are wonderful, they cannot be expected to do all the things necessary to run their programs with the 2 hours per week that they are paid. The rest of us pick up the slack. We are trying very hard to assure that nothing really important falls between the cracks. This takes time (way more than our 5 hours of College Service each week) and this puts us in crisis mode all the time. This is not sustainable, we are exhausted... and that's with the equivalent of 3.1 faculty. When that is reduced to 2 our department faculty conclude that maintaining our programs and serving our many, many students cannot be adequately done.

We need three faculty positions immediately:

- **Engineering/Design Graphics:** This is a replacement and consolidation position replacing retiring 1.0 full-time faculty members (Ap. Tech). The person in this position will have oversight of the design/drafting, and animation programs. There is more than enough load for one faculty member in these disciplines (currently 2.67). There will still be a need for adjunct faculty in these programs. NOTE: Until such time as the Architecture/Construction Management instructor is replaced, this person will also coordinate those two programs.
- **Electronics/Mechatronics:** This is a replacement position to replace a retired 1.0 faculty member. The person in this position will have oversight of the Electronics/Mechatronics and Solar Photovoltaic programs. The Electronics/Mechatronics program is undergoing revitalization and is intended to launch as Mechatronics in Fall 2016. There is more than enough load in the revised program for a full-time faculty member in this discipline.
- **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 faculty 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 are 4 water program adjunct candidates to interview and only 3 architecture candidates. Over the summer (concluding Fall 2015) we will be conducting adjunct hiring for Architecture/Cons Mgt and the Water Programs as well as for Civil Engineering Tech., Surveying, GIS, Electronics and Engineering. That will make us current with adjunct hiring for all of our programs.

Other:

- We will be feeling a sabbatical impact Spring 2016, since our sole remaining Engineering faculty will be on sabbatical.
- In the past six years we have had 2 retirements, with 2 more approved for December 2015 and 1 anticipated in May 2016. During that time we have had 1 replacement hire.
- By May 2016, if no hires are approved for the 2016-17 year, there will be only 2 full-time faculty members (one in year 2 of Tenure Review) to oversee 13 programs with 108 courses and, by that time, probably 65 adjunct faculty members. This is not sustainable.

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0001	Santa Rosa	02	01	Engineering/Design Graphics	There are several courses offered in this program, including all the CADD courses, that need regular assessment, this person can coordinate that effort. In addition this person will coordinate the 3-D Animation Program and the Architecture Program and Construction Management Program until a full-time faculty member is hired in that area.
0002	Santa Rosa	01	01	Electronics/Mechatronics	This program is without a full-time coordinator and is being revised. This person can coordinate the SLO process as well as provide coordination for the emerging program and the existing Solar Photovoltaics program.
0003	Santa Rosa	02	01	Engineering	This part replacement and part growth position will aid in keeping SLO assessments up to date.
0004	Santa Rosa	02	01	Architecture/Construction Management	This position will be needed in the near future
0004	Santa Rosa	02	01	NOTE	This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

2.4b Rational 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: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

