

# WATER TECHNOLOGY, A.S.

Water Technology is a career oriented non-transfer vocational program offering courses leading to a certificate and/or an Associate degree. The Water Technology program at MSJC emphasizes a real world approach to diagnostic skill building and a thorough understanding of system theory and operations. Professionalism, workplace skills and responsibilities are stressed along with safety and an awareness of hazardous materials control. Graduates are primarily employed by cities, counties, federal agencies and industry that operate and maintain water treatment, water distribution, wastewater collection and/or wastewater treatment systems. They may also find employment in support roles such as equipment sales. For individuals currently working within these fields, there may be potential for salary and/or career advancement.

In addition to the 18 units of the certificate program in Water Technology, students must also complete all MSJC General Education Option A requirements (a total of 60 units) for the Associate of Science degree in Water Technology. Certification by the state of California requires the qualified individual to: 1) pass an examination administered by the State Water Resources Control Board, the American Water Works Association, or the California Water Environment Association; 2) meet the experience and/or educational minimum requirements; 3) and, submit a certification application with the applicable fee. The Cooperative Work Experience Education course, CWEE WATR-549, is highly recommended course for students not currently employed in the field.

AS.WT

## Program Map Design Your Future!

Begin by exploring MSJC program maps to find a career or transfer (<https://msjc.emsicc.com/?radius=&region=All%20Regions>) opportunities. Program maps show the recommended sequence of courses that lead to graduation or transfer. The maps were developed by program experts to give you the skills and knowledge you need to succeed.

- **Starting in Spring?** Choose Fall Semester 1 courses.
- **Are you a part-time student?** Start Fall Semester 1 courses and follow the course sequence.

## MSJC General Education Option A

This program provides students with focused program options. A focused program map contains courses that help students specialize in a distinct area and connects to careers. Talk to a counselor about preparing for transfer to specific schools.

### Wastewater Treatment Focus

| Fall Semester 1 |  | Units |
|-----------------|--|-------|
| WATR-790        | Basic Waterworks Mathematics (formerly WATR-090)                       | 2     |
| WATR-500        | Introduction to Water/Wastewater Operations (formerly WATR-100)        | 1     |
| GEOG-108        | World Regional Geography   | 3     |
| PHIL-105        | Introduction to Ethics   | 3     |
| CSCR-502        | Personal Success Habits of Highly Effective People (formerly GUID-120) | 3     |

|              |   |           |
|--------------|---|-----------|
| ENGL-101     | College Composition (formerly Freshman Composition) | 4         |
| <b>Units</b> |   | <b>16</b> |

#### Spring Semester 1

|          |  |   |
|----------|--|---|
| WATR-503 | Water Treatment Plant Operations I & II (formerly WATR-103)      | 3 |
| WATR-520 | Wastewater Treatment Plant Operations I & II (formerly WATR-120) | 3 |
| PS-101   | Introduction to American Government and Politics                 | 3 |
| COMM-103 | Interpersonal Communication                                      | 3 |
| MATH-105 | College Algebra  | 4 |

**Units** **16**

#### Fall Semester 2

|          |  |   |
|----------|--|---|
| WATR-522 | Wastewater Plant Operations III, IV & V (formerly WATR-122)  | 3 |
| WATR-525 | Test Procedures for Water and Wastewater (formerly WATR-125) | 3 |
| WATR-530 | Environmental Laws and Regulations (formerly WATR-130)       | 3 |
| GEOG-115 | Introduction to Geographic Information Science               | 3 |
| MGT-500  | Introduction to Management (formerly MGT-103)                | 3 |

**Units** **15**

#### Spring Semester 2

|                         |   |   |
|-------------------------|---|---|
| BIOL-146<br>or BIOL-117 | Biodiversity<br>or Conservation Biology                         | 3 |
| GEOG-520                | Intermediate Geographic Information Science (formerly GEOG-120) | 3 |
| PS-110                  | Introduction to Public Administration (formerly PA-101)         | 3 |
| MGT-505                 | Organizational Behavior (formerly MGT-108)                      | 3 |
| MGT-770                 | Productivity Management (formerly MGT-133)                      | 3 |

