

# Water Systems Technology AS – (Associates GE Track)

## Canyon Country Campus Pathway

+If you have completed coursework at another college and/or are starting in a semester other than a Fall term, please follow up with the Counseling Department to determine if this sequence is appropriate for your academic and career goals.

### Program Description

Water Systems Technology is the study of water treatment processes, distribution processes, and wastewater processes. The program is designed to prepare students seeking a career in drinking water treatment and distribution or wastewater. The Water Systems Technology program also provides instruction for water and wastewater industry personnel interested in career advancement as well as continuing education opportunities for State certified Water Treatment and Water Distribution Operators for certification renewal. Coursework will help prepare students for various certification examinations given by the State of California Water Resources Control Board. Upon completion of the program, students will acquire skills and knowledge in water treatment concepts, wastewater treatment concepts, chemical dosage techniques, water distribution, water chemistry, water quality, water mathematical calculations and other skills needed throughout this vital industry. The students completing the program can become employed as a distribution operator, water treatment plant operator, water service representative, water quality specialist, wastewater collection worker and/or wastewater treatment operator.

### Student Learning Outcome

Demonstrate proficiency in the core skills and knowledge required for employment in the water and wastewater industry.

Recommended Course Sequence

**Canyon Country Campus Pathway:** This pathway allows students to start and finish their program at the Canyon Country Campus (CCC) and in conjunction with Online and/or OnlineLIVE formatted courses.

**Important Information:** The sequence listed below, satisfies your AS requirements. Connect with a counselor to develop an individual student education plan through the Counseling Department @

<https://www.canyons.edu/counseling> or (661) 362-3288/(661) 362-3811.

Major courses are sequenced and **BOLDED** based on recommendations by the [Water Systems Technology Department](#).

**First Semester (0-15 Units minimum) FA = Fall; WI = Winter; SP = Spring; SU = Summer**

| Course   | Title   | Units        | GE Area      |
|--|---|--------------|--------------|
| <b>WATER 120</b>                               | <b>Introduction to Water Systems Technology (FA, SP, SU) (8 weeks 100% online)</b>  | <b>3</b>     | <b>Major</b> |
| <b>WATER 130</b>                               | <b>Waterworks Mathematics (FA, SP, SU)</b>  | <b>3</b>     | <b>Major</b> |
| ENGL 101                                       | English Composition (FA, WI, SP, SU)  | 4            | Area Di      |
| PE/Wellness                                    | Health Science 100, 149, 150 or 243 (FA, WI, SP, SU)  | 2-3          | Area F       |
| American Institutions<br>Choose Option I or II | Complete first course in chosen option – (note: must take both classes within same option) (FA, WI, SP, SU) – see “American Institutions” table below | 3            | Area E       |
| <b>Term Total:</b>                             |   | <b>15-16</b> |              |

**Second Semester (16-30 units minimum)**

| Course                | Title  | Units     | GE Area      |
|-----------------------|--|-----------|--------------|
| <b>WATER 131</b>      | <b>Advanced Waterworks Mathematics (FA, SP)</b>  | <b>3</b>  | <b>Major</b> |
| <b>WATER 132</b>      | <b>Water Supply (FA, SP) (8 weeks 100% online)</b>   | <b>3</b>  | <b>Major</b> |
| <b>WATER 135</b>      | <b>Water Quality (SP)</b>  | <b>3</b>  | <b>Major</b> |
| American Institutions | Complete second course in chosen option – (note: must take both classes within same option) (FA, WI, SP, SU) – see “American Institutions” table below | 3         | Area E       |
| *Social Science       | Choose one course from COC GE Area B (FA, WI, SP, SU) The department recommends ENVRMT 101- Introduction to Environmental Studies                      | 3         | Area B       |
| <b>Term Total:</b>    |  | <b>15</b> |              |

\*ENVRMT 101 is recommended by your department as it aligns nicely with your major; however, you may take any course within Area B to satisfy your Social Science GE.

### Third Semester (31-45 units minimum)

| Course  | Title   | Units        | GE Area            |
|---|---|--------------|--------------------|
| WATER 140 & 141<br>OR<br>WATER 150 & 151<br>OR<br>WATER 160 & 161 | Water Distribution Operator I & II<br>(8 weeks each) (FA, SP)<br>Water Treatment Plant Operation I & II<br>(8 weeks each) (FA,SP)<br>Wastewater Treatment and Disposal I & II<br>(8 weeks each) (FA,SP) | 3+3          | Major              |
| Natural Sciences  | Choose one course from COC GE Area A ( <i>lab not required</i> ) (FA, WI, SP, SU)   | 3            | Area A             |
| Math Competency   | Choose any math course from COC GE Area D3 (FA, WI, SP, SU)   | 3-5          | Area 3 and Dii     |
| **Humanities & Fine Arts  | Choose one course from COC GE Area C (FA, WI, SP, SU)   | 3            | Area C & Diversity |
| <b>Term Total:</b>  |   | <b>15-17</b> |                    |

\*\*Consider taking a Humanities & Fine Arts course with an (\*) indication on the Canyon Country and Online/OnlineLIVE GE Offerings Checklist. Courses with an (\*) will also meet the GE Diversity Requirement.