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	Combined Department requests follow:	0	\$0.00	\$0.00			Deborah Sweitzer
0001	Santa Rosa	04	01	PLC lab training station and control software	1	\$30,000.00	\$30,000.00	MJ Papa	Bussman 1447	Deborah Sweitzer
0002	Santa Rosa	04	07	Virtual bench	1	\$2,000.00	\$2,000.00	MJ Papa	Bussman 1447	Deborah Sweitzer
0003	Santa Rosa	04	01	Robotic Total Stations w/ next item on list	8	\$19,357.00	\$154,856.00	Reg Parks	Shuhaw 1799	Deborah Sweitzer
0004	Santa Rosa	00	00	Data Collector/controller w/bracket & mount w/abov	8	\$2,621.50	\$20,972.00	Reg Parks	Shuhaw 1799	Deborah Sweitzer
0005	Santa Rosa	02	01	Replace projector in 1752	1	\$2,500.00	\$2,500.00	Gary Pasqualetti	1752	Deborah Sweitzer
0006	Santa Rosa	02	01	GRS1z reciever	4	\$5,064.00	\$20,256.00	Reg Parks	1799	Deborah Sweitzer
0007	Santa Rosa	02	01	Industrial robotic arm w/ teaching pendant	1	\$6,000.00	\$6,000.00	MJ Papa	1447	Deborah Sweitzer
0008	Santa Rosa	04	01	Departmental LabView and MultiSim 4 year licenses	1	\$12,000.00	\$12,000.00	MJ Papa	1447	Deborah Sweitzer
0009	Santa Rosa	02	01	Autolevel	2	\$388.00	\$776.00	Reg Parks	1799	Deborah Sweitzer
0010	Santa Rosa	02	01	Department Shapelift and iPisoft software licenses	1	\$1,295.00	\$1,295.00	Gary Pasqualetti	1799	Deborah Sweitzer
0011	Santa Rosa	02	01	I Pads w/warrantees	24	\$833.33	\$19,999.92	Gary Pasqualetti	1799	Deborah Sweitzer
0012	Santa Rosa	02	01	27" monitors- replacement	5	\$300.00	\$1,500.00	Gary Pasqualetti	1799	Deborah Sweitzer
0013	Petaluma	02	01	Various Hach Water lab equipment	1	\$1,995.00	\$1,995.00	MJ Oliveri	PC 204	Deborah Sweitzer
0014	Petaluma	02	01	Pocket chlorine residual	3	\$300.00	\$900.00	MJ Oliveri	PC 204	Deborah Sweitzer
0014	Petaluma	02	01	Pocket chlorine residual	3	\$300.00	\$900.00	MJ Oliveri	PC 204	Deborah Sweitzer
0015	Santa Rosa	02	01	20 Sets of Colliert Test media	1	\$360.00	\$360.00	MJ Oliveri	PB 204	Deborah Sweitzer
0016	Santa Rosa	02	01	Digital levels and rods	8	\$1,805.00	\$14,440.00	Reg Parks	1799	Deborah Sweitzer
0017	Santa Rosa	02	01	Various test equipment	1	\$10,000.00	\$10,000.00	MJ Papa	1447	Deborah Sweitzer
0018	Santa Rosa	02	01	HiPer V GNSS systems (rover and base)	4	\$17,555.00	\$70,220.00	Reg Parks	1779	Deborah Sweitzer
0019	Santa Rosa	02	01	Motorola radios	10	\$238.00	\$2,380.00	Reg Parks	1779	Deborah Sweitzer
0020	Santa Rosa	02	01	Eon Vue Xstream	1	\$24,000.00	\$24,000.00	Gary Pasqualetti	1779	Deborah Sweitzer
0021	Santa Rosa	02	01	Elmo projection systems for 1447, 1452 and 1453	2	\$2,500.00	\$5,000.00	MJ Papa	1447, 1452 and 1453	Deborah Sweitzer
0022	Santa Rosa	02	01	GLS-2000 Laser Scanner w/software	1	\$59,955.00	\$59,955.00	Reg Parks	1799	Deborah Sweitzer
0023	Santa Rosa	02	01	3-D Printer	1	\$3,000.00	\$3,000.00	Reg Parks	1799	Deborah Sweitzer
0024	Santa Rosa	02	01	Various traffic safety cones and vests	1	\$3,248.00	\$3,248.00	Reg Parks	1799	Deborah Sweitzer

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	Task chairs for 1447 and 1452	50	\$150.00	\$7,500.00	MJ Papa	1447 and 1452	Deborah Sweitzer

2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
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0001	Santa Rosa	02	01	Urgent	Bussman Hall	1447 and 1448	\$50,000.00	Reconfigure 1447b and 1448 to accommodate a fabrication lab for Engineering, Electronics, Architecture, Civil Engineering Tech, Surveying and GIS students
0002	Santa Rosa	04	07	Urgent	Shuhaw Hall	1799	\$5,000.00	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

NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

In order to better serve many of our programs, Electronics/Mechatronics, Engineering, Architecture, Civil Engineering Tech it is becoming obvious that we need to provide a "Maker Space". The "bones" are there, and much of the equipment already exists in different places. We would propose to reconfigure 1447 and 1448 to accommodate that equipment as a Fabrication Lab, and Electronics lab: estimate per Paul Bielen: \$50,000

The current benches will need to be removed, and the space reconfigured to accommodate both the electronics lab and the fabrication lab. The smaller room would become the place for the noisy/dirty machinery with general work space a part of the larger lab area.