**Units** **15**

**Total Units** **62**

### Water Distribution Focus

| Fall Semester 1 |  | Units     |
|-----------------|--|-----------|
| WATR-790        | Basic Waterworks Mathematics (formerly WATR-090)                       | 2         |
| WATR-500        | Introduction to Water/Wastewater Operations (formerly WATR-100)        | 1         |
| GEOG-108        | World Regional Geography   | 3         |
| PHIL-105        | Introduction to Ethics   | 3         |
| CSCR-502        | Personal Success Habits of Highly Effective People (formerly GUID-120) | 3         |
| ENGL-101        | College Composition (formerly Freshman Composition)                    | 4         |
| <b>Units</b>    |  | <b>16</b> |

#### Spring Semester 1

|          |   |   |
|----------|---|---|
| WATR-503 | Water Treatment Plant Operations I & II (formerly WATR-103) | 3 |
|----------|---|---|

|                          |   |           |
|--------------------------|---|-----------|
| WATR-507                 | Water Distribution I & II (formerly WATR-107)                   | 3         |
| PS-101                   | Introduction to American Government and Politics                | 3         |
| COMM-103                 | Interpersonal Communication                                     | 3         |
| MATH-105                 | College Algebra   | 4         |
| <b>Units</b>             |   | <b>16</b> |
| <b>Fall Semester 2</b>   |   |           |
| WATR-509                 | Water Distribution III, IV & V (formerly WATR-109)              | 3         |
| WATR-530                 | Environmental Laws and Regulations (formerly WATR-130)          | 3         |
| WATR-740                 | Wells, Pumps and Motors (formerly WATR-140)                     | 3         |
| GEOG-115                 | Introduction to Geographic Information Science                  | 3         |
| MGT-500                  | Introduction to Management (formerly MGT-103)                   | 3         |
| <b>Units</b>             |   | <b>15</b> |
| <b>Spring Semester 2</b> |   |           |
| BIOL-146<br>or BIOL-117  | Biodiversity<br>or Conservation Biology                         | 3         |
| GEOG-520                 | Intermediate Geographic Information Science (formerly GEOG-120) | 3         |
| PS-110                   | Introduction to Public Administration (formerly PA-101)         | 3         |
| MGT-505                  | Organizational Behavior (formerly MGT-108)                      | 3         |
| MGT-770                  | Productivity Management (formerly MGT-133)                      | 3         |
| <b>Units</b>             |   | <b>15</b> |
| <b>Total Units</b>       |   | <b>62</b> |

## Water Treatment Focus

|                          |  | Units     |
|--------------------------|--|-----------|
| <b>Fall Semester 1</b>   |  |           |
| WATR-790                 | Basic Waterworks Mathematics (formerly WATR-090)                       | 2         |
| WATR-500                 | Introduction to Water/Wastewater Operations (formerly WATR-100)        | 1         |
| GEOG-108                 | World Regional Geography   | 3         |
| PHIL-105                 | Introduction to Ethics   | 3         |
| CSCR-502                 | Personal Success Habits of Highly Effective People (formerly GUID-120) | 3         |
| ENGL-101                 | College Composition (formerly Freshman Composition)                    | 4         |
| <b>Units</b>             |  | <b>16</b> |
| <b>Spring Semester 1</b> |  |           |
| WATR-503                 | Water Treatment Plant Operations I & II (formerly WATR-103)            | 3         |
| WATR-507                 | Water Distribution I & II (formerly WATR-107)                          | 3         |
| PS-101                   | Introduction to American Government and Politics                       | 3         |
| COMM-103                 | Interpersonal Communication  | 3         |

