

# 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 career or transfer (<https://msjc.emsicc.com/?radius=&region=All%20Regions>) opportunities. Program maps show the recommended course sequence that leads 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 or WATR-795	Basic Waterworks Mathematics (formerly WATR-090) or Wastewater Technology Math	2
WATR-500	Introduction to Water/Wastewater Operations (formerly WATR-100)	1
PS-101	Introduction to American Government and Politics	3
PHIL-105	Introduction to Ethics	3

CSCR-502	Personal Success Habits of Highly Effective People (formerly GUID-120)	3
ENGL-101	College Composition	3

**Units 15**

#### Spring Semester 1

WATR-520	Wastewater Treatment Plant Operations I & II (formerly WATR-120)	3
WATR-526	Introduction to Wastewater Collections	3
COMM-103	Interpersonal Communication	3
MATH-105	College Algebra <sup>1</sup>	4
Select one of the following:		3

ETHS/PS-103	Ethnic Politics in America
ETHS-112	Introduction to Chicana/o/x Studies
ETHS/SJS-113	Introduction to Black Studies
ETHS/HIST-160	Black History in American Context
ETHS/LIT-240	American Indian Literature
ETHS/LIT-275	Latinx/Chicanx Literature
ETHS/LIT-280	Multiethnic Literature (formerly ENGL-280)
ANTH/HIST-121	Indigenous Peoples of California

**Units 16**

#### Fall Semester 2

WATR-503	Water Treatment Plant Operations I & II (formerly WATR-103)	3
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
WATR-537	Introduction to Water Utility Management	3

**Units 15**

#### Spring Semester 2

BIOL-146 or BIOL-117	Biodiversity or Conservation Biology	3
WATR-740	Wells, Pumps and Motors (formerly WATR-140)	3
COMM-117	Organizational Communication	3
WATR-533	Introduction to Water Use Efficiency	3
GEOG-115	Introduction to Geographic Information Science	2

**Units 14**

**Total Units 60**

<sup>1</sup> AREA G (Math Competency) can be demonstrated by a high school math course at or above the level of Algebra 2 with a grade of C or better.

### 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

PS-101	Introduction to American Government and Politics	3
PHIL-105	Introduction to Ethics	3
CSCR-502	Personal Success Habits of Highly Effective People (formerly GUID-120)	3
ENGL-101	College Composition	3
<b>Units</b>		<b>15</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
COMM-103	Interpersonal Communication	3
MATH-105	College Algebra <sup>1</sup>	4
Select one of the following:		3
ETHS/PS-103	Ethnic Politics in America	
ETHS-112	Introduction to Chicana/o/x Studies	
ETHS/SJS-113	Introduction to Black Studies	
ETHS/HIST-160	Black History in American Context	
ETHS/LIT-240	American Indian Literature	
ETHS/LIT-275	Latinx/Chicanx Literature	
ETHS/LIT-280	Multiethnic Literature (formerly ENGL-280)	
ANTH/HIST-121	Indigenous Peoples of California	
<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
WATR-520	Wastewater Treatment Plant Operations I & II (formerly WATR-120)	3
WATR-537	Introduction to Water Utility Management	3
<b>Units</b>		<b>15</b>
<b>Spring Semester 2</b>		
BIOL-146 or BIOL-117	Biodiversity or Conservation Biology	3
WATR-533	Introduction to Water Use Efficiency	3
COMM-117	Organizational Communication	3
GEOG-115	Introduction to Geographic Information Science	2
WATR-525	Test Procedures for Water and Wastewater (formerly WATR-125)	3
<b>Units</b>		<b>14</b>
<b>Total Units</b>		<b>60</b>

<sup>1</sup> AREA G (Math Competency) can be demonstrated by a high school math course at or above the level of Algebra 2 with a grade of C or better.

## Water Treatment Focus

<b>Fall Semester 1</b>		<b>Units</b>
WATR-790	Basic Waterworks Mathematics (formerly WATR-090)	2
WATR-500	Introduction to Water/Wastewater Operations (formerly WATR-100)	1
PS-101	Introduction to American Government and Politics	3
PHIL-105	Introduction to Ethics	3
CSCR-502	Personal Success Habits of Highly Effective People (formerly GUID-120)	3
ENGL-101	College Composition	3
<b>Units</b>		<b>15</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
COMM-103	Interpersonal Communication	3
MATH-105	College Algebra <sup>1</sup>	4
Select one of the following:		3
ETHS/PS-103	Ethnic Politics in America	
ETHS-112	Introduction to Chicana/o/x Studies	
ETHS/SJS-113	Introduction to Black Studies	
ETHS/HIST-160	Black History in American Context	
ETHS/LIT-240	American Indian Literature	
ETHS/LIT-275	Latinx/Chicanx Literature	
ETHS/LIT-280	Multiethnic Literature (formerly ENGL-280)	
ANTH/HIST-121	Indigenous Peoples of California	
<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
WATR-537	Introduction to Water Utility Management	3
GEOG-115	Introduction to Geographic Information Science	2
<b>Units</b>		<b>14</b>
<b>Spring Semester 2</b>		
BIOL-146 or BIOL-117	Biodiversity or Conservation Biology	3
WATR-740	Wells, Pumps and Motors (formerly WATR-140)	3
WATR-509	Water Distribution III, IV & V (formerly WATR-109)	3
WATR-533	Introduction to Water Use Efficiency	3
COMM-117	Organizational Communication	3
<b>Units</b>		<b>15</b>
<b>Total Units</b>		<b>60</b>

<sup>1</sup> AREA G (Math Competency) can be demonstrated by a high school math course at or above the level of Algebra 2 with a grade of C or better.

## Requirements

An Associate Degree in this program requires students to complete MSJC's local General Education, Option A, by fulfilling all general education areas. In addition, students must complete 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
Required Water Technology Courses		3
Water Technology Electives		15
Electives (as needed to reach 60 units)		

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)	
<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.