### Fourth Semester (46-60 Units minimum)

| Course  | Title  | Units     | GE Area   |
|---|--|-----------|---|
| Water 140 & 141<br>OR<br>Water 150 & 151<br>OR<br>WATER 160 & 161 | Water Distribution Operator I & II<br>(8 weeks each) (FA, SP)<br>Water Treatment Plant Operation I & II<br>(8weeks each) (FA,SP)<br>Wastewater Treatment and Disposal I & II<br>(8 weeks each) (FA,SP) | 3+3       | Major Electives - <b>Must be a different sequence from course taken above</b> |
| Elective Course OR Diversity if not yet met                       | Choose any course that is an associate degree applicable course (FA, WI, SP, SU) OR Diversity Requirement (May double with other GE Notated with an Asterisk on the GE Checklist)                      | 3         | Elective or Diversity   |
| *** Elective Course   | Choose any course that is an associate degree applicable course (FA, WI, SP, SU)   | 3         | Elective  |
| ***Elective Course  | Choose any course that is an associate degree applicable course (FA, WI, SP, SU)   | 3         | Elective  |
| <b>Term Total:</b>  |  | <b>15</b> |   |

\*\*\*Consider taking additional Water Courses that have not yet been completed to meet remaining elective units: Water 140 & 141 or 150 & 151, or 160 & 161

Note: In order to complete your AS degree in two years a minimum of 15 units per semester is necessary. You may consider taking winter/summer coursework to help lighten your load during fall/spring.

**American Institutions Requirement** – Select one of the options below and complete a total of 6 units

|                 |   |
|-----------------|---|
| <b>Option 1</b> | One course from the following: Economics 170/170H, History 111/111H, History 112/112H, History 120/120H, or History 130 AND Political Science 150/150H (FA, WI, SP, SU) |
| <b>Option 2</b> | History 111/111H AND History 112/112H (FA, WI, SP, SU)  |

### Counseling Resources:

Water Systems Technology Department Website: [www.canyons.edu/water](http://www.canyons.edu/water)

Counseling Department Website: [www.canyons.edu/counseling](http://www.canyons.edu/counseling)

General Education Requirements: <https://www.canyons.edu/studentservices/counseling/degrees/generaled.php>

Canyon Country Campus: [www.canyons.edu/canyoncountry](http://www.canyons.edu/canyoncountry)

Canyon Country Campus Proram Pathways: <https://www.canyons.edu/canyoncountry/pathways/index.php>

Canyon Country and Online/OnlineLive GE Offerings: <https://www.canyons.edu/canyoncountry/pathways/index.php>

Campus Alliances: <https://www.canyons.edu/administration/ie2/equity/alliances/index.php>

Petition for Associate Degree: Check the [student calendar](#) for term-specific submission deadlines for the petition for associate degree. \*Summer graduation associate degree petitions are due by April 1st for your name to appear in the spring commencement pamphlet. The petition form must be reviewed with a counselor and may be found here: <https://www.canyons.edu/studentservices/admissions/records/forms.php>

### **Career Resources**

State of California Water Resource Control Board (SWRCB):

SWRCB Treatment and Distribution Operators

[https://www.waterboards.ca.gov/drinking\\_water/certlic/occupations/DWopcert.html](https://www.waterboards.ca.gov/drinking_water/certlic/occupations/DWopcert.html)

SWRCB Wastewater Operators

[https://www.waterboards.ca.gov/water\\_issues/programs/operator\\_certification/operator\\_certification.html](https://www.waterboards.ca.gov/water_issues/programs/operator_certification/operator_certification.html)

Water Systems Technology at College of the Canyons LinkedIn Group:

<https://www.linkedin.com/groups/13598869/>

California Career Zone – Water and Wastewater Treatment Plant and System Operators:

<https://www.cacareerzone.org/profile/51-8031.00>

O\*Net Online -Water and Wastewater Treatment Plant and System Operators:

<https://www.onetonline.org/link/summary/51-8031.00>

Bureau of Labor and Statistics - Water and Wastewater Treatment Plant and System Operators:

<https://www.bls.gov/ooh/production/water-and-wastewater-treatment-plant-and-system-operators.htm>

Professional Associations: <https://www.canyons.edu/academics/water/information/links.php>