

## Minimum required: 120 semester credit hours

### General Requirements

1. The general education core curriculum courses are listed in the degree plan below along with the statewide component code number. See the General Education Core Curriculum (<http://mycatalog.txstate.edu/undergraduate/general-education-core-curriculum/>) section of this catalog for the Texas State requirements and options in the core curriculum, including Honors courses.
2. Students must complete a minimum of 36 advanced hours (3000 or 4000 level courses).
3. Students entering Texas State with fewer than 16 credit hours completed after high school graduation will be required to take US 1100. All others will be exempt from taking this course. Students may be required to earn an additional elective to reach the 120 minimum total credit hour requirement for the awarding of a degree.
4. Students must select a minor from the approved list of Undergraduate Minors (<http://www.mycatalog.txstate.edu/undergraduate/minors/>). The recommended minor is Chemistry or Biochemistry. Minor and electives should be chosen in consultation with the academic advisor.
5. The minimum number of hours required for this degree program is 120. The number of elective hours a student completes depends on the number of hours a student may need to achieve the required 120 total or 36 advanced hours.
6. Nine semester credit hours must be writing intensive (WI).
7. If two years of the same foreign language were taken in high school, then no additional language hours will be required. In the absence of such high school language, two semesters of the same modern language must be taken at the college level.
8. For transfer students, 24 semester credit hours in biology, chemistry and physics (or their equivalents) may be transferred from a Texas public institution of higher education for the Biology Field of Study and be applied to the Bachelor of Science degree with a major in Microbiology and Molecular Genetics at Texas State University. More information about the Field of Study (<http://mycatalog.txstate.edu/undergraduate/general-information/academic-policies/texas-legislative-requirements/>) is available in the Academic Policies section of this catalog. The transferable Texas Common Course Number (TCCN) is listed below the Texas State University course number in the following course list.

Code	Title	Hours
BIO 1330	Functional Biology	3
TCCN: BIOL 1306		
BIO 1130	Functional Biology Laboratory	1
TCCN: BIOL 1106		
BIO 1331	Organismal Biology	3
TCCN: BIOL 1307		
BIO 1131	Organismal Biology Laboratory	1
TCCN: BIOL 1107		
CHEM 1341	General Chemistry I	3
TCCN: CHEM 1311		
CHEM 1141	General Chemistry Laboratory I	1
TCCN: CHEM 1111		

CHEM 1342	General Chemistry II	3
TCCN: CHEM 1312		
CHEM 1142	General Chemistry Laboratory II	1
TCCN: CHEM 1112		
CHEM 2341	Organic Chemistry I	3
TCCN: CHEM 2323		
CHEM 2141	Organic Chemistry Laboratory I	1
TCCN: CHEM 2123		
PHYS 1315	General Physics I	3
TCCN: PHYS 1301		
PHYS 1115	General Physics I Laboratory	1
TCCN: PHYS 1101		
<b>Total Hours</b>		<b>24</b>

### Course Requirements

		Freshman	
		First Semester Hours	Second Semester Hours
BIO 1330 (Life and Physical Sciences Component Code 030 [TCCN BIOL 1306])	3	BIO 1331 (Life and Physical Sciences Component Code 030 [TCCN BIOL 1307])	3
BIO 1130 (TCCN BIOL 1106)	1	BIO 1131 (TCCN BIOL 1107)	1
CHEM 1341 & CHEM 1141 (TCCN 1311 & 1111)	4	CHEM 1342 & CHEM 1142 (TCCN CHEM 1312 & 1112)	4
US 1100	1	Communication Component Code 010	3
ENG 1310 (Communication Component Code 010 [TCCN ENGL 1301])	3	American History Component Code 060	3
POSI 2310 (Government/Political Science Component Code 070 [TCCN GOVT 2306])	3		
		<b>15</b>	<b>14</b>
		Sophomore	
		First Semester Hours	Second Semester Hours
BIO 2450 (TCCN BIOL 2416)	4	BIO 2400 (TCCN BIOL 2421)	4
CHEM 2341 & CHEM 2141 (TCCN CHEM 2323 & 2123)	4	CHEM 2342 & CHEM 2142 (TCCN CHEM 2325 & 2125)	4
American History Component Code 060	3	POSI 2320 (Government/Political Science Component Code 070 [TCCN GOVT 2305])	3
Creative Arts Component Code 050 [HUMA 1315]	3	MATH 2328, 2331, or 2472 (TCCN MATH 1342 or 2414)	3-4
MATH 2321 or 2471 (Mathematics Component Code 020 TCCN MATH 2313 or 2413))	3-4		
		<b>17-18</b>	<b>14-15</b>
		Junior	
		First Semester Hours	Second Semester Hours
BIO Advanced Electives <sup>2,3,4</sup>	8	BIO 4360	3

Choose 4 hours from the following:	4 BIO 3421, 3426, 4441, or 4447 <sup>3,4</sup>	4
PHYS 1315 & PHYS 1115 (TCCN PHYS 1301 & 1101)	Component Area Option Code 090	3
PHYS 1335 & PHYS 1115 (TCCN PHYS 1301 & 1101)	Choose 4 hours from the following:	4
PHYS 2325 & PHYS 2126 (TCCN PHYS 2325 & PHYS 2125)	PHYS 1325 & PHYS 1125 (TCCN PHYS 1302 & 1102)	
PHIL 1305 or 1320 (Language, Philosophy, and Culture Component Code 040 [TCCN PHIL 1301 or PHIL 2306]) <sup>1</sup>	3 PHYS 1345 & PHYS 1125 (TCCN PHYS 1302 & 1102)	
	PHYS 2326 & PHYS 2126 (TCCN PHYS 2326 & PHYS 2126)	
	<b>15</b>	<b>14</b>
		<b>Senior</b>
<b>First Semester Hours</b>	<b>Second Semester Hours</b>	
BIO Advanced Electives <sup>2,3,4</sup>	3-4 BIO 4416	4
Minor/Advanced Electives	9 BIO 4301	3
Social and Behavioral Sciences Component Code 080	3 BIO Advanced Electives <sup>2,3,4</sup>	4
	Component Area Option Code 090	3
	Electives	2
	<b>15-16</b>	<b>16</b>

**Total Hours: 120-123**

<sup>1</sup> While PHIL 1305 or PHIL 1320 are strongly preferred, the department will allow other Language, Philosophy, and Culture Component Code 040 courses to satisfy this requirement.

<sup>2</sup> Fifteen hours of advanced BIO electives are required of which 11-12 hours must be chosen from: BIO 3430, BIO 3442, BIO 4326/BIO 4126, BIO 4366/BIO 4166, BIO 4376, BIO 4413, BIO 4446, BIO 4447, BIO 4448, or BIO 4480.

<sup>3</sup> Students may apply only one course from [BIO 3421 or BIO 3426] towards the biology major requirements.

<sup>4</sup> BIO 4447 can be used to satisfy the physiology requirement or the advanced BIO electives requirement, but not both.

<sup>5</sup> BIO 4299 requires faculty and departmental approval and in order to apply as an advanced biology elective, students must take BIO 4299 two times in succession.