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 NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

Many of the programs in the E&AT Department are CTE programs, and actively pursue 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 offering 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: Serve our Diverse Communities: NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

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, and computer animation 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 NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

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.

3.4 Safety and Emergency Preparedness

- NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.
 - 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 department 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
<i>Engineering & Applied Technology - Bussman Hall</i>						
Bussman Hall #1400				To Be Decided	Bussman Hall	Employee Phone #
Bussman Hall #1400	Bussman South Offices	Bussman Service Center	Bussman Service Center	Dawn Urista	Bussman Hall rm. 1471-1478	707-524-1535
Bussman Hall #1400	Bussman Classrooms	STEM Dean (Asst.)	STEM Dean (Asst.)	Lynn Dolce	Bussman Hall rm. 1447 - 1454	707-527-4400
<i>Engineering & Applied Technology -</i>				Shuhaw	Hall	
Shuhaw Hall #1700	Shuhaw North Wings	Applied Technology, Engineering & Physics (ATEP)	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 NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs.

E&AT courses have strived over the past few year's 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. Since much of our curriculum deals with the construction industry, many of our courses have a sustainability component.

4.1a Course Student Learning Outcomes Assessment

NOTE: This is the first time we have tried to complete a Department PRPP instead of several discipline PRPPs. Refer to last year's individual discipline PRPPs for course information...

2014: 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. **The master list for all the courses in the department is under development, and will be added at a later date.** See narrative.

The info below is from 2013-14 academic year and does not represent the entire department:

Course	SLO #s	Participating Faculty	Semester Initiated or to Be Initiated	Semester Completed	Comments
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 Su
APTECH 59 Arch CAD Basics	1	G Pasqualetti	Spring 2012	Spring 2013	
APTECH 82 More Adv CAD Applications					Not offered since Fal
APTECH 84 Comp Anim for Drafting/Design					Not offered since Spr
APTECH 87					Not offered since Fal

APTECH 45	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
APTECH 53	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
APTECH 58	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
APTECH 63	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
APTECH 65	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
APTECH 87	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
APTECH 90b	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 date.

See last years' PRPPs for disipline-related information, though, since then we have compleed all SLO assessments for every course.

5.0 Performance Measures

The Engineering and Applied Technology Department is 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.

This is the first time the department is submitting a whle department PRPP, and it is incomplete this year. Refer to last year's individual discipline PRPPs for program specific information...

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

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

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 stive to schedule classes at times that serve our students the best.

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.

Below is a chart presenting the headcount enrollment data for programs in the E&AT Department:

Note - data for Water Resources is not correct/complete, some of the data is apparently reported in Ap. Tech and Animation:

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014
Ap. Tech.											
and Animation	44	315	292	41	283	336	67	275	289	63	269
Architecture	0	75	50	0	53	57	0	119	102	0	81
and Cons Mgt	0	38	23	0	27	42	0	28	48	0	40
Civil Engr Tech	0	82	52	0	6	7	0	81	42	13	13
and GIS	0	16	22	0	16	36	0	12	48	0	31
and Surveying	0	59	30	0	32	12	0	26	9	0	28
Elect Tech											
and Solar	10	156	103	1	104	82	34	125	106	21	107
Engineering	0	133	168	0	128	186	29	145	245	31	161
Wastewtr. Treat.	0	0	0	0	0	0	0	0	0	0	0
Water Distribut.	0	0	0	0	0	0	0	0	9	0	0
Totals:	54	874	740	42	649	758	130	811	898	128	730

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 :

