



**Water Technology**  
**PROGRAM REVIEW REPORT**  
**2014 - 2015**

**Faculty and Staff (List all)**

<b>Full Time</b>	<b>Adjunct</b>	<b>Support Staff</b>
None	Gary Gramling	none
	Stephen Sherman	
	Jose Martinez	



## Water Technology

### I. Executive Summary

#### **Program Description:**

This program is designed to prepare students who wish to seek entry level employment in the public water supply industry or qualify for a more responsible position within their industry. These courses will be helpful to students who wish to prepare for the T1, T2, T3, T4 and T5 Water Treatment Operator and D1, D2, D3, D4, and D5 Water Distribution Operator certification examinations given by the Department of Health Services. The Citrus College Water Technology program is approved by the Department of Health Services as a provider of Specialized Training for operator certification requirements as well as for Contact Hours for operator certificate renewal.

#### **Strengths/Effective Practices:**

1. Adjunct faculty have done a good job staying up to date with SLO Assessments.
2. Adjunct faculty in this program are leaders in their field and bring a strong technical background to the program.
3. The program is primarily attended by incumbent workers needing training to maintain or add additional Department of Public Health certifications.
4. The number of certificate completers has increased steadily in the last two years due to "intrusive counseling" and point-of-sale marketing in the CTE division.
5. There is a large number of close to retirement age workers in the industry.
6. Water Conservation and storm water run-off control are expected areas of study requiring attention in the next few years.
7. Current completer output across three counties appears to match current need in the industry.
8. Program is scheduled to allow for completion in one year.

#### **Weaknesses/Lessons Learned:**

1. Program suffers from not having full-time faculty leadership.
2. Dean of division responsible for curriculum changes, program review and other 10+1 items within the program.
3. Program lacks technical math component.
4. Water Awareness Day has not been offered for the last two years due to lack of staffing in the Water Technology program.
5. The industry and the program remain male dominated.

6. Employment in the industry will remain fairly flat in the next few years. There will be few new jobs and many retirements are being replaced with technology.

**Recommendations/Next Steps:**

1. Hire one FT faculty across Public Works/Water Technology (grant 20% reassigned time to coordinate both programs). If a full-time faculty hire is not permissible at this time the institution should hire a public works/water technology program coordinator. Program discontinuance should be considered if full-time faculty/coordination is not permissible.
2. Program needs a small supply budget for necessary instructional materials.
3. Modify WATR 150 to include technical math, or write a WATR math course or partner with math department to develop a technical math course that will become part of the program requirements.
4. Explore additional curriculum development in water conservation that leads to the water conservation II and III certification.
5. Closely monitor regional labor market data and trends.
6. Maintain "intrusive" academic advising technique in the program.



## Water Technology

### II. Curriculum

Course Number and Title <small>(Courses must be reviewed every six years to remain active)</small>	Date of last Curriculum Committee Review	2013-2014				SLOs Assessed <small>(Semester / year)</small>
		Course offerings By Term and # of Sections				
		Summer	Fall	Winter	Spring	
WATR150 Introduction to Water Systems	S09	0	1	0	1	F13
WATR151 Water Resources & Distrib. I	F09	0	1	0	0	F13
WATR 152 Cross-Connection Control						--
WATR153 Water Res. & Distr. II	F09	0	0	0	1	S12
WATR155 Water Dist Oper Exam Prep	S07					--
WATR156 Water Treatment I	F06	0	0	0	1	F12
WATR157 Water Treatment II	F06	0	1	0	0	F12
WATR162 Water Conservation	S09	0	1	0	1	S14
WATR165 Water Systems Operations and Technology Update	S09					--

### III. Degrees and Certificates

Title	Type	Date Approved by Chancellor's Office	Number Awarded 2011	Number Awarded 2012	Number Awarded 2013	Number Awarded 2014
Water Technology	AS	1970	8	4	6	9
Water Technology	C	1970	23	22	21	29

**TYPE:** **AA** = Associate in Arts **AS** = Associate in Science Degree **C** = Certificate **S** = Skill Award  
**AA-T** = Associate in Arts for Transfer **AS-T** = Associate in Arts for Transfer

### IV. Sections Offered

Review the data sheet for section counts, which includes the following information by course category:

1. Section counts
2. Enrollment by student demographic
3. Success and retention

Provide a brief narrative analysis and describe any trends or concerns you noticed.

