

Santa Rosa Junior College

Program Resource Planning Process

Water Resources Technology 2014

1.1a Mission

Mission

The mission of the Water Utility Operator and Wastewater Treatment Operator programs of the Santa Rosa Junior College District-Petaluma Campus is to train water and wastewater facility operators to satisfy the requirements for state operator certification, to advance in grade, and to provide an educational and training environment that encourages and supports professionalism in the facility operations field.

1.1b Mission Alignment

Mission Alignment

This program fully supports the District's Mission and is responsive to the District Initiatives. Specifically, enhancing occupational education to better promote economic development and addressing environmental and sustainability issues as well as public health protection.

1.1c Description

Program Description

Environmental Technology offers training for drinking water and wastewater facility operators. The program currently offers an Achievement Certificate in Water Utility Operations.

EPA grant funds for a Wastewater Certificate program were obtained in 2010 by the CTE. Curriculum was developed in early 2011 and is under review. Approval is anticipated to allow two of the program courses to be offered in Fall 2012.

The current program is advised by a committee of industry and regulatory leaders which meets twice per year.

Current course offerings at the introductory level are combined for drinking water and wastewater tracks and then offered separately for training specific to each discipline.

The courses offered by the Water Utility Certificate program are :

- Introductory
 - Introduction to Water Careers
 - Math Methods for Water & Wastewater Operators
 - Intro to Water Sciences

- Water Treatment
 - Water Treatment Plant Operator
 - Drinking Water Chemistry Laboratory

- Wastewater Treatment
 - Wastewater Treatment Plant Operator
 - Industrial Waste Pretreatment Inspector
 - Wastewater Chemistry :Laboratory

Upon approval of the Wastewater Certificate Program the following courses will be offered:

- Wastewater Treatment 1
- Wastewater Treatment 2
- Math Methods for Wastewater Treatment
- Wastewater Chemistry
- Pumps
- Instrumentation and Controls (SCADA)

The Environmental Technology program was established at SRJC in the early 1970s. A large percentage of those currently employed locally in the water and wastewater industry have taken coursework at SRJC and consequently the program enjoys much support within the industry.

In 2008 the certificate in Water Utility Operations was initiated. The certificate can be completed in 18 months and the first recipients are becoming eligible as they complete electives.

In 2008 the advisory committee recommended a change of program name to Water Resources Technologies to more accurately reflect the nature of the program resulting in potential employment in two main areas. This change has not been fully implemented at this time.

Industry Members of the advisory committee are:

Bruce Burton

District Engineer, CA Dept of Health Services

Randy Cullen

Operations Manager, Sonoma County Water Agency

Ann Hill

Laboratory Director, Brelje & Race Laboratories

Charlie Judson

President, Weeks Drilling & Pump Co.

Janice Oakley

Sonoma District Engineer, CA Dept of Health Services

Joe Schwall

Chief Operator, City of Santa Rosa

1.1d Hours of Office Operation and Service by Location

Hours of Operation and Locations

The Water Utility program is currently offered only at the Petaluma campus in the evenings and weekends. Typically in the Fall semester classes are held two days a week, while in the Spring semester they meet three days a week. There are no summer classes offered.

Wastewater Certificate courses will be offered at the Petaluma campus only. Both programs will continue to be overseen by the Petaluma administration in collaboration with Department Chair and Cluster Dean at the Santa Rosa Campus.

Instructors maintain the required office hours for student contact during each term of instruction.

Student inquiries are routed to the Applied Technology office, which is located on the Santa Rosa campus, and are referred on from there to the appropriate instructor via phone or email. This occasionally presents problems in timely reply to queries.

1.2 Program/Unit Context and Environmental Scan

Program/Unit Context

Industry trends

For a number of years the water and wastewater industries have emphasized workforce development in expectation of a large wave of baby-boomer retirements. This issue is, of course, not limited to these industries and there is competition to attract top candidates. The economic downturn has delayed many retirements and continues to do so. Consequently the expected vacancies in operator positions have not yet materialized although they are delayed, not gone.

Other Programs

Only SRJC and Solano Community College offer Bay Area training programs for water and wastewater operations. The Solano program is offered through contract education. Butte College offers one or two classes in Lake County as part of its satellite program but it appears to be intermittent as we regularly see Lake County student enrollements.

