

# BACHELOR OF SCIENCE-CHEMISTRY

The A&M-Texarkana chemistry program offers a Bachelor of Science degree (B.S.) in Chemistry. It offers courses for fulfilling undergraduate degree requirements in two concentrations: (a) general chemistry and (b) secondary teacher certification. The B.S. in Chemistry curriculum provides the necessary background and understanding for students to tackle any job related to chemistry. In addition, the program supports other disciplines, such as biology, biotechnology, nursing, kinesiology, and criminal justice, where the subject matter depends, in part, on the knowledge of the principles of chemistry. The courses offered by the chemistry program will serve as preparation for students that are contemplating post-graduate studies in chemistry or in other disciplines such as medicine, pharmacy, or veterinary medicine.

## Careers in Chemistry

Successful completion of the chemistry program enables graduates to pursue careers in industry, government, teaching, or to continue education at the graduate level. Visit the ACS Chemistry for Life (<https://www.acs.org/content/acs/en/careers/college-to-career.html>) website to find additional information regarding careers in chemistry.

## Degree Requirements

Students should refer to their DegreeWorks degree audit in their Web for Students account for more information regarding their degree requirements.

Code	Title	Hours
<b>Major Requirements</b>		
General Education Requirements ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		42
BIOL 1306	Biology for Science Majors I <sup>1</sup>	3
BIOL 1106	Biology for Science Majors I Lab <sup>1</sup>	1
BIOL 1307	Biology for Science Majors II <sup>1</sup>	3
BIOL 1107	Biology for Science Majors II Lab <sup>1</sup>	1
CHEM 1311	General Chemistry I <sup>1</sup>	3
CHEM 1111	General Chemistry I (Lab) <sup>1</sup>	1
CHEM 1312	General Chemistry II <sup>1</sup>	3
CHEM 1112	General Chemistry II (Lab) <sup>1</sup>	1
CHEM 2423	Organic Chemistry I	4
CHEM 2425	Organic Chemistry II	4
CHEM 321	Inorganic Chemistry	4
CHEM 340	Quantitative Chemical and Instrumental Analysis	4
CHEM 351	Physical Chemistry I	4
CHEM 410	Biochemistry I	4
CHEM 497	Special Topics in Chemistry	1-4
MATH 2413	Calculus I <sup>1</sup>	4
PHYS 2125	University Physics I Lab	1
PHYS 2325	University Physics I	3
PHYS 2126	University Physics II Lab	1
PHYS 2326	University Physics II	3
<b>Other Requirements</b>		
CHEM 352	Physical Chemistry II (EL)	4
CHEM 405	Environmental Chemistry	3
CHEM 411	Biochemistry II	3
CHEM 421	Advanced Inorganic Chemistry	3
CHEM 440	Instrumental Analysis	4
CHEM 479	Capstone in Chemistry	3
CHEM 499	Independent Research	1-12
MATH 2414	Calculus II	4
MATH 357 or MATH 2415	Probability and Statistics using R Calculus III	3-4

**Electives (as needed to meet minimum degree requirements including 46 semester credit hours of upper division)****Minimum Hours for Degree** 120<sup>1</sup> Satisfies Core Curriculum requirements

Note: A minimum of 46 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the hours is required for the degree. A minimum GPA of 2.0 is required in three areas for graduation: Overall GPA, Institutional GPA, and Major GPA.

## Bachelor of Science-Chemistry

Students should refer to their DegreeWorks degree audit in their Web for Students account for more information regarding their degree requirements.

### First Year

Code	Title	Hours
<b>Fall</b>		
MATH 1314 or MATH 2412	College Algebra <small>satisfies core curriculum; Only if needed as prereq for MATH 2413</small> Pre-Calculus	3-4
BIOL 1306	Biology for Science Majors I <small>satisfies core curriculum</small>	3
BIOL 1106	Biology for Science Majors I Lab <small>satisfies core curriculum</small>	1
IS 1100	University Foundations <small>satisfies core curriculum</small>	1
ENGL 1301	Composition I <small>satisfies core curriculum</small>	3
SPCH 1315 or COMM 1307 or COMM 1311	Public Speaking <small>satisfies core curriculum</small> Introduction to Mass Communication Introduction to Communication Studies	3
<b>Fall Total Semester Credit Hours</b>		<b>14-15</b>
<b>Spring</b>		
MATH 2413	Calculus I <small>satisfies core curriculum</small>	4
BIOL 1307	Biology for Science Majors II <small>satisfies core curriculum</small>	3
BIOL 1107	Biology for Science Majors II Lab <small>satisfies core curriculum</small>	1
Language, Philosophy and Culture Core Curriculum Requirement ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		3
ENGL 1302 or ENGL 2311	Composition II <small>satisfies core curriculum</small> Technical Writing & Communication	3
Creative Arts Core Curriculum Requirement ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		3
<b>Spring Total Semester Credit Hours</b>		<b>17</b>
<b>Total First Year Semester Credit Hours</b>		<b>31-32</b>