This is a part time program with classes offered only in the evening. Classes are offered on a rotation to ensure certificate completion in as little as two semesters. The section count of classes increased in the last two years as Water Conservation was added to the schedule and courses were scheduled against a student completion map. Classes are not typically offered in winter or summer.

## V. Student Demographics

Review the data sheet for program enrollment, retention, and success which includes data on these metrics by student demographic

Provide a brief narrative analysis and describe any trends or concerns you noticed.

- Hispanic/Latino is two-thirds of the degree and certificate completers in 13/14 and approximately 50-60% of the enrollments over the last three years.
- Females make up less than 10% of the student population in this program; however, female success and retention rates are higher than those for males in the program.
- Fall and spring retention and success rates exceeded the college-wide rates.
- The overwhelmingly majority (often 65-70%) of students are over the age of 25—representing an incumbent workforce.

## • VI. Student Accomplishments

Provide current, interesting information about accomplishments of students who have participated in this program.

According to the Chancellor's Office Salary Surfer website Water Technology completers in the state see significant wage gains two and five years after completion.

No specific student accomplishments. Difficult to report on this without a full-time faculty champion in the department.

## VII. Student Learning Outcomes Assessment Reflection

Academic Senate Approved 4/11/12

All SLOs for every course will need to be assessed at least once within the 5-year comprehensive program review cycle. Upon reflection with program colleagues (or self-reflection for programs with only one instructor), please provide a brief narrative to the following (at least one row for one SLO needs to be completed for each course at this time):

Complete SLO assessment and analysis in the table at:

<http://intranet/SLO/Pages/default.aspx>

DOCUMENT REFLECTION DISCUSSION BELOW (FOR BOTH SUMMER/FALL 2013 AND WINTER/SPRING 2014)

The water technology program consists only of adjunct faculty. The group has done a good job of maintaining pace with assessing course level SLOs. Each instructor assessing the SLOs for the course they taught. Programs such as water technology could benefit greatly by having professional development activities for adjunct covering learning and assessment.

Dialog across the program is limited and done during the spring advisory meeting.



## Water Technology

### VIII. Progress toward previous goals

During 2013-2014, we accomplished:

	Previous Goals	Progress/ Persons Responsible	Status	Institutional Goal
<b>Goal 1</b>	Get all courses needing Title 5 review through curriculum	Dean	IP	
<b>Goal 2</b>				
<b>Goal 3</b>				

In addition to previous goals, during 2014-2015, we plan to:

	Description	Actions / Target Date	Data Index*	Institutional Goal**
<b>Goal 1</b>	With Prop 39 funding, explore new curriculum in water conservation leading to the Water Conservation II and III certification	June 2015	M N	
<b>Goal 2</b>				

\*For instutional goals visit link below.

<http://www.citruscollege.edu/admin/planning/Documents/StrategicPlan2011-2016.pdf>

\*\*For Educational and Facilities Master Plan, use table below.

EFMP 1 –
EFMP 2 –
EFMP 3 –



## Water Technology

### IX. Budget Recommendations for 2014-2015

(Add rows or attach additional pages as needed for complete description / discussion)

#### Certificated Personnel (FNIC)

Position	Discuss impact on goals / SLOs	Impact	Priority
FT faculty	No FT faculty leadership in program	MNQ	2
CTE counselor	Increase completions	MNQ	2

#### Classified Personnel

Position	Discuss impact on goals / SLOs	Impact	Priority
Public Services programs coordinator	If a FT faculty member is unable to be hired the institution should hire a PT or FT coordinator to maintain and advance the water technology and public works programs	MNQ	2

#### Staff Development (Division)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority

#### Facilities (Facilities)

Describe repairs or modifications needed	Discuss impact on goals / SLOs	Building / Room	Impact	Priority

#### Computers / Software (Tecs)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
WiFi in HH754		8000	MNQ	3

#### Equipment

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority

#### Supplies (Division)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
Small budget needed	Need supplies for course delivery	2000	MNQ	2

# General Budget Guidelines

## Budget Preparation Tips:

- Include items on the budget form that are needed for program success even if there is no financial need associated with the request (ie training that could be accomplished with on-campus resources, sharing of resources with another discipline or department etc.)
- Whenever possible, obtain actual cost for the items / equipment you wish to purchase. This avoids situations where items are considered for purchase but it is determined that the actual cost greatly exceeds the original estimate.
- Identify unit cost (cost per item) and the number of units desired in requests.
- Indicate if there is a lower level of financial support that would be workable in your educational plan – if you request \$30,000 for a classroom set of equipment (one item for each student), if \$15,000 were available, would it be possible for two students to share an item? Is the request “All or nothing”?