Research

In 2009 a report entitled *Water and Wastewater Occupations in the Bay Region* was published as a joint project of the Bay Region Centers of Excellence of California Community Colleges and BAYWORK, an industry workforce development consortium. The study area included five Bay Area counties including Marin but not Sonoma.

The summarized results are:

Water and Wastewater Occupations	2009 Employment	5-year Growth Rate (new job growth)	Eligible to Retire in 5 years (replacement rate)	New & Replacement Jobs (in 5 years)
Water Treatment Operator – Performs water treatment function. T-3 certification from Department of Health Services is generally where the journey level starts.	238	1%	45%	106

Water Distribution Operator – Operates water transmission and distribution systems (e.g., pumps and valves), often using a SCADA control system. Generally does not perform construction, maintenance, or plumbing work. D-3 certification from Department of Health Services is generally where the journey level starts.	202	1%	24%	49
Wastewater Treatment Operator – Performs wastewater treatment function. Usually requires Grade 3 certification by Regional Water Quality Control Board.	433	6%	45%	214
Wastewater Collections Operator – Performs wastewater collections function. Usually requires Grade 2 certification by California Water Environment Association.	212	15%	28%	90
Mechanic/Machinist – Maintains mechanical equipment associated with water and wastewater transmission, distribution, storage, and treatment.	229	2%	43%	101
Electrician/Electrician Technician – Maintains, repairs, tests, installs, modifies, calibrates, and trouble-shoots electrical equipment used in the facilities and systems of water and wastewater utilities.	126	2%	43%	52
Electronic Maintenance Technician/Instrument Technician – Maintains, repairs, tests, installs, modifies, calibrates, and trouble-shoots electronic, pneumatic, and control equipment associated with the facilities and systems of water and wastewater utilities.	134		47%	65
Total	1,575	5%	40%	677

This report indicates:

- There are a significant number of opportunities for Bay Area employment in the field.
- These opportunities will not be so numerous that less prepared candidates can expect to find positions.
- The opportunities in wastewater will exceed those in drinking water.
- There is also an expected need for maintenance mechanics, electrical technicians, and instrument technicians.

Coordination with Sonoma County Office of Education (SCOE)

SCOE's Regional Occupation Program (ROP) recently received a grant to establish a water and wastewater program. At a coordination meeting between ROP and SRJC personnel it was agreed that there is a need for continuing coordination between the two programs. The SCOE program will be set up so that students will meet SRJC prerequisites for the Water or Wastewater Programs.

The SCOE program entitled Introduction to Water Resource Management and Energy Generation Theory is a two-year regional program for high school juniors and seniors to explore and train for careers in energy, public utilities, and water resource management. Courses in this program will address public and private resources, the science and technology associated with understanding and managing these resources, and hands-on training for the variety of career opportunities within these public and private industries.

2.1a Budget Needs

Budget Needs

Core data reports for FYI 2002009/10 show that total expenditures for the Environmental Technology Program at the Petaluma Campus was 21,285.60. This represents additional areas of the campus and is not exclusive of the Water Resources Technology Program. It represents .02% of the total district expenditures and .04% of faculty payroll. Please note that is not exclusive expenditure for ENVT.

Program Faculty

The most urgent need for the new Wastewater program is the hiring of at least five additional adjunct instructors. In addition, the Water Program lost 3 adjunct faculty in 2012.

Program Coordination

The next most urgent program need is for paid coordination time. Whether this would be handled as more hours for the adjunct faculty, or as an STNC or other classified position is yet to be determined. At least a part-time coordinator is needed for each of the water and wastewater certificate programs. The programs cannot continue to rely on its adjunct faculty to handle administrative duties on a volunteer basis. The adjunct faculty are all working professionals in positions of high responsibility with the City/County/State. Their resources as adjuncts are currently exceeded by the needs of students in the classrooms. The ability and availability of program adjunct faculty to respond and participate in program administration is variable and is a serious shortcoming.

