BA IN CHEMISTRY (FORENSIC CHEMISTRY)

Units required for Major: 64-77
Total units required for BA: 120

Program Description

Three BA programs are available: One without a concentration (general) and two with concentrations (Biochemistry or Forensic Chemistry). The common requirements of the three programs are shown below under "Core Requirements."

Safety

Due to the potential hazards some chemicals may present, safety is an essential element of all Chemistry laboratory classes, including independent research. All students must adhere to the Department of Chemistry Laboratory Safety Policies (https://www.csus.edu/college/natural-sciences-mathematics/internal/safety/). Failure to adhere to the Safety Policies may constitute grounds for withdrawal from a course and/or dismissal from the program.

Advising

The Department believes advising of students is an important function. Members of the Chemistry Department who have a strong interest in advising have been selected to serve as advisors for students wishing to major in chemistry. Each represents a particular area of chemistry: analytical, inorganic, biochemistry, organic, and physical. Each Chemistry major will be assigned to one of these advisors when entering the Chemistry Department, coordinated to the area of each student's expressed interest.

Prerequisite Requirements

When enrolling in a course, it is required that the student will have met the specific prerequisites listed. A course listed as a prerequisite may have its own set of prerequisites. All must be met prior to enrolling in a chemistry course. Students not meeting the prerequisite requirements for a course will be administratively removed from the class.

Minimum Grade Requirements

In all courses required for the Chemistry major and minor, a minimum grade of "C-" must be earned with the exception of CHEM 1A which requires a grade of C or better. A minimum grade of "C-" is required in all prerequisite courses with the exception of CHEM 1A which requires a grade of C or better to meet the prerequisite requirement for CHEM 1B if a student has not achieved a "C-" in all prerequisite courses for a particular chemistry course, the instructor of the course will administratively remove the student from class.

Transfer Majors and Minors

Transfer students majoring in Chemistry must complete at least three of the required courses in chemistry while fulfilling the residence requirements of California State University, Sacramento. Transfer students seeking a minor in Chemistry must complete at least one upper division chemistry course at the University.

Program Requirements

Code	Title	Units
Core Requirements (39-43 Units)		
CHEM 1A	General Chemistry I [1,2]	5
CHEM 1B	General Chemistry II	5
CHEM 24	Organic Chemistry Lecture I	3
CHEM 25	Organic Chemistry Laboratory	3
CHEM 31	Quantitative Analysis	4
CHEM 124	Organic Chemistry Lecture II	3
MATH 30	Calculus I [1]	4
MATH 31	Calculus II	4
Select one of the following sequences:		8 - 12
PHYS 5A & PHYS 5B	General Physics: Mechanics, Heat, Sound General Physics: Light, Electricity and Magnetism, Modern Physics	
PHYS 11A & PHYS 11B & PHYS 11C	General Physics: Mechanics General Physics: Heat, Light, Sound, Modern Physics General Physics: Electricity and Magnetism	
Total Units		**39-43**

1. Course also satisfies General Education (GE)/Graduation Requirement.
2. Passing a placement exam or obtaining a passing grade of "C" or better in CHEM 4 is required to enroll in CHEM 1A.

Concentration in Forensic Chemistry (25-28 units)

Code	Title	Units
CHEM 125	Advanced Organic Chemistry Laboratory	3
CHEM 142	Introduction to Physical Chemistry	4
CHEM 161	General Biochemistry	3
CHEM 162	General Biochemistry Laboratory	3
CRJ 1	Introduction to Criminal Justice and Society [1]	3
CRJ 154	Introduction to Physical Evidence	3
Select a minimum of 6 units from the following:		6 - 9
CHEM 110 & 110L	Inorganic Chemistry Lecture Advanced Inorganic Chemistry Laboratory	
CHEM 133	Chemical Instrumentation	
CHEM 141	Physical Chemistry Laboratory	
CHEM 164	Advanced Biochemistry Laboratory	
Total Units		**25-28**

1. Course also satisfies General Education (GE)/Graduation Requirement.

General Education Requirements [1]

Code	Title	Units
Area A: Basic Subjects (9 Units)		
A1 - Oral Communication		3
A2 - Written Communication		3
A3 - Critical Thinking		3
Area B: Physical Universe and Its Life Forms (6 Units)		

B1 - Physical Science [2]	0
B2 - Life Forms	3
B3 - Lab (Note: Lab experience to be taken with one of the following: B1, B2 or B5) [2]	0
B4 - Math Concepts [2]	0
B5 - Additional Course (Any B to reach 12 units) - Take upper-division course to complete Area & upper division requirements.	3
Area C: Arts and Humanities (12 Units)	
C1 - Arts	3
C2 - Humanities	3
C1/C2 - Area C Course	3
C1/C2 - Area C Course - Take upper-division course to complete Area & upper division requirements.	3
Area D: The Individual and Society (6 Units)	
Area D Course	3
Area D Course [2]	0
Area D Course - Take upper-division course to complete Area & upper division requirements.	3
Area E: Understanding Personal Development (3 Units)	
Area E Course	3
Area F: Ethnic Studies (3 Units)	
Area F Course	3
Total Units	**39**

[1] To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (http://catalog.csus.edu/colleges/academic-affairs/general-education/). **Note:** There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (http://www.csus.edu/acad/), by phone (916) 278-1000, or email (advising@csus.edu).

[2] Required in Major; also satisfies GE.

Graduation Requirements [1]

Code	Title	Units
Graduation Requirements (required by CSU) (9 Units)		
American Institutions: U.S. History		3
American Institutions: U.S. Constitution & CA Government		3
Writing Intensive (WI)		3
Graduation Requirements (required by Sacramento State) (12 Units)		
English Composition II		3
Race and Ethnicity in American Society (RE)		3
Foreign Language Proficiency Requirement [2]		6

[1] To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (http://catalog.csus.edu/colleges/academic-affairs/general-education/). **Note:** There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (http://www.csus.edu/acad/), by phone (916) 278-1000, or email (advising@csus.edu).

[2] If not satisfied before entering Sacramento State, it may be satisfied in General Education Area C2 (Humanities). "C- or better required." The alternative methods for satisfying the Foreign Language Proficiency Requirement are described here: https://www.csus.edu/college/arts-letters/world-languages-literatures/foreign-language-requirement.html (https://www.csus.edu/college/arts-letters/world-languages-literatures/foreign-language-requirement.html)