

Comprehensive Program Review

Annual Assessment

Request for Resources (click here to apply)

Please analyze your Program Review data as well as your SLOs and standards and determine if you need to update your Comprehensive Program Review as needed. All changes to areas, needs and subject areas must be reported at this time.

If your program is scheduled for a Comprehensive Program Review, you are completing the annual Program Review Assessment only and have no changes to area needs, sign below and submit to the appropriate Department.

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Title

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Title

## Academic Program Evaluation – WATER TREATMENT SYSTEMS TECH

Division - EWD  
Department - ITEC

### WT Courses

Year	Completion	Success	Enrollment	Fill Rate	Certific	Meas. Cns	Avg Class. Cap	Avg Class. Cmp	CTES	CTES	Productiv
01	18.51	1.01	18.50	87%	87%	144	123%	270	115	28.51	3
21	15.64	1.48	10.57	88%	75%	126	72%	6	175	29.17	
22	16.84	1.48	11.38	86%	69%	131	78.87%	61	170	28.32	
23	15.14	1.40	10.04	87%	70%	120	74.17%	120	170	17.0	
24	14.3	2.91	15.78	1.21	13.04	117%	120	88	76.52%	4	
25	28.75	2.2	11.07	1.01	10.96	88%	70%				
0-12	30.16%	6.28%	35.35%	34.29%	1.44%	4.76%	29.22%	31.76%	3.69%	0.00%	6.67%

### COMPLETION

PROGRAM COMPLETION

Year	Courses completed	Number of Associate Degrees Completed	Number of Certificates Completed
2009	1	0	0
2010	1	0	0
2011	1	0	0
2012	1	0	0
2013	1	0	0
2014	1	0	0
2015	1	0	0
2016	1	0	0
2017	1	0	0
2018	1	0	0
2019	1	0	0
2020	1	0	0
2021	1	0	0
2022	1	0	0
2023	1	0	0
2024	1	0	0
2025	1	0	0
2026	1	0	0
2027	1	0	0
2028	1	0	0
2029	1	0	0
2030	1	0	0

### Water Treatment Technology courses A.S. and Certificate

### Water Treatment

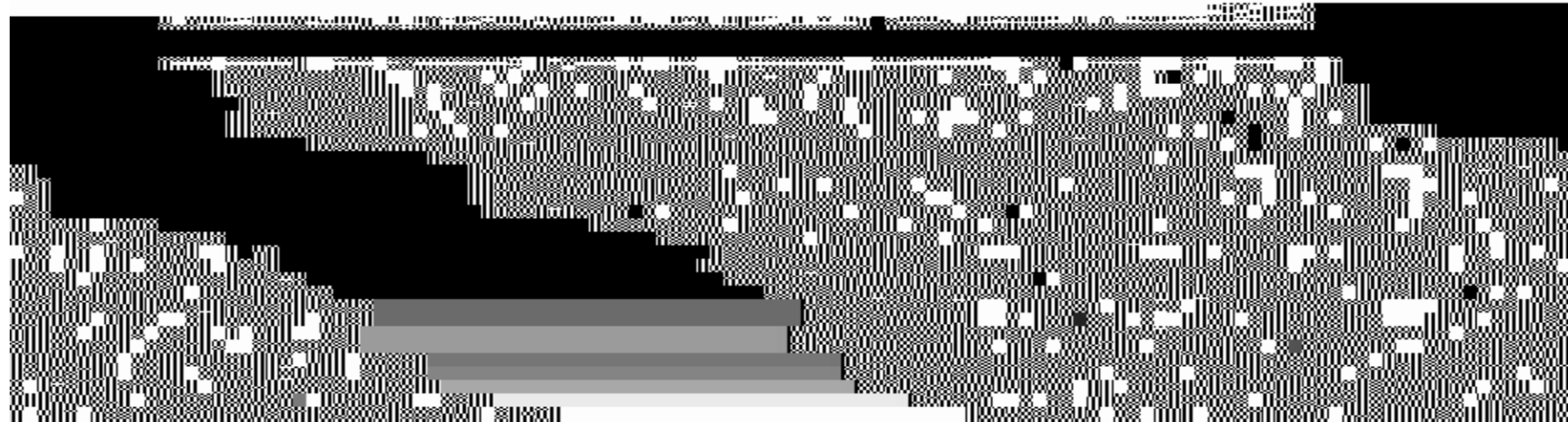
- Associate Degree:**  
Required courses: WT 110, WT 120,
- Certificate:**  
Required courses: WT 110, WT 120,
- Specialization Certificate:**  
Required courses: WT 130, WT 140, WT 150

WT 140, WT 210, WT 120  
WT 120, WT 140, WT 210, WT 220  
WT 150



**WATER TREATMENT SYSTEM TECHNOLOGUES - COURSES PRODUCED BY (PIES/PIEF)**

COURSE NO.	COURSE TITLE	WT 110	6.72	4.66	4.39	0.27	0.27	0.02
WT 1201	2	3.09	2.98					



Recent Enrollment Demand: High  Medium  Low

Projection for Future Demand: Growing  Stable  Declining

18201



Summary of Program: The health of the Water Treatment Program has an average and stable fill rate of 99% with an average of total enrollment of 144 students with a maximum section of 28 students per class.