Other Needs

To meet the College Mission, course & program SLOs, and students' instructional needs, we are requesting resources for annual replenishment of water program instructional equipment and supplies and related upgrades. Please see the Petaluma Campus PRPP and sections 2.1b and 2.4c

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	Petaluma	00	00	\$240.00	Hach 20 NTU Formazin Standards-2 liters to enhance Water Utility Operation Certificate. Set of 2
0001	Petaluma	00	00	\$1,167.00	Hach Pocket Calorimeter for Chlorine to enhance Water Utility Operations Certificate. Set of three
0001	Petaluma	00	00	\$683.90	Hach Free and Total Chlorine Test Kits to enhance Water Utility Operation Certificate. Set of 10
0001	Petaluma	00	00	\$900.00	Set of 3. Pocket Chlorine Residual to enhance Water Utility Operation Certificate
0001	Petaluma	00	00	\$357.00	Colliert Test Media- 20 sets to enhance Water Resources Technology Program

2.2a Current Classified Positions

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

2.2b Current Management/Confidential Positions

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

2.2c Current STNC/Student Worker Positions

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

2.2d Adequacy and Effectiveness of Staffing

Enrollments in Water Resources Technology have been steadily increasing. This has been due in part to increased promotion and marketing and the creation of a Water Utility certificate.

Currently, the program is run entirely by adjunct faculty. At times, staffing for pertinent classes has been problematic. For the program to serve the community at large and our students there must be a stable faculty presence.

The new Wastewater certificate program courses will require hiring of several additional adjunct faculty. Additionally, the Water Program lost 3 adjunct faculty in 2012. A full time faculty would be ideal for both the water and wastewater programs.

Another need that would boost the adequacy and effectiveness of the new adjuncts is a training program to instruct in SRJC adjunct teaching procedures and practices as well as in teaching methods.

2.2e Classified, STNC, Management Staffing Requests

Rank	Location	SP	M	Current Title	Proposed Title	Type
0000	ALL	00	00	None		Classified

2.3a Current Contract Faculty Positions

Position	Description
	None

2.3b Full-Time and Part-Time Ratios

Discipline	FTEF Reg	% Reg Load	FTEF Adj	% Adj Load	Description
Enviromental Technology-Water Resources Technolog	0.0000	0.0000	0.4000	100.0000	The ratio is 0% FT, 100% PT, all faculty are part-time adjunct. There is a total of .4837 FTE with an approximate total of 281.2 hours for the FY 2009/10

2.3c Faculty Within Retirement Range

Not applicable; all faculty are adjunct.

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

Faculty Staffing Needs

Existing Faculty

There are ten adjunct faculty currently teaching in the program. Three of the ten current adjunct faculty now teach the existing wastewater courses. The Water Utility Program lost 3 adjunct instructors in 2011/12.

Staffing Needs

The Water Utility Operation program is taught entirely by adjunct faculty and it does not have a paid coordinator. Three new adjunct instructors are required to replace Bill Robertson, Michelle Fredericks and Bruce Burton. While the extent of the program does not warrant the hiring of a full-time coordinator at this time, there is a critical need for some type of faculty coordination. Program needs are currently being met by volunteers with attendant continuity and accountability issues.

The new Wastewater Certificate program will also be taught by adjunct faculty and will also in need of a coordinator. In addition to the existing wastewater faculty, at least five new instructors will be required.

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0001	Petaluma	00	00	Part-time coordination is needed	

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

Rationale for Instructional Equipment

Equipment acquisition is based on instructor rationale and justification as well advisory board recommendations. Consequently, instructional equipment not only meets the needs of the instructional program, but also addresses recommendations from industry and the community at-large.

Water Utility Program

Both water and wastewater treatment technology is very dependent upon the availability of reliable computer technology and science laboratory equipment.

ENVT104, Water Laboratory Chemistry, requires specialized equipment for training in instrument calibration and coliform bacteria testing. See 2.4c.

ENVT110, Water Treatment Plant Operator, ENVT111, Water Distribution Operator, and ENVT220, Wastewater Treatment Operator require specialized equipment for demonstration purposes that are also included in 2.4c.

In 2011-12, budget was spent on acquiring instructional equipment for the water program laboratory for the above courses. Additional funds are being requested for 2012-13 to replenish expended or broken laboratory testing materials.

Wastewater Certificate

In order to provide reliable and current laboratory equipment for this new program, \$5,000 is being requested.