## Determining Budget Impact:

*Indicate one or more of the following areas that your request will affect:*

**M = Mission:** Does the request assist the program in meeting the District’s mission and established core competencies and / or diversity?

**N = Need:** Does the request assist the program in addressing needs based on labor market data, enrollment, articulation, advisory committee, regional agreements, etc.?

**Q = Quality:** Does the request assist the program in continuing or establishing appropriate lecture/lab unit values? Will the request assist in the regular reviewed / updated of course outlines? Is faculty development adequate? Does program need support in addressing the State and District emphasis on critical thinking, problem solving and written expression? Does program need support to meet stated objectives in the form of SLOs? Do course pre-requisites and co-requisites need to be validated?

**F = Feasibility:** Does the request assist the program maintain adequate facilities, equipment, and library resources? Is there a need for repair or modification of facilities? Is there a need for new equipment or supplies? Are course offerings frequent enough for students to make adequate progress in both day and evening programs? Does the program have adequate communication with & support from Counseling?

**C = Compliance:** Does the request assist the program in meeting Federal, State & District requirements? (Do the course outlines meet state, district & federal regulations for content? Do vocational programs have regular advisory meetings?)

## Budget Priorities:

*When establishing priority, consider the following:*

Priority 1: This item is mandated by law, rule, or district policy.

Priority 2: This item is essential to program success.

Priority 3: This item is necessary to maintain / improve program student learning outcomes.



## Water Technology

### X. Career Technical Education

**TOP CODE: 0958.00 – Water Quality & Wastewater Treatment, Management, Recycling Technology**

1. Advisory Committee meeting date(s): June, 2013

\_\_\_\_\_

#### 2. Advisory Committee recommendations

1.	Employment in the industry will remain fairly flat in the next few years. There will be few new jobs; therefore, focus on incumbent workforce training and career advancement to create entry-level positions
2.	Increase completer technical math skills. Add in technical mathematics component o the program.
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

3. Are these Advisory Committee minutes on file with Academic Affairs?

YES X NO \_\_\_\_\_

#### 4. Vocational Funds

Source	Purpose	Amount

## 5. Labor Market Data 2008 – 2018

(California Employment Department Labor Market Information for Los Angeles County)

Occupation	Soc Code	Employment Estimated	Employment Projected	Change
Water and Wastewater Treatment Plant and System Operators	51-8031	1869	1939	3.7%
Environmental Science and Protection Technicians, Including Health	19-4091	342	395	15.5%
				%
				%
				%
				%

## 6. Discuss demand for workers in this TOP code based on CA Employment Development Department Labor Market Information for Los Angeles County and Advisory Committee input. Describe the rationale for use of data regarding additional geographic areas.

Estimated annual openings in water treatment and distribution is greater than the number of completions in the Citrus employment region (60 vs 39). Wages are strong with a steady inclination from entry level to upper 90% (\$23/hr to over \$44/hr). The primary employer (over 80% of all jobs) are local governments.

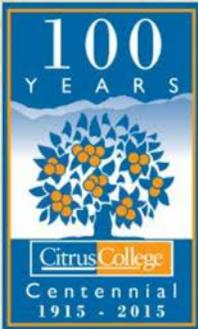
### CORE INDICATORS

Indicator	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Proposed)	2013-14 (Planning)
1. Technical Skill Attainment	66.67	53.85	63.84	81.25	88.61
2. Credential, Certificate, or Degree	47.06	87.50	83.33	61.90	57.14
3. Persistence or Transfer	44.44	53.85	65.00	79.17	56.00
4. Placement	100.00	100.00	92.31	71.43	89.36
5. Nontraditional Participation	11.11	7.69	4.55	14.58	10.13
6. Nontraditional Completion	10.00	14.29	0.00	13.33	10.34

