

# WATER RESOURCES SCIENCE & TECHNOLOGY, BACHELOR OF SCIENCE

## Requirements

### General Requirements

Code	Title	Credits
Core Curriculum		42
Required Support Courses		21
Major (Required) Courses		35
Electives		22
<b>Total Credits</b>		<b>120</b>

- 36 advanced credit hours required for degree
- 25% of courses must be taken at A&M-SA for degree
- Note: students intent on graduate school should take the suggested courses listed as electives.
- CIP Code: 40.0605

All students must complete the University's Core Curriculum (<https://catalog.tamusa.edu/undergraduate/academic-policies-procedures/core-curriculum/>) and the specific requirements of the major. In some cases, a course that is required for a major may also be counted towards the Core Curriculum.

Code	Title	Credits
<b>Core Curriculum</b> <sup>1</sup>		
ENGL 1301	Composition I	3
ENGL 1302	Composition II	3
	or ENGL 2311 Technical Writing	
Select one of the following:		3
MATH 1314	College Algebra	
MATH 1316	Trigonometry	
MATH 2312	Pre-Calculus	
MATH 2313	Calculus I	
CHEM 1311	General Chemistry I	3
CHEM 1312	General Chemistry II	3
Lang/Phil/Culture		3
Creative Arts		3
American History		3
American History		3
Government/Political Science		3
Government/Political Science		3
ECON 2301	Principles of Macroeconomics	3
SPCH 1315	Fund of Public Speaking	3
MATH 1342	Introductory Statistics	3
Subtotal:		42
<b>Required Support Courses</b>		
UNIV 1301	First Year Seminar	3
WATR 4181	Research	1

BIOL 1306	Gen Biology I-Attr Living Sys	3
BIOL 1106	General Biology I Lab	1
BIOL 1307	Gen Biology II-Biol Organisms	3
BIOL 1107	General Biology II - Lab	1
CHEM 1111	General Chemistry Lab I	1
CHEM 1112	General Chemistry Lab II	1
PHYS 1301	General Physics I	3
GEOL 1301	Earth Sciences I	3
GEOL 1101	Earth Sciences Lab I	1
Subtotal:		21

<b>Major (Required) Courses</b> <sup>2</sup>		
WATR 1301	Introduction to Water Treatment	3
WATR 1302	Introduction to Wastewater Treatment	3
CHEM 2371	Water & Wastewater Chemistry	3
CHEM 2171	Water & Wastewater Lab	1
WATR 3312	Water Laws, Rules & Policy	3
WATR 3331	Hydrology	3
WATR 3320	Pollutants in Environmental System	3
WATR 3325	Aquatic System Science	3
WATR 3330	Green Systems for Wastewater Management	3
WATR 3340	Water Resources Science and Technology Internship	3
	or WATR 4315 Advanced Wastewater Recycling Systems	
WATR 4191	Water Resources Science and Technology Seminar	1
WATR 4310	Desalination and Emerging Technologies	3
WATR 4330	Water Management and Field Investigations	3
Subtotal:		35

<b>Electives Suggested Courses</b>		
As needed to complete 120 credit total hours. Must include 9 hours of upper division courses.		22
GEOL 1302	Earth Sciences II	
GEOL 1102	Earth Sciences Lab II	
PHYS 1101	General Physics Lab I	
PHYS 1302	General Physics II	
PHYS 1102	General Physics Lab II	
MATH 2313	Calculus I	
BIOL 2421	Introduction to Microbiology	
BIOL 3407	Ecology	
CHEM 3331	Quantitative Analysis	
CHEM 4331	Instrumental Analysis	
WATR 2350	Topics in Water Resources	
WATR 4350	Adv Topics in Water Sciences	
WATR 3317	Water Sust Use & Conserv Polcy	
Subtotal:		22

**Total Credits** **120**

<sup>1</sup> Other courses may satisfy core curriculum requirements. Courses listed under the core curriculum above are also specific degree requirements, and are recommended in the core to expedite degree completion.

<sup>2</sup> 2.0 overall GPA for major

## Plan of Study

This suggested plan of study is intended to be used as a guide in conjunction with official degree requirements outlined in the catalog. While this plan demonstrates a course of study that covers eight semesters, each student's academic path is unique and your timeline may look different. Students should regularly consult with academic advisors as they plan their course schedules as course offerings may vary.

### First Year

First Semester		Credits
WATR 1301	Introduction to Water Treatment	3
CHEM 1311	General Chemistry I	3
CHEM 1111	General Chemistry Lab I	1
MATH 1314	College Algebra	3
or MATH 1316	or Trigonometry	
or MATH 2312	or Pre-Calculus	
or MATH 2313	or Calculus I	
UNIV 1301	First Year Seminar	3
ENGL 1301	Composition I	3
<b>Credits</b>		<b>16</b>

### Second Semester

WATR 1302	Introduction to Wastewater Treatment	3
CHEM 1312	General Chemistry II	3
CHEM 1112	General Chemistry Lab II	1
MATH 1342	Introductory Statistics	3
American History		3
Language/Philosophy/Culture		3
<b>Credits</b>		<b>16</b>

### Second Year

First Semester		Credits
CHEM 2371	Water & Wastewater Chemistry	3
CHEM 2171	Water & Wastewater Lab	1
BIOL 1306	Gen Biology I-Attr Living Sys	3
BIOL 1106	General Biology I Lab	1
PHYS 1301	General Physics I	3
GEOL 1301	Earth Sciences I	3
GEOL 1101	Earth Sciences Lab I	1
<b>Credits</b>		<b>15</b>

### Second Semester

SPCH 1315	Fund of Public Speaking (or equivalent)	3
ECON 2301	Principles of Macroeconomics	3
BIOL 1307	Gen Biology II-Biol Organisms	3
BIOL 1107	General Biology II - Lab	1
BIOL 2421	Introduction to Microbiology	4
ENGL 2311	Technical Writing	3
or ENGL 1302	or Composition II	
<b>Credits</b>		<b>17</b>

### Third Year

First Semester		Credits
GEOL 1302	Earth Sciences II	3
WATR 3325	Aquatic System Science	3
WATR 3331	Hydrology	3
Government/Political Science		3

American History		3
<b>Credits</b>		<b>15</b>
<b>Second Semester</b>		
WATR 3330	Green Systems for Wastewater Management	3
WATR 3312	Water Laws, Rules & Policy	3
CHEM 3331	Quantitative Analysis	3
BIOL 3407	Ecology	4
Government/Political Science		3
<b>Credits</b>		<b>16</b>
<b>Third Semester</b>		
WATR 3340	Water Resources Science and Technology	3
or WATR 4315	Internship	
	or Advanced Wastewater Recycling Systems	
<b>Credits</b>		<b>3</b>
<b>Fourth Year</b>		
<b>First Semester</b>		
WATR 4310	Desalination and Emerging Technologies	3
Elective		3
Elective		3
Creative Arts		3
<b>Credits</b>		<b>12</b>
<b>Second Semester</b>		
WATR 4191	Water Resources Science and Technology Seminar	1
WATR 4330	Water Management and Field Investigations	3
Elective		3
Elective		3
<b>Credits</b>		<b>10</b>
<b>Total Credits</b>		<b>120</b>