2.4c Instructional Equipment and Software Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Petaluma	00	00	Pocket Colorimeter - Nitrate	1	\$370.00	\$370.00	MJ Oliveri	Call Hall	Chudnofsky
0001	Petaluma	00	00	Pocket Colorimeter - Iron	1	\$370.00	\$370.00	MJ Oliveri		
0001	Petaluma	00	00	Hach 2100Q Portable Turbidimeter	3	\$1,000.00	\$3,000.00	MJ Oliveri		
0001	Petaluma	00	00	Hach DR/850 Colorimeter	1	\$945.00	\$945.00	MJ Oliveri		
0001	Petaluma	00	00	Hach MP-6p Portable Temp/pH meter	1	\$975.00	\$975.00	MJ Oliveri		
0001	Petaluma	00	00	Hach 2100Q Portable Turbidimeter	3	\$1,000.00	\$3,000.00	MJ Oliveri		
0002	Petaluma	00	00	Jar Test Apparatus	1	\$2,654.32	\$2,654.32	MJ Oliveri		
0003	Petaluma	00	00	Quanti Tray Sealer	1	\$3,600.00	\$3,600.00	MJ Oliveri		
0003	Petaluma	00	00	Binder Incubator	1	\$1,850.00	\$1,850.00	MJ Oliveri		

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

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0000	Petaluma	00	00	None	0	\$0.00	\$0.00	None		

2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
0000	Petaluma	00	00	3+ Yr			\$0.00	No Need at this time

2.5b Analysis of Existing Facilities

All facilities, e.g. classrooms, are adequate to meet program needs.

3.1 Develop Financial Resources

3.2 Serve our Diverse Communities

Faculty and Staff Diversity

As part of the ongoing hiring process for all adjunct and regular faculty, emphasis is placed on selection criteria which demonstrate a prospective candidate's sensitivity, and understanding of the cultural and gender diversity of our population both in terms of our student body and the society which we serve.

The program promotes awareness and sensitivity to diversity through ongoing instructor development. Instructors and staff are encouraged to learn more about our students as individuals as well as representatives of the great variety of cultural backgrounds, and utilize our students as a learning laboratory for our improved awareness and sensitivity.

The department recognizes and responds to trends in student populations, demographics, ethnicity, gender, and cultural aspects. The department seeks the most highly qualified staff and faculty who not only represent the student populations, but understand the unique challenges faced by our students.

Water Resources Technology courses attract a high number of Hispanic students (over 18%).

3.3 Cultivate a Healthy Organization

N/A

3.4 Safety and Emergency Preparedness

Safety Leaders

Safety Leaders are identified in the Petaluma Campus PRPP

3.5 Establish a Culture of Sustainability

None identified

4.1a Course Student Learning Outcomes Assessment

Course Level Student Learning Outcomes

Current Water Courses

- ENVT 101:Introduction to Water Careers
- ENVT102:Math Methods for Water Treatment
- ENVT103:Water Sciences
- ENVT104:Chemistry & Lab Principles for Drinking Water
- ENVT110:Water Treatment Plant Operator
 - ENVT111:Water Distribution System Operator
 - Wastewater Treatment now incorporated into new WW Program
 - ENVT 220:Wastewater Treatment Plant Operator(now divided into ENVT 120 and ENVT 121)
 - ENVT 230:Industrial Waste Pretreatment Inspector (now an elective with WW program (now ENVT 125)
 - ENVT 235:Wastewater Chemistry :Laboratory (now ENVT 122)

New Wastewater Certificate Program courses:

- ENVT 120: Wastewater Treatment 1
- ENVT 121: Wastewater Treatment 2
- ENVT 122: Wastewater Chemistry
- ENVT 112: Math Methods for Wastewater Treatment
- ENVT 123: Instrumentation and Controls (SCADA)
- ENVT 124: Pumps

All SLOs are now current pending approval of the new wastewater curriculum.

4.1b Program Student Learning Outcomes Assessment

Program Level Student Learning Outcomes

A program level SLO for Environmental Technology has been developed and was reviewed by the Advisory Committee at their meeting in Fall 2011.