Percent Efficiency

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014
Ap. Tech.											
and Animation	91.7%	101.9%	86.9%	85.4%	90.7%	87.5%	93.1%	88.1%	79.2%	87.5%	86.2%
Architecture	0.0%	94.9%	73.6%	0.0%	98.1%	79.2%	0.0%	94.4%	68.0%	0.0%	64.3%
and Cons Mgt	0.0%	69.1%	83.3%	0.0%	86.7%	75.0%	0.0%	93.3%	85.7%	0.0%	66.7%
Civil Engr Tech	0.0%	64.5%	53.1%	0.0%	0.0%	0.0%	0.0%	71.1%	56.9%	54.2%	54.2%
and GIS	0.0%	66.7%	91.7%	0.0%	112.5%	75.0%	0.0%	50.0%	95.8%	0.0%	43.1%
and Surveying	0.0%	56.7%	53.6%	0.0%	87.5%	50.0%	0.0%	48.1%	37.5%	0.0%	35.9%
Elect. Tech											
and Solar	55.6%	88.6%	109.6%	0.0%	85.2%	87.2%	94.3%	89.3%	81.5%	60.0%	76.4%
Engineering	0.0%	95.8%	100.0%	0.0%	88.9%	110.1%	80.6%	100.7%	98.4%	86.1%	95.8%
Waste Water Treatment - Pet	0.0%	0.0%	0.0%	0.0%	88.2%	78.7%	0.0%	90.0%	79.8%	0.0%	71.8%
Water Distrib.	0.0%	0.0%	0.0%	0.0%	67.5%	0.0%	0.0%	78.2%	0.0%	0.0%	60.9%

All Discipline Avg.	81.6%	98.2%	97.3%	85.8%	97.6%	95.0%	81.4%	89.4%	87.5%	76.8%	88.8%
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In general the CTE programs have lower than average efficiencies, with the exception of Applied Technology/Animation, GIS and Fall Architecture enrollments. Changes are underway in all the CTE programs to create more relevant programs, that will attract more students and build enrollments.

NOTE: This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

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:

Average Class Size

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014
Ap. Tech.											
and Animation	22	26.3	20.9	20.5	21.8	21	22.3	21.2	18.1	21	20.7
Architecture	0	25	17.7	0	26.5	19	0	23.8	17	0	16.2
and Cons. Mgt.	0	19	20	0	26	21	0	28	24	0	20
Civil Engr. Tech	0	20	12.8	0	0	0	0	20.3	13.7	13	13
and GIS	Info	not	given								
and Surveying	0	14.8	15	0	21	12	0	13	9	0	9.3
Elect. Tech											
and Solar	10	19.6	24.8	17	19.5	19.4	21.5	20.7	17	16	17.3
Engineering	0	23	24	0	21.3	26.4	29	24.2	23.4		
Wastewater Treatment	Info	not	given								
Water treatment	Info	not	given								

Note: This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

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 calculations might be incorrect (Ex. FTES = 8.56; FTEF = 0.57 raatio = 15.01, not 14.98). In addition there is information missing from this table, notice all the 0s during semesters when classes were offered in these disciplines.

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.

Productivity

Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014
Ap Tech	FTES	7.77	37.18	32.76	7.04	29.45	34.53	7.59	28.52	30.94	7.14
and Animation	FTEF	0.56	2.52	2.64	0.56	2.24	2.67	0.56	2.24	2.67	0.84
	Ratio	13.9	14.74	12.4	12.61	13.15	12.91	13.58	12.74	11.57	8.52
Arch	FTES	0	8.56	4.75	0	6.16	6.45	0	13.84	11.99	0
	FTEF	0	0.57	0.5	0	0.4	0.57	0	1.05	1.24	0
	Ratio	0	14.98	9.57	0	15.4	11.39	0	13.24	9.64	0
and Cons. Mgt.	FTES	0	3.89	2.33	0	2.87	3.18	0	2.99	3.06	0
	FTEF	0	0.4	0.2	0	0.2	0.26	0	0.2	0.26	0
	Ratio	0	9.73	11.67	0	14.37	12.2	0	14.93	11.74	0
Civil Engr. Tech.	FTES	0	9.43	7.07	0	0.67	0.87	0	8.99	4.97	1.82
	FTEF	0	0.76	0.93	0	0	0	0	0.89	0.67	0.24
	Ratio	0	12.34	7.58	0	0	0	0	10.13	7.46	7.58
and GIS	FTES	0	8.33	8	0	9.01	6.24	0	5.81	11.11	0
	FTEF	0	0.8	0.53	0	0.67	0.55	0	0.53	0.8	0
	Ratio	0	10.42	15	0	13.51	11.38	0	10.9	13.89	0
and SURV	FTES	0	10.37	4.28	0	4.34	2.4	0	4.31	1.8	0
	FTEF	0	1.13	0.53	0	0.33	0.33	0	0.53	0.33	0
	Ratio	0	9.15	8.03	0	13.02	7.2	0	8.08	5.4	0
ELEC	FTES	1.4	25.98	16.44	0.1	20.73	14.35	3.35	24.53	18.32	2.1
and Solar	FTEF	0.26	1.89	1.26	0	1.55	1.33	0.19	1.77	1.85	0.19
	Ratio	5.43	13.74	13.02	0	13.39	10.76	17.38	13.89	9.88	10.89
ENGR	FTES	0	16.86	19.19	0	15.45	22.42	1.33	17.62	31.27	1.42
	FTEF	0	1.2	1.26	0	1.2	1.43	0.1	1.2	2.27	0.1
	Ratio	0	14.06	15.23	0	12.88	15.64	13.36	14.68	13.79	14.29
Waste	FTES	0	0	0	0	12.27	8	0	12.54	8.43	0
	FTEF	0	0	0	0	0.67	0.67	0	0.56	0.67	0
	Ratio	0	0	0	0	18.4	12	0	22.47	12.65	0
Water	FTES	0	0	0	0	1.84	0	0	3.34	0.9	0
	FTEF	0	0	0	0	0.17	0	0	0.27	0.19	0
	Ratio	0	0	0	0	10.82	0	0	12.3	4.85	0