<b>Total Count is 10 or Greater</b>
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<i>Total Count is Less Than 10</i>
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<b>CITRUS COLLEGE</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Negotiated Level</b>					
1. Technical Skill Attainment	92.46%	87.93%	88.81%	88.82%	87.27%
2. Credential, Certificate, or Degree	66.13%	78.95%	82.05%	80.93%	81.50%
3. Persistence or Transfer	82.18%	83.62%	85.96%	85.86%	86.50%
4. Placement	79.86%	80.33%	82.21%	81.48%	76.97%
5. Nontraditional Participation	12.58%	19.05%	20.37%	22.08%	22.60%
6. Nontraditional Completion	12.02%	19.72%	22.10%	25.00%	26.50%

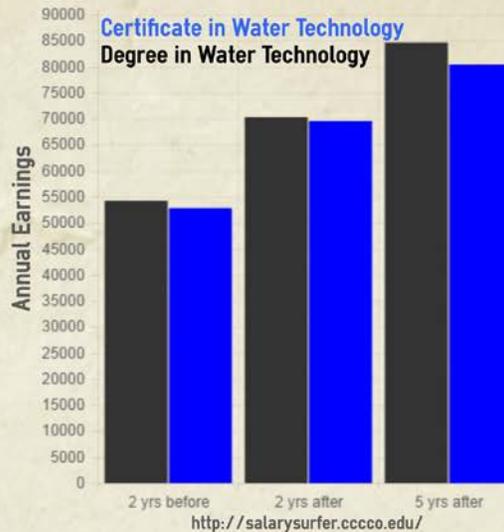
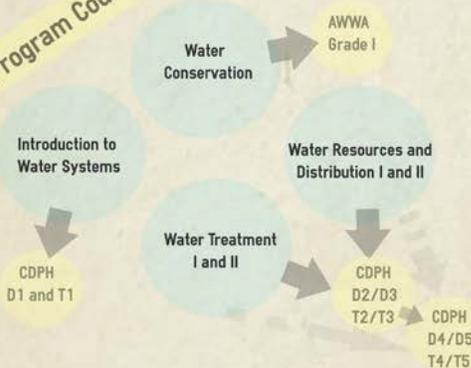


# Water Technology Program

## Career Technical Education Completions

Citrus College: 62.8% scorecard.cccco.edu  
 Statewide Average: 53.9%

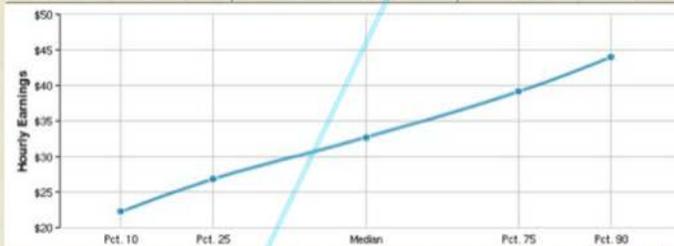
### Program Coursework



LMI Outlook for the Citrus College Employment Catchment Area (roughly framed by the Foothills, I-15, CA- 91, and I- 110 freeways)

1,971 Jobs (2012)	4.2% Growth (2012-2018)	\$32.69/hr Median Earnings
National: Location Quotient: 0.80	National: 4.8%	National: \$20.77/hr
Regional Openings (2012)	77	
Regional Program Completions (2013)	49	
All Regional Completions for Target Occupations (2013)	49	

\$22.22/hr	\$32.69/hr	\$43.98/hr
10th Percentile Earnings	Median Earnings	90th Percentile Earnings



## Duplicated Enrollments (Spring and Fall)

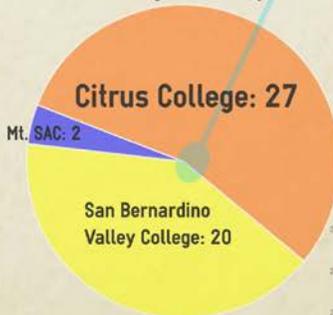


Hmmm...what's on the horizon for Citrus Water Technology? Advanced water conservation courses leading to AWWA grade 2 and 3 certifications!



Gary Gramling: Adjunct Faculty (Water Resources and Distribution)  
 Stephen Sherman: Adjunct Faculty (Water Treatment)  
 Jose Martinez: Adjunct Faculty (Water Conservation)  
 Dr. Jim Lancaster: Dean; Curriculum, Career/Technical, and Cont. Ed.  
 Division Office: 626-852-6402

## 2012/13 Regional Completions



## 2013/14 Citrus College Water Technology Program Completions