|                          |  |           |
|--------------------------|--|-----------|
| MATH-105                 | College Algebra  | 4         |
| <b>Units</b>             |  | <b>16</b> |
| <b>Fall Semester 2</b>   |  |           |
| WATR-505                 | Water Treatment Plant Operations III, IV & V (formerly WATR-105) | 3         |
| WATR-525                 | Test Procedures for Water and Wastewater (formerly WATR-125)     | 3         |
| WATR-530                 | Environmental Laws and Regulations (formerly WATR-130)           | 3         |
| GEOG-115                 | Introduction to Geographic Information Science                   | 3         |
| MGT-500                  | Introduction to Management (formerly MGT-103)                    | 3         |
| <b>Units</b>             |  | <b>15</b> |
| <b>Spring Semester 2</b> |  |           |
| BIOL-146<br>or BIOL-117  | Biodiversity<br>or Conservation Biology                          | 3         |
| GEOG-520                 | Intermediate Geographic Information Science (formerly GEOG-120)  | 3         |
| WATR-509                 | Water Distribution III, IV & V (formerly WATR-109)               | 3         |
| PS-110                   | Introduction to Public Administration (formerly PA-101)          | 3         |
| MGT-505                  | Organizational Behavior (formerly MGT-108)                       | 3         |
| <b>Units</b>             |  | <b>15</b> |
| <b>Total Units</b>       |  | <b>62</b> |

## Requirements

An Associate Degree in this program requires students to follow MSJC's General Education, Option A and complete all general education areas, all major requirements, and complete an overall total of 60 degree applicable units with a minimum 2.0 GPA.

| Course  | Title  | Credits   |
|---|--|-----------|
| MSJC General Education Option A ( <a href="https://catalog.msjc.edu/degrees-certificates-curricula/general-education-option-a/">https://catalog.msjc.edu/degrees-certificates-curricula/general-education-option-a/</a> ) |  | 24        |
| <b>Required Water Technology Courses</b>  |  | <b>3</b>  |
| <b>Water Technology Electives</b>   |  | <b>15</b> |
| <b>Electives (as needed to reach 60 units)</b>  |  |           |
| Course  | Title  | Credits   |
| <b>Required Courses</b>   |  |           |
| WATR-500  | Introduction to Water/Wastewater Operations (formerly WATR-100)  | 1         |
| WATR-790  | Basic Waterworks Mathematics (formerly WATR-090)                 | 2         |
| or WATR-795   | Wastewater Technology Math                                       |           |
| <b>Elective Courses</b>   |  |           |
| Select 15 units of the following:   |  | 15        |
| WATR-503  | Water Treatment Plant Operations I & II (formerly WATR-103)      |           |
| WATR-505  | Water Treatment Plant Operations III, IV & V (formerly WATR-105) |           |
| WATR-507  | Water Distribution I & II (formerly WATR-107)                    |           |

|                    |  |
|--------------------|--|
| WATR-509           | Water Distribution III, IV & V (formerly WATR-109)               |
| WATR-520           | Wastewater Treatment Plant Operations I & II (formerly WATR-120) |
| WATR-522           | Wastewater Plant Operations III, IV & V (formerly WATR-122)      |
| WATR-525           | Test Procedures for Water and Wastewater (formerly WATR-125)     |
| WATR-526           | Introduction to Wastewater Collections                           |
| WATR-530           | Environmental Laws and Regulations (formerly WATR-130)           |
| WATR-533           | Introduction to Water Use Efficiency                             |
| WATR-537           | Introduction to Water Utility Management                         |
| WATR-740           | Wells, Pumps and Motors (formerly WATR-140)                      |
| <hr/>              |  |
| <b>Total Units</b> | <b>18</b>  |

## Career Exploration

Discover information about careers that interest you!

1. Take a Career Quiz (<https://msjc.emsicc.com/assessment/>) to learn about yourself and receive career suggestions based on your interests.
2. Search available in-demand jobs (<https://msjc.emsicc.com/browse-careers/>) in your career areas of interest and find up-to-date salaries and education requirements.
3. Find the MSJC Program (<https://msjc.emsicc.com/browse-programs/>) that connects your interests to a career.

Note: There are no guaranteed positions for students completing these programs. Education and work experience required will vary by employer. The salary and benefits for specific occupations will be dependent on work experience, education, background, and employer.