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Associate Degree (A.S.) and Certificate.

Eight (8) courses (A.S.) and three (3) certificates were awarded to the students during 2009 - 2012.

Most of the courses are taught every two semesters with four (4) part-time instructors.

This program provides students with the necessary skills and knowledge and related trade information to become State-certified operators in water treatment and water distribution.

**Job opportunities**

- City water plants.
- Valley area water plants.
  - Valley State School Water plants.
  - State government water plants.
    - Private Co. water plants
    - Thermal Co. water plants.

According to Recreation Outlook Handbook, the median annual wage for water treatment operators was from \$39,740 to 42,500 in 2010. The Bureau of Economic Analysis projects a 30% growth rate from 2010 to 2020, faster than the average for all occupations. State and local government concerns regarding water efficiency or water use should lead to efforts to increase efficiency.

## Student Learning Outcomes and Program Learning Outcomes

### Future Goals of Program

1. Need special classroom for water treatment analysis.
2. The program needs a full-time faculty.
3. Certify the program with the state requirements.
4. Create an advisory committee for water treatment program.
5. Develop an assessment program for water treatment program.
6. Purchase more equipment and components are needed.
7. Create workshops for students and local water treatment companies.
8. Create job placement and form a partnership with local water companies.

## Student Learning Outcomes Assessment completion

Course	SLO's Cycle	Assessment Completed	SLO Linked To
WT110	1. Develop knowledge on the physical, chemical, and biological principles of unit processes and operations commonly used in water treatment. 2. Understand the importance of the level of knowledge and skills to provide the public with a reliable, and safe water supply.	Identified	1. IL01, IL02, IL03, IL04, IL05 2. Identify the acquisition required to provide the
WT110	3. IL01, IL02, IL03, IL04	3. Correctly identify the origins, risks and assessments of contaminants in water. 4. Recognize the risks associated with chemicals and equipment used in water treatment and will be able to demonstrate the ability to use proper techniques and procedures necessary to protect themselves, co-workers and the public.	4. IL01, IL02,
WT120	1. IL02, IL03, IL04	1. Correctly calculate water treatment plant math problems including chemical dosages, flow rates, volumes, detention times, horsepower and energy costs. 2. Demonstrate basic abilities to identify, troubleshoot and resolve treatment process problems that could compromise the proper water treatment processes as well as involved water related regulations. 3. Identify, justify, and evaluate methods that can be used to improve the performance of the water treatment plant.	Identified
WT120	2. IL01, IL02, IL03, IL04, IL05		
WT120	3. IL02, IL03, IL04		



<p><b>WT 130</b></p> <p>2. Describe fundamental concepts in physics and microbiology involved in the wastewater treatment process.</p> <p>3. Interpret and use analytical data to performed operational adjustments as required in the wastewater treatment.</p> <p>4. Use legal, ethical principles to make wastewater treatment operational adjustments to satisfy involved regulations.</p>	<p>1. Apply scientific methods for the wastewater treatment process.</p>	<p>Identified</p>	<p>1. IL02, IL03, IL04</p> <p>2. IL01, IL02, IL03, IL04</p> <p>3. IL01, IL02, IL03, IL04</p> <p>4. IL01, IL02, IL03, IL04, IL05</p>
<p><b>WT 140</b></p>	<p>1. Correctly perform basic operational adjustments, flow and calculations for the operation of a water distribution system.</p> <p>2. State and observe the responsibilities related to the operation of the water distribution system.</p> <p>3. Analyze water samples and laboratory data to perform operational adjustments on the water distribution system.</p> <p>4. Feel more confident about their ability to perform operational adjustments on the water distribution system.</p>	<p>Identified</p>	<p>1. IL02, IL03, IL04, IL05, IL06</p> <p>2. IL03, IL03, IL04, IL06</p>

<b>WI 150</b> 1. Identify and properly operate each component of a wastewater collection system. 2. Describe and understand importance of standard operating procedures within a wastewater collection system. 3. Describe and correctly restore abnormal conditions in a wastewater collection system. 4. Identify and describe use of used during of wastewater collection system.	<b>Identified</b>	1. IL02, IL03, IL04 2. IL02, IL03, IL04 3. IL02, IL03, IL04 4. IL04
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<b>WI 210</b> Understand and evaluate issues concerning effective treatment of water. 2. Assume responsibility for water treatment operational changes and work effectively as an individual and as a member of a group. 3. Apply ethics and principles to address involved drinking water regulations. 4. Analyze, understand, and evaluate diverse ideas, beliefs, and behaviors to develop responsible management.	<b>Identified</b>	1. IL02, IL03, IL04 2. IL02, IL03, IL04 3. IL02, IL03, IL04, IL05 4. IL02, IL03
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5. **Development/Prevention:** Develop maintenance programs and maintain records of maintenance and repair for all water  
intake systems. **Est. completion date:** 11/17/12 **Way(s) to assess:** Students will complete fact-of-in-class quizzes with eit