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

5.4 Curriculum Currency

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

All but 17 of the 108 courses in the E&AT Department are current as of the end of 2014-15, and a few of those are ready for the Curriculum Committee for Fall 2015. These remaining courses will be updated this year. The Program Coordinators take the lead on this, working with other faculty in the programs for their input. Since in 2014-15 the E&AT Department had adjunct faculty coordinators for 7 programs, catching up on curriculum updating has taken a major effort of the full-time faculty. Those 8 courses identified as needing updating this year will be.

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 successful 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 students get jobs before they complete their certificate 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.

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

Cert Code	Certificate Description	P A	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: Residential	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	0	1	0	1
3334	Solar Photovoltaics	E	0	0	0	0	0	0	0	0	0	2	4
3333	Wastewater Treatment Operations	L	0	0	0	0	1	2	0	0	0	5	7
3323	Water Utility Operations	E	0	0	0	0	0	6	5	6	0	0	0

Dept. Certificates Awarded	45	24	35	30	27	64	37	29	20	25
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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 table below shows the retention rates of the programs in the E&AT Department, with the District percentages below. It is interesting to note that most programs are at about the District average. The Architecture program was experiencing the phenomenon of students not successfully completing classes as a way of de-selecting architecture as a major. The Construction Management certificate program had just been discontinued and with blueprint reading as the major offering, students often get what they need for their work and then stop attending class. As mentioned earlier, problems with the Electronics, GIS, Surveying and both Water programs have lead to major revisions that are underway.

RETENTION RATES											
Discipline	X2011	F2011	S2012	X2012	F2012	S2013	X2013	F2013	S2014	X2014	F2014
Ap. Tech.											
and Animation	84.4	84.3	81.6	88.3	84.9	89.4	90.9	87.5	83.1	93.5	82.7
Architecture	0	49.3	59.2	0	62.3	72.4	0	68.9	65.4	0	59.3

and Cons. Mgt.	0	55.6	63.6	0	40.7	78.6	0	50	77.1	0	70
Civil Engr. Tech.	0	70	81.3	0	100	85.7	0	72.8	71.4	84.6	84.6
and GIS	0	57.8	84	0	66.7	70.5	0	64.7	68.7	0	67.7
and Surveying	0	74.1	75	0	87.5	66.7	0	73.1	77.8	0	85.7
Elect. Tech.											
and Solar	70	72.8	70.7	100	58.7	73.2	87.9	68.8	67.3	71.4	73.8
Engineering	0	85.9	80.6	0	75.6	78.5	77.8	75.3	80.9	86.7	80.2
Wastewtr. Treat.	0	0	0	0	79.6	81.4	0	78.6	78.1	0	77.5
Water Distrib.	0	0	0	0	68.5	0	0	53.1	88.9	0	73.8

Course Completion data is presented below. The notes from the table above also apply to the data in this table.