4.1c Student Learning Outcomes Reporting

Type	Name	Student Assessment Implemented	Assessment Results Analyzed	Change Implemented
Course	ENVT101 Intro to Water Careers	N/A	N/A	N/A
Course	ENVT102 Math Methods for Water	N/A	N/A	N/A
Course	ENVT103 Water Sciences	N/A	N/A	N/A
Course	ENVT104 Water Lab Chemistry	N/A	N/A	N/A
Course	ENVT110 Water Treatmnt Opr	N/A	N/A	N/A
Course	ENVT111 Water Dist. Operator	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
WRT/ENVT 101 Introduction to Water Caree				X			X	X	X	X	X	X	X			
WRT/ENVT 101 Introduction to Water Caree				X			X	X	X	X	X	X	X			
WRT/ENVT 102 Math Methods for Operators	X	X	X	X	X		X	X	X	X	X	X				
WRT/ENVT 103 Introduction to Water Scien	X	X	X	X	X		X	X		X	X	X				
WRT/ENVT 104 Chem Lab Proc - Water	X	X	X	X	X		X	X	X	X	X	X				X
WRT/ENVT 110 Water Treatment Operator	X	X	X	X	X		X	X	X	X	X	X				X
WRT/ENVT 111 Water Distribution Operator	X	X	X	X	X		X	X	X	X	X					X
WWTR 112 Math Methods for Wastewater Trt	X	X	X	X	X		X	X	X	X	X	X				X
WWTR 120 Wastewater Treatment 1	X	X	X	X	X		X	X	X	X	X	X				X
WWTR 121 Wastewater Treatment 2	X	X	X	X	X			X	X	X	X	X				X
WWTR 122 Wastewater Chemistry	X	X	X	X	X		X	X	X	X	X	X				X
WWTR 123 Instrumentation/Contro ls	X	X	X	X	X		X	X	X	X	X	X				X
WWTR 124 Pumps	X	X	X	X	X		X	X	X	X	X	X				X
WWTR 125 Industrial Waste Pretreatment	X	X	X	X	X		X	X	X	X	X	X				X

4.2b Narrative (Optional)

5.0 Performance Measures

Not Applicable

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

Class Scheduling

According to the CORE DATA for 2011, the ENVT program (on the Petaluma Campus), has been steadily trending upward in student numbers. Fall 07 and 09 had 69 and 97 students, respectively. Fall 2010 had 126 students. Due to the rising job market, enrollment should be even higher in Fall 2011.

The Water Utility program is sequenced to allow for successful completion of the Water Resources Technology Certificate within 3 semesters. The program offers courses in

the evenings at the Petaluma Campus. Weekend field trips are offered in one of the courses.

The proposed Wastewater certificate program is sequenced to allow for its successful completion within one year or two semesters. Course will be offered in the evenings at the Petaluma campus. Weekend field trips may be offered.

