

B.S. in Chemistry

Program Description

The Bachelor of Science in Chemistry is a foundational natural science degree that incorporates knowledge bases in chemistry, physics, mathematics and other related subjects, allowing students to develop the necessary theoretical and practical skills for a successful career in the private or public sectors as well as professional and graduate study. The program creates an educational environment that encourages independent and critical thinking; collegial exchange of ideas; effective reasoning; and communication skills and high ethical standards. The program aims to produce graduates who can:

- Acquire factual and theoretical knowledge of chemistry.
- Develop laboratory knowledge and skills while sustaining a commitment to safety.
- Employ technology to obtain and utilize chemical information.
- Communicate effectively.

Delivery Mode

Traditional (on campus)

Accreditation

The B.S. in Chemistry degree is accredited by the American Chemical Society (ACS).

Curriculum

Course	Credits
General Education Courses	41
<i>Building a Sense of Community</i> UNI 100 First-Year Seminar	1
<i>Composition</i> ENG 101 English Composition I	3
<i>Public Speaking</i> Any Public Speaking Course	3
<i>Mathematics and Quantitative Literacy</i> MAT 281 Calculus I	3
<i>Health and Wellness</i> Any Health and Wellness Course	3
<i>Technological Literacy</i> Any Technological Literacy Course	3
<i>Humanities</i> Any Humanities Course	3
<i>Fine Arts</i> Any Fine Arts Course	3
<i>Natural Sciences</i> PHY 101 College Physics I	4
<i>Social Sciences</i>	3

Department of Mathematics and Physical Sciences

Course	Credits
Any Social Sciences Course	
<i>General Education Options</i> <ul style="list-style-type: none"> • Any Ethics and Multicultural Awareness Emphasis Course • ENG 102 Composition II • Additional General Education Courses (two courses) 	12
Required Major Courses	52
CHE 101 General Chemistry I	4
CHE 102 General Chemistry II	4
CHE104 Intro to Exp Chemistry	3
CHE 306 Inorganic Chemistry	3
CHE 320 Analytical/Instr. Method	3
CHE 331 Organic Chemistry I	4
CHE 341 Organic Chemistry II	3
CHE 415 Biochemistry I	4
CHE 461 Physical Chemistry I	3
CHE 462 Physical Chemistry II	3
CHE 371 Intermediate Lab I	1
CHE 372 Intermediate Lab II	1
CHE 471 Advanced Lab I	1
CHE 472 Advanced Lab II	1
CHE 491 Research I	2
CHE 492 Research II	2
MAT 282 Calculus II	3
MAT 381 Calculus III	3
PHY 202 College Physics II	4
Related Courses	6 or 7
Select two courses from the following: <ul style="list-style-type: none"> • CHE 381 Environ Chemistry (4 credits) • CHE 420 Adv. Analytical Chemistry (3 credits) 	6 or 7

Department of Mathematics and Physical Sciences

Course	Credits
<ul style="list-style-type: none">• CHE 421 Adv. Inorganic Chemistry (3 credits)• CHE 433 Adv. Organic Chemistry (3 credits)• CHE 497 Special Topics (3 credits)	
Free Electives*	20 or 21
Total	120

Additional requirements, not counted toward the General Education requirements, include:

- **Special Experience Course (1 course required):** Any Special Experience Course
- **Writing-Intensive Component Courses (2 courses required):** CHE 472 Advanced Laboratory II AND CHE 492 Research II
- **Laboratory Course (1 course required):** CHE 101 General Chemistry I

* Your chemistry coursework is strengthened by taking additional courses in science and technology. Students are encouraged to enroll in additional courses in biology (BIO), chemistry (CHE), computer science (CSC), earth science (EAS), electrical engineering technology (EET), environmental science (ENS), industrial technology (ITE), mathematics (MAT) or physics (PHY). Students should work with their adviser to explore possible options for a minor.

Program Notes: 42 total credits must be 300 level or above. At least one elective course (3 credits) must be 300 level or above.

Program Webpage

<https://www.calu.edu/academics/undergraduate/bachelors/chemistry/index.aspx>