Course Completion Percentages

Discipline	X2011	F2011	S2011	X2012	F2012	S2012	X2013	F2013	S2013	X2014	F2014
Ap. Tech.											
and Animation	82.8	82.2	76.5	88.3	82.4	87	81.8	83.4	80	90.3	80.5
Architecture	0	44.8	49	0	58.5	65.5	0	66.4	62.5	0	53.1
and Cons. Mgt.	0	52.8	59.1	0	37	76.2	0	50	72.9	0	65
Civil Engr. Tech.	0	70	81.3	0	100	71.4	0	69.1	69	84.6	84.6
and GIS	0	55.6	82	0	64.3	65.9	0	55.9	67.2	0	61.3
and Surveying	0	69	75	0	78.1	66.7	0	73.1	66.7	0	78.6
Elect. Tech.											
and Solar	50	69.5	66.7	100	58.7	73.2	81.8	67.2	65.4	71.4	70.1
Engineering	0	83.7	78.2	0	71.7	73.1	74.1	71.2	78.3	86.7	75.4
Wastewtr. Treat.	0	0	0	0	75.5	75.7	0	73.5	75.3	0	73.8
Water Distrib.	0	0	0	0	64.8	0	0	51.9	88.9	0	73.8
ALL Disciplines	81.7	73.2	74	80.9	72.6	72.8	80.1	72	72.3	81.3	71.2

Information from the Student Equity Data will be added later.

- Student Equity Data: Student Equity data provides information on Retention, Successful Course Completion, and Grade Point Average disaggregated by ethnicity, gender, age, income level, disability status, college status and basic skills.

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs. It will be added to in the next PRPP cycle.

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.

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs. Additional work is needed in this Section.

5.8 Curriculum Offered Within Reasonable Time Frame

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.

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

5.9a Curriculum Responsiveness

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 Advisory Committees and have committed people who will attend meetings and contribute to the development of our programs.

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 engineering and design graphics, for all the disciplines in our department as well as many others - such as Interior Design and Landscape Architecture.

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

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

Not all of our 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. I am not sure about other programs.

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs. This Section will be expanded in the next iteration of the PRPP.

5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

The Engineering Program is fully aligned with transfer institutions. The Architecture program is awaiting approval of the Design Studio courses - all others are articulated. 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.

This is the first time the department has tried to complete a department PRPP instead of individual discipline PRPPs.

5.11a Labor Market Demand (Occupational Programs ONLY)

EMPLOYMENT GROWTH DATA

This is the first year that we are reporting as whole department. In the next PRPP additional information will be incorporated to make this section stronger, for example the Bay Area data is not reflected in this PRPP.

- 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 managers 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...

.Provide the employment growth data (both number of job openings and percentage growth) in the Career and Technical Education Occupations(s) for which you are training for the most recently captured ten-year period as projected by the California Employment Development Department for Sonoma County.

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.

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	SLO and Program Objective assessments	Compliance and review of programs.	2014-15	Complete 2014-15
0002	Santa Rosa	02	01	Update curriculum to complete 6 year review.	Currency of offerings	2014-15	All but 17 of the 108 courses are now current
0003	Santa Rosa	02	07	Complete adjunct pool hirings	Program support	2014-15	By Fall 2015 all 2015-15 applicants will have been interviewed
0004	Santa Rosa	04	01	Complete first department-wide ranked equipment request list	Program support	2014-15	Completed for PRPP

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.

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 2 faculty members	Support programs and do the work of the college	2015-16	salary and benefits
0002	Santa Rosa	02	01	Implement Classified staffing improvements as specified in 2.2e	Improve instruction and better meet the needs of industry	2015-15	Salary and Benefits see 2.2e
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	Houelry 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)
0005	Santa Rosa	02	01	Complete articulation of final architecture course with UC Berkeley	Complete architecture program	Fall 2015	no additional
0006	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...	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
0009	Santa Rosa	01	01	Hire faculty member to anchor Const. Mgt. program	Initiate new program Fall 2016	2016-17	Salary and benefits
0010	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