CHEMISTRY (SECONDARY EDUCATION) - BACHELOR OF SCIENCE

The Bachelor of Science curriculum is designed to provide an in-depth curriculum in chemistry, physics, and mathematics and is certified by the American Chemical Society. The Secondary Education concentration curriculum prepares high-quality teachers for public schools and leads to a Minor in Secondary Education which leads to the New Mexico–Initial Teaching License, Secondary General Science Education (Grades 6-12). All departmental and nondepartmental requirements must earn a C- or better final grade or an S if the course is designated for S/U grading.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		*10*
English Composition - Level 1 [1]		
English Composition - Level 2 [1]		
Oral Communication [1]		
Area II: Mathematics		
MATH 1511G	Calculus and Analytic Geometry I [2]	4
or MATH 1511H	Calculus and Analytic Geometry I Honors	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*11*
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [3]	
or CHEM 1216	General Chemistry I Lecture and Laboratory for CHEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors [3]	
or CHEM 1226	General Chemistry II Lecture and Laboratory for CHEM Majors	
Area IV: Social/Behavioral Sciences Course (3 credits) [1]		
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Viewing A Wider World [4]		**3**
Departmental/College Requirements		
BCHE 395	Biochemistry I	3
CHEM 2111	Explorations in Chemistry and Biochemistry	1
or BCHE 140	Explorations in Chemistry and Biochemistry	
CHEM 313	Organic Chemistry I	3
CHEM 314	Organic Chemistry II	3
CHEM 315	Organic Chemistry Laboratory	2
CHEM 371	Analytical Chemistry	4
CHEM 430	Physical Chemistry: Thermodynamics, Kinetics, Quantum Chemistry, and Spectroscopy	3
CHEM 443	Senior Seminar	1
CHEM 456	Inorganic Structure and Bonding	3
CHEM 471	Advanced Integrated Inorganic and Physical Chemistry Laboratory	3
CHEM 472	Advanced Integrated Instrumental Analysis and Protein Biochemistry Laboratory	3
Upper division Chemistry Elective [5]		3
Non-Departmental Requirements (in addition to Gen.Ed/VWW)		
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics	4
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory	4
Select two from the following:		6
MATH 2530G	Calculus III	
MATH 3160	Introduction to Ordinary Differential Equations	
MATH 2415	Introduction to Linear Algebra	
PHYS 315	Modern Physics	
Secondary Education Requirements		
EDUC 3120	Multicultural Education	3
EDUC 3997	Secondary Field Experience	3
EDUC 4410	Teaching Science at the Middle and High School Level [6]	3
EDUC 4820	Secondary Student Teaching [7]	9
EDUC 4821	Middle and High School Student Teaching Seminar [7]	3
READ 4330	Content Area Literacy [6]	3
SPED 3105	Introduction to Special Education in a Diverse Society	3
Second Language Requirement: (not required)		
Electives, to bring the total credits to 120		
Select sufficient electives to bring total credits to 120, including 48 upper-division. [8]		9
Total Credits		**120**

Note: Students should work closely with their advisors and review carefully the prerequisites for and the sequential nature of courses required for the Bachelor of Science.

1 See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses

2 MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G first.

3 CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors is intended for students that completed high school Chemistry. Students with no prior Chemistry or those desiring a refresher are strongly encouraged to take CHEM 1111 prior to CHEM 1215G enrollment. CHEM 1111 is an acceptable pre-requisite for CHEM 1215G. CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors and CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors is highly recommended for B.S. Chemistry majors and are acceptable General Education substitutions for CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors and CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors but will need a degree audit exception that can be coordinated with your advisor.

4 See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses. VWW 3-credit Upper-division rule can be met with Secondary Education Minor.

[5] The Upper Division Chemistry elective must be a CHEM course and the requirement can be satisfied by one 3-credit course or three 1-credit courses.
[6] Requires Teacher Education Program (TEP) admittance
[7] Requires application for Student Teaching Entrance (STEP)
[8] Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

Second Language Requirement

For the Bachelor of Science with a major in Chemistry there is no second language requirement for the degree.