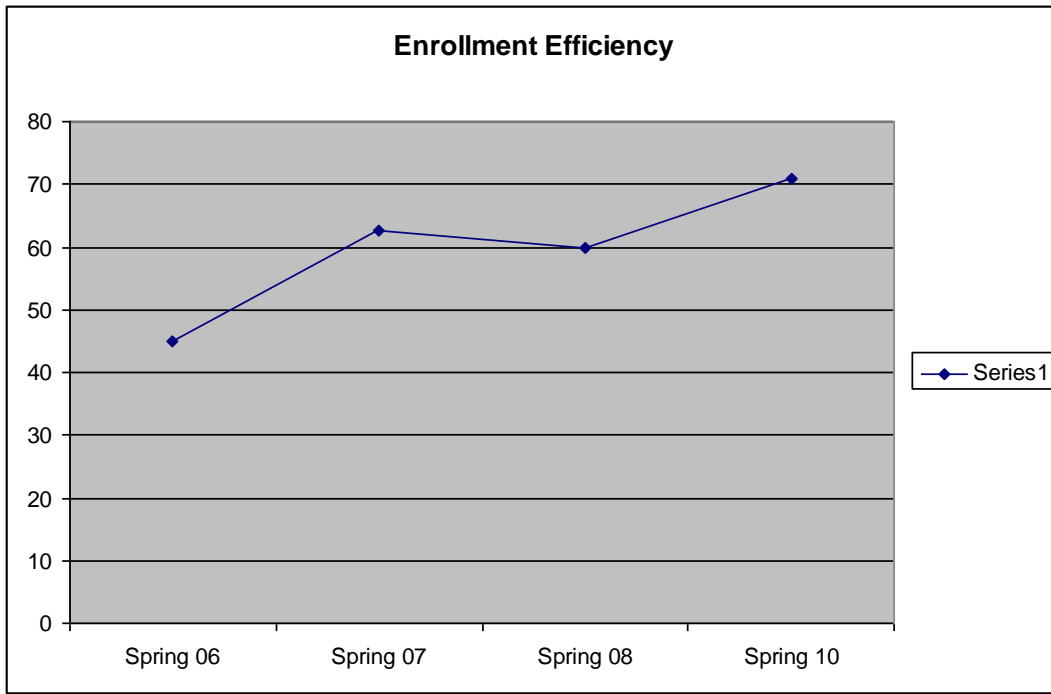
5.2a Enrollment Efficiency

Enrollment Efficiency (Program Wide)

Enrollment Efficiency has been trending upward from 60.8% Fall 07 to 87.3% Fall 10, and trending upward still in 2011. This program has above district average enrollment.

Summer 05	46.7%
Fall 05	64%
Spring 06	45%
Summer 06	No offerngs
Fall 06	37.5%
Spring 07	62.5%
Summer 07	36.7%
Fall 07	58.4%
Spring 08	60.0%
Summer 08	43.3%
Fall 08	86.7%
Spring 09	49.2%
Summer 09	Not Available
Fall 09	Not Available
Spring 10	71%

As the courses with instruction exclusively specific to the discipline are offered in the spring semester we believe that semester offers the best view of enrollment efficiencies.



5.2b Average Class Size

Average Class Size (Program Wide)

Here is the data from the Core Data provided the SRJC:

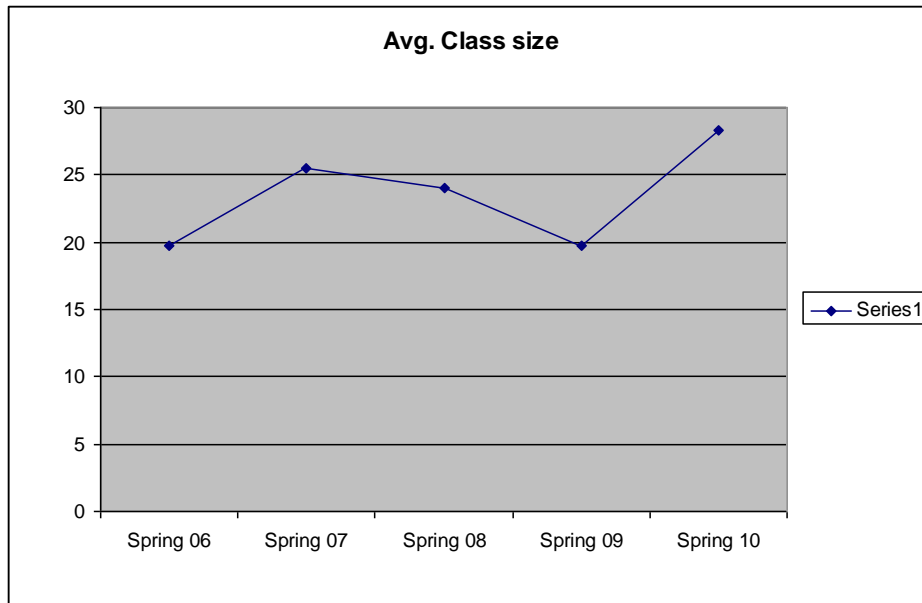
Average class size has steadily and dramatically increased from 24.3 in Fall 07 to 32.8 in Fall 10 (with a peak semester of 42 in Fall 09). We expect class size to increase further due to the bright occupation outlook for this program.

Here is the data collected from the current faculty working on the new certificate.

Summer 05	14
Fall 05	10.7
Spring 06	19.7
Summer 06	No offerngs
Fall 06	17
Spring 07	25.5
Summer 07	11
Fall 07	18.3
Spring 08	24
Summer 08	13
Fall 08	34
Spring 09	19.7
Summer 09	Not Available
Fall 09	Not Available

Spring 10 28.3

As the courses with instruction exclusively specific to the discipline are offered in the spring semester we believe that semester offers the best view of enrollment efficiencies.



5.3 Instructional Productivity

Instructional Productivity Ratio (Program Wide)

Here is the CORE DATA:

Instructional productivity has steadily increased from 11.56 in Fall 07 to 15.20 in Fall 2010 (with a peak semester of 21.06 in Fall 09). We expect the productivity to maintain at current level or increase.

