

DEGREES & CERTIFICATES

CHEMISTRY EDUCATION ASSOCIATE OF SCIENCE (AS)

About the Program

The AS in Chemistry Education degree fulfills the lower-division requirements for four-year BA Chemistry programs designed for future high school and middle school science teachers. The AS Degree is designed to articulate directly with four-year-institution teacher preparation programs with a focus on chemistry education, including single subject teacher preparation in science with a concentration in chemistry. An AS in Chemistry Education would also be an appropriate transfer preparation for students considering chemistry-related interdisciplinary fields.

Program Goals and Objectives

The Chemistry Program offers a comprehensive curriculum to prepare students for transfer and completion of an Associate's degree with a strong emphasis on the hands-on use of research-grade instrumentation, chemical safety, and sustainable practices. The Program encourages and supports student participation in independent study projects and lab internships. Courses offered by the program fulfill many academic requirements including general education requirements in the Natural Sciences.

Career Opportunities

An AS in Chemistry Education may lead to careers in middle and high school science teaching. Chemistry majors interested in teaching at the college level and/or pursuing research careers will continue on to pursue post-graduate degrees.

Program Outcomes

- Upon completion of the AA in Chemistry Education, students are able to demonstrate proficiency in solving complex problems in and conceptual understanding of General Chemistry as measured by the ACS Full-Year General Chemistry Exam.
- Upon completion of the AA in Chemistry Education, students are able to demonstrate proficiency in solving complex problems in and conceptual understanding of Organic Chemistry as measured by the ACS Full-Year Organic Chemistry Exam.
- Upon successful completion of an AS in Chemistry Education, students are able to design and conduct laboratory experiments, and analyze and interpret their data.
- Upon successful completion of an AS in Chemistry Education, students are able to effectively communicate the methods, analysis, results, and conclusions of their experiments.
- Upon successful completion of an AS in Chemistry Education, students are able to quantitatively analyze nature at the atomic scale by applying fundamental chemical concepts, ranging from atomic theory to organic synthesis.
- Upon successful completion of an AS in Chemistry Education, students are able to skillfully perform experimental measurements, techniques, and protocols, properly use standard laboratory instruments, and adhere to safe laboratory practices.

Learning and Career Pathway Maps

[View LPC Program Map](#)

Required Core: (42-43 Units)

BIO 1A General Botany or	5
BIO 1B General Zoology or	5
BIO 30 Introduction to College Biology.....	4
CHEM 1A General College Chemistry I.....	5
CHEM 1B General College Chemistry II.....	5
CHEM 12A Organic Chemistry I.....	5
CHEM 12B Organic Chemistry II.....	5
MATH 1 Calculus I.....	5
MATH 2 Calculus II.....	5
PHYS 2A Introduction to Physics I.....	4
PHYS 2B Introduction to Physics II.....	4

Total Units for the Major..... 42-43

Program-Based GE: Select One (3 Units)

CMST 1 Fundamentals of Public Speaking.....	3
CMST 10 Interpersonal Communication.....	3

Additional General Education and Elective Units..... 14-15