ary school — an area that will expand greatly in the future. In addition there is a need for technically trained people in nontraditional areas such as marketing and sales, scientific information, patent law, and health and safety. The baccalaureate degree can also provide a strong foundation for studies at medical, dental, veterinary, and pharmacy schools. Students with chemistry degrees have been notably successful in these areas.

Faculty

David L. Frank, *Chair*
Kin C. Ng, *Graduate Coordinator*
Saeed Attar
Jai Pil Choi
Joseph R. Gandler
Melissa L. Golden
Alam S. Hasson
Joy Goto
Viswanathan Krishnan
Santanu Maitra
Ronald L Marhenke
Barbara J. Mayer
Kevin W.P. Miller
Howard K. Ono
Eric C. Person
Stephen A. Rodemeyer
Jose Sy
David L. Zellmer

Undergraduate Programs

Chemistry Majors: The Bachelor of Arts degree with a major in chemistry consists of a total of 120 units including 38-39 units of chemistry. The Bachelor of Science degree with a major in chemistry consists of a total of 120 units including a minimum of 46 units in chemistry.

High School Preparation: The high school preparation for majors in the Department of Chemistry should include: algebra (2 years), plane and solid geometry, trigonometry, chemistry, and physics.

Prospective students may elect to take the general chemistry placement test at college entrance. A satisfactory score in this test will permit the student to start the chemistry course sequence with CHEM 1B.

Bachelor of Arts Degree Requirements

The Bachelor of Arts in Chemistry is intended primarily for those students who plan to take extensive coursework in other areas in addition to chemistry. This degree is suitable for prehealth professional students (premedical, predental, etc.), secondary school teaching credential students, and biochemistry students oriented toward biotechnology, forensic science, and the health professions. This degree is *NOT* intended for students who anticipate a career in chemistry, or who expect to continue their education in pursuit of graduate degrees.

Note: Chemistry majors may not take courses listed in category A or B for *CR/NC* grades.

	Units
A. The B.A. Chemistry Major requirements	**38-39**
Core Program	
CHEM 1A, 1B, 102, 108, 128A, 128B, 129A, 155	(30)
Emphasis	
CHEM 156	(3)
Elect two courses from CHEM 129B, 153, 241A, 241B	(5-6)
B. Additional requirements	**32-39**
BIOL 1A, 1B	(9)
Elect 7 units from BIOL 102, 103, 104, 120 or other approved courses	(7)
MATH 75, 76 (MATH 77 strongly recommended)	(8)
PHYS 2A, 2B (or PHYS 4A, 4AL, 4B, 4BL, 4C strongly recommended)	(8-11)
C. Remaining General Education requirements	**42***
D. Electives and remaining degree requirements	**0-8**
(See *Degree Requirements*); may be used toward a double major or minor.	
Total	**120**

* Of the 51 required General Education units, 9 units will be satisfied by the following courses in the major and additional requirements: 3 units of CHEM 1A or PHYS 2A in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; and 3 units MATH 75 in G.E. Foundation B4. Consult the department chair or faculty adviser for additional details.

The following is an example of a four-year program for the B.A. in Chemistry.

First Semester — Fall	*Units*
CHEM 1A	5
MATH 75	4
ENGL 5B or 10	3
General Education	3
	15

Second Semester — Spring	
CHEM 1B	5
MATH 76	4
PHYS 2A or 4A, 4AL	4
General Education	3
	16

Third Semester — Fall	
CHEM 128A	3
CHEM 129A	2
PHYS 2B or 4B, 4BL	4
BIOL 1A	4
General Education	3
	16

Fourth Semester — Spring	
CHEM 128B	3
CHEM 102	5
BIOL 1B	5
Electives or General Education	3
	16

Fifth Semester — Fall*	
**CHEM 108	4
**CHEM 155	3
BIOL 102	4
Electives or General Education	3
	14

Sixth Semester — Spring	
***CHEM 156	3
BIOL 103 and 104 or BIOL 120	4
Electives or General Education	6
	13

Seventh Semester — Fall	
Electives or General Education	15

Eighth Semester — Spring	
Electives or General Education	15
Total	**120**

* It is important to fulfill the upper-division writing skills requirement by exam or *W* class during the junior year.
**Offered fall semester only.
***Offered spring semester only.

Bachelor of Science Degree Requirements

The Bachelor of Science in Chemistry is intended for students who plan a career in chemistry. The B.S. is accredited by the American Chemical Society. Students who satisfactorily complete this program are recommended by the department for certification as graduate chemists by the American Chemical Society. The B.S. prepares students to enter the job market or for graduate study leading to an advanced degree, such as a Master of Science or Doctor of Philosophy.

Note: Chemistry majors may not take courses listed in category A or B for *CR/NC* grades.

	Units
A. The B.S. Chemistry Major requirements	**46**
CHEM 1A, 1B, 102, 106, 110A, 110B, 111, 123, 124, 128A, 128B, 129A, 129B, 155	
B. Additional requirements	**23**
MATH 75, 76, 77; PHYS 4A, 4AL, 4B, 4BL, 4C	
C. Remaining General Education requirements	**45***
D. Electives and remaining degree requirements	**6**

Science and Mathematics