CHEMISTRY - BA, CHEMICAL EDUCATION TRACK

The Chemical Education Track provides the student an opportunity to obtain secondary teacher certification in addition to completion of the requirements for a degree in chemistry. Many students who plan to become high school chemistry teachers or to pursue a master's degree in chemical education will find this track attractive. Students must complete the requirements for secondary teacher certification as defined by the School of Education and Human Development (consultation with the School of Education and Human Development is required).

Program Requirements

First Year

Fall		Semester Credit Hours
CHEM 100	Horizons in Chemistry	1
CHEM 119	Fundamentals of Chemistry I [1]	4
ENGL 104	Composition and Rhetoric	3
MATH 151 or MATH 171	Engineering Mathematics I or Calculus I	4
SCEN 201	Experiences In Secondary Math and Science Classrooms	1
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
	Semester Credit Hours	**16**
Spring		
CHEM 120	Fundamentals of Chemistry II [1]	4
MATH 152 or MATH 172	Engineering Mathematics II or Calculus II	4
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
	Semester Credit Hours	**14**

Second Year

Fall		
CHEM 227	Organic Chemistry I [1]	3
CHEM 231	Techniques of Organic Chemistry	2
PHYS 206	Newtonian Mechanics for Engineering and Science	3
PHYS 226	Physics of Motion Laboratory for the Sciences	1
POLS 207	State and Local Government	3
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
	Semester Credit Hours	**15**
Spring		
CHEM 228	Organic Chemistry II [1]	3
CHEM 234	Organic Synthesis and Analysis [2]	3
INST 222 or TEFB 273	Foundations of Education in a Multicultural Society or Introduction to Culture, Community, Society and Schools	3
PHYS 207	Electricity and Magnetism for Engineering and Science	3
PHYS 227	Electricity and Magnetism Laboratory for the Sciences	1
POLS 206	American National Government	3
	Semester Credit Hours	**16**

Third Year

Fall		
CHEM 315	Fundamentals of Quantitative Analysis	3
CHEM 318	Quantitative Analysis Laboratory	1
CHEM 327	Physical Chemistry I	3
TEFB 322	Teaching and Schooling in Modern Society	3
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)		3
Social and behavioral sciences (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)		3
	Semester Credit Hours	**16**
Spring		
CHEM 325	Physical Chemistry Laboratory I	1
CHEM 328	Physical Chemistry II	3
RDNG 465 or RDNG 372	Reading in the Middle and Secondary Grades or Reading and Writing across the Middle Grades Curriculum	3
TEFB 324	Teaching Skills II	3
Select one of the following:		3
BICH 410	Comprehensive Biochemistry I	
BICH 411	Comprehensive Biochemistry II	
BICH 440	Biochemistry I	
BICH 441	Biochemistry II	
CHEM 362	Descriptive Inorganic Chemistry	
CHEM 415	Analytical Chemistry	
CHEM 446	Organic Chemistry III	
CHEM 456	Chemical Biology	
CHEM 462	Inorganic Chemistry	
CHEM 464	Nuclear Chemistry	
CHEM 466	Polymer Chemistry	
CHEM 468	Materials Chemistry of Inorganic Materials	
CHEM 470	Industrial Chemistry	
CHEM 483	Green Chemistry	
CHEM 489	Special Topics in...	
General elective		3
	Semester Credit Hours	**16**

Fourth Year

Fall		
CHEM 326	Physical Chemistry Laboratory II	1
CHEM 481	Seminar [2]	2

INST 210	Understanding Special Populations	3
TEFB 406	Science in the Middle and Secondary School	3
Select one of the following:		3
BICH 410	Comprehensive Biochemistry I	
BICH 411	Comprehensive Biochemistry II	
BICH 440	Biochemistry I	
BICH 441	Biochemistry II	
CHEM 362	Descriptive Inorganic Chemistry	
CHEM 415	Analytical Chemistry	
CHEM 446	Organic Chemistry III	
CHEM 456	Chemical Biology	
CHEM 462	Inorganic Chemistry	
CHEM 464	Nuclear Chemistry	
CHEM 466	Polymer Chemistry	
CHEM 468	Materials Chemistry of Inorganic Materials	
CHEM 470	Industrial Chemistry	
CHEM 483	Green Chemistry	
CHEM 489	Special Topics in...	
General elective [3]		3
	Semester Credit Hours	**15**
Spring		
General electives [3,4]		12
	Semester Credit Hours	**12**
	Total Semester Credit Hours	**120**

1. Select a section designated for chemistry majors.
2. This is a designated C- or W-course.
3. Select any course 100-499 not used elsewhere except AERS 100-299 (http://catalog.tamu.edu/undergraduate/course-descriptions/aers/); CHEM 222, CHEM 242; MATH 102, MATH 140, MATH 142, MATH 167, MATH 168; MLSC 100-299 (http://catalog.tamu.edu/undergraduate/course-descriptions/mlsc/); NVSC 100-299 (http://catalog.tamu.edu/undergraduate/course-descriptions/nvsc/); PHYS 201, PHYS 202, PHYS 205.
4. Students planning to become certified to teach should reserve this semester for a clinical teaching semester.

Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses and 3 hours of Cultural Discourse (http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/) courses. A course satisfying a Core category, a college/department requirement, or a general elective can be used to satisfy this requirement.

BA chemistry majors may take CHEM 485 or CHEM 491 as elective courses. The total hours of CHEM 485 and CHEM 491 taken on a graded (A-F) basis may not exceed 9. Additional hours of these courses may be taken on an S/U basis. A maximum of 6 hours of these courses may be included on the degree plan.

Electives should be chosen in consultation with the chemistry advisor and should be selected to meet the residency requirement (36 hours at 300-400-level must be taken at Texas A&M).