

FALL 1	CREDITS	AREA	C OR BETTER
CHEM 1211 Principles of Chemistry 1	3	D	Yes
CHEM 1211L Principles of Chemistry 1 Lab	1	D	Yes
MATH 1113 Pre-Calculus	4	A(3), H(1)	Yes
ENGL 1101 English Composition 1	3	A	Yes
POLS 1101 American Government	3	E	
PHED 1205 Concepts of Fitness	2	Wellness	
CHEM 1715 Introductory Chemistry Seminar*	1	H	Yes
*course can be taken Fall 1 or Spring 1, depending on when course is offered			
<b>Total Hours</b>	17		
Notes: The Principles of Chemistry sequence are offered each semester and summer. These must be completed by the summer.			

SPRING 1	CREDITS	AREA	C OR BETTER
CHEM 1212 Principles of Chemistry 2	3	D	Yes
CHEM 1212L Principles of Chemistry 2 Lab	1	D	Yes
MATH 1131 Calculus 1	4	D(3), H(1)	Yes
ENGL 1102 English Composition 2	3	A	Yes
World Culture elective	3	E	
PEDS Physical Education	1	Wellness	
<b>Total Hours</b>	15		
Notes:			

FALL 2	CREDITS	AREA	C OR BETTER
CHEM 3111 Org. Chem. 1	3	G	Yes
CHEM 3311 Org. Chem. 1 Lab	1	G	Yes
PHYS 1111 Physics 1 or PHYS 2211	3	F	Yes
PHYS 1311 Physics 1 Lab or PHYS 2311	1	F	Yes
MATH 1132 Calculus 2	4	F(3), H(1)	Yes
Humanities elective	3	C	
<b>Total Hours</b>	15		
Notes: Organic Chemistry 1 and the co-requisite lab are only offered in the fall semester.			

SPRING 2	CREDITS	AREA	C OR BETTER
CHEM 3112 Org. Chem. 2	3	G	Yes
CHEM 3312 Org. Chem. 2 Lab	1	G	Yes
PHYS 1112 Physics 2 or PHYS 2212	3	F	Yes
PHYS 1312 Physics 2 Lab or PHYS 2312	1	F	Yes
HESC 2125 Applied Nutrition	3	G	
Behavioral Science elective	3	E	
<b>Total Hours</b>	14		
Notes: Organic Chemistry 2 and the co-requisite lab are only offered in the spring semester			

FALL 3	CREDITS	AREA	C OR BETTER
CHEM 2115 Quantitative Chemical Analysis	3	F	Yes
CHEM 2315 Quantitative Chemical Analysis Lab	1	F	Yes
CHEM 3135 Inorganic Chemistry	3	G	Yes
CHEM 3335 Inorganic Chemistry Lab	1	G	Yes
CHEM 3141 Biochemistry 1	3	G	Yes
CHEM 3345 Biochemistry 1 Lab	1	G	Yes
CHEM 3136 Food Safety and Quality	3	G	Yes
<b>Total Hours</b>	15		
Notes: Quantitative Chemical Analysis and the co-requisite lab is only offered in the fall semester.			

SPRING 3	CREDITS	AREA	C OR BETTER
CHEM 4175 Instrumental Analysis	3	G	Yes
CHEM 4375 Instrum. Anal. Lab	2	G	Yes
Program Elective	3	H	
HIST 2111/2112 US History to/since 1865	3	E	
CHEM 3137 Introduction to Food Science	3	G	Yes
STAT 1127 Introductory Statistics	3	F	Yes
<b>Total Hours</b>	17		
Notes: Instrumental Analysis and the co-requisite lab is only offered in the spring semester.			

FALL 4	CREDITS	AREA	C OR BETTER
CHEM 4185 Food Chemistry	3	G	Yes
CHEM 4385 Food Chemistry Lab	1	G	Yes
Program Elective	4	H	
Fine Arts elective	3	C	
BIOL 5265U Food Microbiology	4	G	Yes
<b>Total Hours</b>	15		
Notes: Program electives may include additional 3000 level courses in biology, physics, engineering, ...etc.			

