

CHEMISTRY

General Option

- This worksheet is intended for supplemental use only. The University will use your Academic Requirements Report (ARR) to track your graduation requirements, including those for your major. Please continue to check your ARR for accuracy.
- If your ARR requires a correction, please submit an [ARR Correction Form](#).
- Your [Degree Planner](#) (in [mycsusm.edu](#)) will display the following requirements in the University's recommended sequence.
- All courses used for the major and preparation for the major must be completed with a grade of C (2.0) or higher.
- All non-articulated courses MUST be reviewed and approved by a faculty advisor.
- A minimum of 24 units counted toward the Chemistry major must be completed at CSUSM.
- With suitable elective courses, students will earn a degree that is certified by the American Chemical Society.
- It is recommended you meet with a Chemistry faculty advisor to discuss career path and course suggestions.
- Course offerings are subject to change. Verify course availability with the Chemistry Department.

PREPARATION FOR THE CHEMISTRY OPTION (44 UNITS)

Lower-division Chemistry Courses (23 units):

✓	Course	Units
<input type="checkbox"/>	CHEM 150: General Chemistry (*CPE ^c , CHEM 101 or 105 and MATH 101, 105 or MATH Category 1 or 2)	4
<input type="checkbox"/>	CHEM 150L: General Chemistry Laboratory (*CHEM 150)	1
<input type="checkbox"/>	CHEM 162: Enhanced General Chemistry II (*CHEM 150, 150L and MATH 125, 126 or 160)	4
<input type="checkbox"/>	CHEM 201: Organic Chemistry (*CHEM 160 or 162)	3
<input type="checkbox"/>	CHEM 201L: Organic Chemistry Laboratory (*CHEM 201)	2
<input type="checkbox"/>	CHEM 202: Organic Chemistry (*CHEM 201, 201L)	3
<input type="checkbox"/>	CHEM 202L: Organic Chemistry Laboratory (CHEM 201, 201L, *CHEM 202)	2
<input type="checkbox"/>	CHEM 275: Quantitative Investigations in Chemistry (*MATH 160, CHEM 201L, *CHEM 160 or 162)	4

Non-Chemistry Supporting Courses (21 units):

✓	Course	Units
<input type="checkbox"/>	MATH 160: Calculus with Applications I (*MATH 125, 126 or pass MATH 160 Placement Test)	5
<input type="checkbox"/>	MATH 162: Calculus with Applications II (*MATH 160)	4
<input type="checkbox"/>	MATH 260: Calculus with Applications III (*MATH 162)	4
<input type="checkbox"/>	PHYS 201: Physics of Mechanics & Sound (*MATH 160)	4
<input type="checkbox"/>	PHYS 202: Physics of Electromagnetism & Optics (*PHYS 201, MATH 162)	4

*prerequisite; +pre-/co-requisite; ^c Score above 50% on the Chemistry Placement Exam;[^]course can be taken twice for a total of 4 units

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OPTION REQUIREMENTS (34 UNITS)**Upper-division Chemistry Courses (29 units):**

✓	Course	Units
<input type="checkbox"/>	CHEM 300: Literature of Chemistry (*CHEM 201)	3
<input type="checkbox"/>	CHEM 341: General Biochemistry (*CHEM 201)	3
<input type="checkbox"/>	CHEM 401: Physical Chemistry-Classical (*CHEM 162, MATH 162, PHYS 202)	4
<input type="checkbox"/>	CHEM 402: Physical Chemistry-Quantum (*CHEM 162, MATH 162, PHYS 202; fall only)	3
<input type="checkbox"/>	CHEM 404: Inorganic Chemistry (*CHEM 162, 201, +404L)	4
<input type="checkbox"/>	CHEM 404L: Inorganic Chemistry Laboratory (+CHEM 404)	1
<input type="checkbox"/>	CHEM 405: Physical Chemistry Laboratory (+CHEM 401; spring only)	2
<input type="checkbox"/>	CHEM 416: Instrumental Methods of Analysis (CHEM 202, 202L, 275, 300, MATH 160)	5

Select 2 semesters of one of the following courses:

CHEM 498[^]: Senior Library Thesis and Seminar (*instructor consent)

CHEM 499[^]: Senior Laboratory Thesis and Seminar (*instructor consent)

✓	Course	Units
<input type="checkbox"/>		2
<input type="checkbox"/>		2

Upper-division Science Electives (5 units):

Choose 5 units from the pre-approved list below or you may consult with a Chemistry faculty advisor for additional options:

CHEM 308: Environmental Chemistry (3) (*CHEM 160, 201)

CHEM 450: Protein Structure and Function (3) (*CHEM 341 or 351; spring only)

CHEM 490-494: Selected Topics (1-3) (*prerequisites vary)

MATH 346: Mathematical Methods for Physics (3) (*MATH 162; fall only)

MATH 374: Linear Algebra (3) (*MATH 160)

PHYS 323: Quantum Physics (3) (*PHYS 203, +MATH 346; fall only)

PHYS 324: Statistical Mechanics and Thermodynamics (3) (spring only)

Any 500-level CHEM course (1-3) (*prerequisites vary)

✓	Course	Units
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		