### Second Year

Code	Title	Hours
<b>Fall</b>		
CHEM 1311	General Chemistry I <small>satisfies core curriculum</small>	3
CHEM 1111	General Chemistry I (Lab) <small>satisfies core curriculum</small>	1
PHYS 2325	University Physics I	3
PHYS 2125	University Physics I Lab	1
PSCI 2305	U.S. Government and Politics	3
HIST 1301	United States History I <small>satisfies core curriculum</small>	3
<b>Fall Total Semester Credit Hours</b>		<b>14</b>

Spring		Semester Credit Hours
CHEM 1312	General Chemistry II <small>satisfies core curriculum</small>	3
CHEM 1112	General Chemistry II (Lab) <small>satisfies core curriculum</small>	1
PHYS 2326	University Physics II	3
PHYS 2126	University Physics II Lab	1
PSCI 2306	State and Local Government	3
HIST 1302	United States History II <small>satisfies core curriculum</small>	3
MATH 2414	Calculus II <small>satisfies core curriculum</small>	4
<b>Spring Total Semester Credit Hours</b>		<b>18</b>
<b>Total Second Year Semester Credit Hours</b>		<b>32</b>

## Third Year

Code	Title	Hours
<b>Fall</b>		
		<b>Semester Credit Hours</b>
CHEM 2423	Organic Chemistry I	4
CHEM 340	Quantitative Chemical and Instrumental Analysis	4
CHEM 351	Physical Chemistry I	4
MATH 357	Probability and Statistics using R <sup>1</sup>	3-4
or MATH 2415	Calculus III	
<b>Fall Total Semester Credit Hours</b>		<b>15-16</b>
<b>Spring</b>		
		<b>Semester Credit Hours</b>
CHEM 2425	Organic Chemistry II	4
CHEM 440	Instrumental Analysis	4
CHEM 352	Physical Chemistry II (EL)	4
<b>social and behavioral science core curriculum requirement/ (<a href="http://catalog.tamut.edu/undergraduate-studies/arts-sciences-education/science-mathematics/corecurriculumtext/">http://catalog.tamut.edu/undergraduate-studies/arts-sciences-education/science-mathematics/corecurriculumtext/</a>)</b>		<b>3</b>
<b>Spring Total Semester Credit Hours</b>		<b>15</b>
<b>Total Third Year Semester Credit Hours</b>		<b>30-31</b>

## Fourth Year

Code	Title	Hours
<b>Fall</b>		
		<b>Semester Credit Hours</b>
CHEM 321	Inorganic Chemistry	4
CHEM 410	Biochemistry I	4
CHEM 405	Environmental Chemistry	3
CHEM 499	Independent Research <sup>1</sup>	1-6
<b>Fall Total Semester Credit Hours</b>		<b>12-17</b>
<b>Spring</b>		
		<b>Semester Credit Hours</b>
CHEM 411	Biochemistry II	3
CHEM 421	Advanced Inorganic Chemistry	3
CHEM 497	Special Topics in Chemistry <sup>1</sup>	1-4
CHEM 479	Capstone in Chemistry	3
<b>Spring Total Semester Credit Hours</b>		<b>10-13</b>

<b>Total Fourth Year Semester Credit Hours</b>	<b>22-30</b>
<b>Total Minimum Semester Credit Hours for Degree <sup>2</sup></b>	<b>120</b>

<sup>1</sup> Reminder: 46sch of Upper Division (300 & 400 level) Coursework is required.

<sup>2</sup> Electives may be required to meet the total overall hours and Upper Division requirement depending on the SCH of the variable credit hour courses taken.

NOTE: A minimum of 46 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the total hours is required for the degree. A minimum GPA of 2.0 is required in three areas for graduation: Overall GPA, Institutional GPA, and Major GPA.