SPRING 4	CREDITS	AREA	C OR BETTER
CHEM 3142 Biochemistry 2	3	G	Yes
CHEM 3346 Biochemistry 2 Lab	1	G	Yes
Area B seminar	1	B	
CHEM 4115 Foundations of Physical Chemistry	3	G	Yes
CHEM 4315 Foundations of Physical Chemistry Lab	1	G	Yes
COMM 1110 Public Speaking	3	B	
CHEM 4165 Flavor Chemistry & Technology	3	H	Yes
<b>Total Hours</b>	15		
Notes:			

### Additional Notes:

- To graduate, a student must have 39 credits of upper-division courses (3000 level or higher). These courses may be in any discipline.
- A grade of "C" or higher is required for all chemistry courses.
- The prerequisite for Principles of Chemistry 1 (CHEM 1211) and its co-requisite lab is College Algebra (MATH 1111) with a grade of "C" or higher or placement in MATH 1113 or higher.
- Introductory Physics 1 and 2 with the co-requisite labs are required for completion of the B.S. in chemistry.
- The prerequisite for Introductory Physics 1 (PHYS 1111) and its lab is pre-calculus (MATH 1113) or higher with a grade of C or higher.
- The prerequisite for Organic Chemistry 2 (CHEM 3112) and its co-requisite lab (CHEM 3312) are Organic Chemistry 1 (CHEM 3111) and its co-requisite lab (CHEM 3311) with a "C" or higher in each.
- The prerequisite for Biochemistry 1 (CHEM 3141) and its co-requisite lab (CHEM 3345) are Organic Chemistry 1 (CHEM 3111) and its co-requisite lab (CHEM 3311) with a "C" or higher in each.
- The prerequisite for Inorganic Chemistry (CHEM 3135) and its co-requisite lab (CHEM 3335) are Organic Chemistry 2 (CHEM 3112) and its co-requisite lab (CHEM 3312) with a "C" or higher.
- The prerequisite for Foundations of Physical Chemistry (CHEM 4115) and its co-requisite lab (CHEM 4315) are Calculus 1 (MATH 1131) and Introductory Physics 2 (PHYS 1112) and its lab with a "C" or higher.
- Foundations of Physical Chemistry lecture and lab may be offered at night, i.e. 4:30 - 5:45 for the lecture and 6:00 - 8:50 for lab.
- The prerequisite for Instrumental Methods of Chemical Analysis (CHEM 4175) and its co-requisite lab (CHEM 4375) are Quantitative Chemical Analysis (CHEM 2115) and its co-requisite lab (CHEM 2315), Organic Chemistry 2 and its co-requisite Lab (CHEM 3312), and Calculus 1 (MATH 1131). A minimum grade of "C" or higher is required to satisfy the prerequisite requirement.
- Inorganic Chemistry and its co-requisite lab (CHEM 3135 and CHEM 3335) may be offered in the fall or spring semester.
- Quantitative Analysis and its co-requisite lab (CHEM 2115 and CHEM 2315) are only offered in the fall semester.
- Instrumental Methods of Chemical Analysis (CHEM 4175) and its co-requisite lab (CHEM 4375) are only offered in the spring semester.
- Inorganic Chemistry and its co-requisite lab (CHEM 3135 and CHEM 3335) may be offered in the fall or spring semester.
- Organic Chemistry 1 and its co-requisite lab (CHEM 3111 and CHEM 3311) are only offered in the fall semester and Organic Chemistry 2 and its co-requisite lab (CHEM 3112 and CHEM 3312) are only offered in the spring semester.
- Biochemistry 1 and its co-requisite lab (CHEM 3141 and CHEM 3345) are only offered in the fall semester and Biochemistry 2 with its co-requisite lab (CHEM 3142 and CHEM 3346) are only offered in the spring semester.
- Supervised Undergraduate Research (CHEM 4899) is offered as a 1, 2, or 3 credit hour course. The course may be repeated with a different topic up to 9 credits.
- Additional courses in astronomy, biology, chemistry, computer science, engineering, geology, or mathematics courses may be selected as program electives as approved by advisor and the department chair.

This program map illustrates appropriate coursework for completing a degree within four years, provided that course grades allow for earned credit. Please consult with your advisor to determine when courses can be switched out with others and taken in a different semester or sequence than illustrated since not all courses are taught every semester. A Freshman Learning Community (FRLC 1116) or a First-Year Seminar (FYRS 1105) is required of all students entering either as new freshmen or with fewer than 30 hours of transferred credit. This map is for illustrative purposes only and does not constitute a legal contract on the part of CSU since degree requirements or course offerings could change.