WATER & ENVIRONMENTAL TECHNOLOGY, AAS

Program Code: AAS.WATERENVIRONTECH

The Water & Environmental Technology program provides career technical classes combined with field experience. Classes are offered in day/evening combinations and have enrollment limits to enhance instructional quality and job placement.

Course work emphasizes fundamental aspects of drinking water distribution, drinking water treatment, wastewater collection and wastewater treatment. Course work includes industry cooperative work experience, laboratory methods in environmental chemistry, aquatic microbiology and preparation for the provisional operator in training certification exams.

For information contact Matthew LaForce 503-594-3148 or laforce@clackamas.edu.

Outcomes

Related Instruction Outcomes

Computation

- 1 course - MTH-082A Wastewater Math I, MTH-082B Waterworks Math I, MTH-082C Wastewater Math II, MTH-082D Waterworks Math II, or MTH-082E Math for High Purity Water
- Use appropriate mathematics to solve problems.

Communication

- 1 course - WR-101 Workplace Writing or WR-121Z Composition I
- Read actively, think critically, and write purposefully and capably for professional audiences.

Human Relations

- 1 course - Recommended: PSY-101 Human Relations
- Engage in ethical communication processes that accomplish goals.

Physical Education/Health/Safety/First Aid

- 1 course - HE-252 First Aid/CPR/AED
- Use effective life skills to improve and maintain mental and physical wellbeing

Program Outcomes

Upon successful completion of this program, students should be able to:

- successfully pass the state required level-1 certificate/licensure exams for Oregon water treatment and water distribution (note: these exams can only be taken after completion of the WET AAS degree);
- pass the Oregon Operator in Training certificate wastewater treatment and collection systems examinations;
- maintain and operate water and waste water treatment facilities and collection and water distribution systems;
- utilize mathematical skills to solve certification exam problems as well as situations experienced at water and waste water facilities;
- conduct and document scientific laboratory experiments as applied to the water and waste water industry and effectively communicate determined quantitative relationships using both graphs and equations;
- exhibit good teamwork skills and serve as effective members of laboratory and project teams;
- articulate and justify technical solutions to an audience through oral, written, and graphical communication;
- communicate the importance of safety in operator daily activities and be good stewards of ethical and professionally work place interactions;
- be more marketable through a second career related work experience;
- attain higher grade certification which will lead to higher wages;
- be certified and licensed as a State of Oregon approved Backflow Assembly Tester;
- develop a thorough understanding of the principles of hydraulics as applied to the water and wastewater industry;
- obtain increased knowledge of bacterial processes used in water and wastewater systems;
- obtain hands-on experience with instrumentation and control systems used in water and wastewater plant operations.

Requirements

First Year

Fall Term		**Credits**
MTH-082A	Wastewater Math I	1.00
MTH-082B	Waterworks Math I	1.00
WET-110	Wastewater Operations I	3.00
WET-111	Waterworks Operations I	3.00
WET-112	Computer Applications for Water and Wastewater Operations	4.00
WR-101 or WR-121Z	Workplace Writing or Composition I	4.00
Human Relations requirement		3.00
PSY-101	Human Relations (Recommended)	
	Credits	**19**
Winter Term		
BI-204	Elementary Microbiology	4.00
MTH-082C	Wastewater Math II	1.00
MTH-082D	Waterworks Math II	1.00
WET-120	Wastewater Operations II	3.00
WET-121	Waterworks Operations II	3.00
WET-122	Water Distribution and Wastewater Collection Systems	3.00
WET-123	Environmental Chemistry I	3.00
	Credits	**18**
Spring Term		
WET-109	Backflow Assembly Operation and Testing	4.00
WET-130	Wastewater Operations III	4.00
WET-131	Water Treatment	4.00
WET-132	Collection & Distribution Lab	1.00
WET-134	Environmental Chemistry II	3.00
WET-180	Water & Environmental Projects I	5.00
	Credits	**21**

Second Year		
Fall Term		
GIS-201	Introduction to Geographic Information Systems	3.00
WET-125	High Purity Water Production I	3.00
WET-241	Aquatic Microbiology	4.00
WET-242	Hydraulics for Water & Wastewater	3.00
WET-245	Instrumentation & Control	4.00
WET-280	Water & Environmental Projects II	5.00
	Credits	**22**
Winter Term		
HE-252	First Aid/CPR/AED [1]	3.00
MTH-082E	Math for High Purity Water	1.00
WET-108	Cross-Connection Control Program Specialist	3.00
WET-135	High Purity Water Production II	4.00
	Credits	**11**
	Total Credits	**91**

[1] May be waived with current CPR card

Professional Upgrade Courses

The following courses are designed to upgrade professional skills and in some cases assist in preparation for state certification examinations.

Code	Title	Credits
WET-010	Wastewater Operations I	3.00
WET-011	Waterworks Operations I	3.00
WET-020	Wastewater Operations II	3.00
WET-021	Waterworks Operations II	3.00
WET-030	Wastewater Operations III	3.00
WET-031	Water Treatment	3.00
XWET-C001	1-Day Cross Connection Specialist Update	0.6 CEUs
XWET-C002	1-Day Tester Renewal	0.6 CEUs
XWET-C003	2-Day Tester Retrain/Renewal	1.2 CEUs
XWET-C004	4-Day Cross Connection Specialist Course	3.2 CEUs
XWET-C005	5-Day Backflow Tester Course	4.0 CEUs
XWET-C007	Water Environment School	2.3 CEUs
XWET-C008	Waterworks School	2.0 CEUs

Careers

Career opportunities include:

- water and/or liquid waste treatment plant and system operator
- environmental science technician
- environmental engineering technician
- environmental lab technician
- source control technician
- surface water specialist
- environmental regulator