Here is the data from the instructor working on the new program.

Summer 05 9.3

Fall 05 7.0

Spring 06 9.6

Summer 06 No offerngs

Fall 06 7.0

Spring 07 12.5

Summer 07 5.5

Fall 07 11.6

Spring 08 5.8

Summer 08 7.0

Fall 08	23.1
Spring 09	10.0
Summer 09	Not Available
Fall 09	Not Available
Spring 10	Not Available

5.4 Curriculum Currency

Curriculum Currency

With the approval of the Wastewater Certificate Program curricula, all courses will be current.

5.5 Successful Program Completion

Program Completion

Our Successful Course Completion rate for the Petaluma Campus is 81.9% and exceeds the district/campus wide average by over 10%. Our Fall 06 rate is 79.5%, and the campus wide rate for Fall 06 was 70.8%. We are constantly in the early 80% range and trending upward.

We need to collect more data to determine statistics about job placement for those who complete our certificate program. Anecdotally speaking, some current State, County and City employees use some of our courses as a way to update their knowledge, increase opportunity for advancement, or retrain for existing jobs with municipalities after layoffs in other areas. Other students may use just a couple of courses as assistive to their State Board Certification test preparation work.

We plan to attract more women by our outreach program.

Our Spanish speaking population for 07/08 was 18.9%; Native American was 4.5% and Black was 3.8 percent. Female gender is 22. to 24% of our student population. So, our diversity is good compared with the average. But, we are always looking to improve our diversity.

The demand for our program has increased due to changes in Federal, State, and Local rules and regulations for water treatment. The majority of our student population is 31 to 35 (23.4%) and 51 to 60 (29%) years of age. The professions are seeing a "graying" of their industry, so encouraging younger students is important. The other age groups are balanced ranging in each category from 4 to 13%.

We don't yet have the data on how many students complete this certificate each year.

5.6 Student Success

We have a 73.4% retention rate and a 69.5% successful course completion rate, per the most recent Core Data (Fall 2010). GPA average is 2.86 (as of Fall 2010). Our retention rate is fairly stable. The course completion rate is a little lower, and we think the reason is that some students have to drop out to take jobs. We will do more research in this area.

5.7 Student Access

5.8 Curriculum Offered Within Reasonable Time Frame

All courses follow the certificate pathway and offered with a reasonable timeframe.

5.9a Curriculum Responsiveness

We need to do more research to see how our curriculum links to schools (HS and Transfer institutions).

Certainly our curriculum is 100% responsive to State and Local Municipalities' job training needs.

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

Alignment with High Schools

The Sonoma County Office of Education recently received major grant funding for a Regional Occupational Planning (ROP) program in water and wastewater treatment. ROP staff have met with our program staff regarding coordination of the two programs. Steven Jackson, SCOE's ROP director regularly attends our advisory committee meetings. See Section 1.2

5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

We need to do more research in this area.

5.11a Labor Market Demand (Occupational Programs ONLY)

Labor Market Conditions

Please see Section 1.2, Program/Unit Context, for detailed information

5.11b Academic Standards

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6.1 Progress and Accomplishments Since Last Program/Unit Review

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

Location	Program/Unit Conclusions
ALL	<ol style="list-style-type: none"> 1. Will there be future employment opportunities in the wastewater area? 2. Is it warranted to pursue the creation of recycled water courses or certificate in the future? 3. What value is there in providing more online course options for students who live out of the area or who cannot attend class due to work commitments?

6.2b PRPP Editor Feedback - Optional

1. Will there be future employment opportunities in the wastewater area?

Yes, the number of retirements in the wastewater and water fields is still increasing offering employment opportunities.

2. Is it warranted to pursue the creation of recycled water courses or certificate in the future?

As of now there is no official State operator certification for recycled water system operators. The State and the California Water Environment Association are in dialogue about how to certify recycled water operators.

3. What value is there in providing more online course options for students who live out of the area or who cannot attend class due to work commitments?

Online courses are currently used in other water/wastewater junior college programs with success. Online courses offer flexibility for out of area students or for working students. ENVT 110 Water Operator is being converted to an online course that will begin to be offered in Spring 2013.

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
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