

# CHEMISTRY ASSOCIATE IN SCIENCE



The chemistry curriculum is designed to provide students who choose to work toward a bachelor's degree a well-balanced, lower division program with a strong emphasis on fundamentals and problem solving. This major fulfills the lower division requirements (except for analytical chemistry) for chemistry majors and is typical of the requirements at four-year colleges and universities.

## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Comprehend and describe the nature of matter, including its classification, composition and structure.
- Demonstrate an understanding of the transformations of matter, both physical and chemical.
- Develop critical thinking skills by predicting interactions between different types of matter, both physical and chemical; analyzing matter in the laboratory both qualitatively and quantitatively and effectively communicating experimental results and conclusions; performing mathematical calculations related to the transformation and analysis of matter; and solving qualitative and quantitative problems in connection with the transformation and analysis of matter.

## Career Opportunities

Chemists work in a variety of fields, primarily those of the chemical, biotechnological, environmental, biomedical, pharmaceutical, electronics, forensic, agricultural and food industries. They usually work in analysis, research, development or production of materials. Management, marketing and teaching opportunities are also available.

Agricultural Chemist<sup>1</sup>  
 Air Quality Control<sup>1</sup>  
 Analytical Chemist<sup>1</sup>  
 Biochemist<sup>1</sup>  
 Chemistry Teacher<sup>1</sup>  
 Dietician<sup>1</sup>  
 Environmental Technologist<sup>1</sup>  
 Fishery Specialist  
 Food And Drug Inspector<sup>1</sup>  
 Forensic Specialist<sup>1</sup>  
 Laboratory Technician  
 Materials Scientist<sup>1</sup>  
 Medical Technologist  
 Microbiologist<sup>1</sup>  
 Organic Chemist<sup>1</sup>  
 Physician<sup>1</sup>  
 Polymer Chemist<sup>1</sup>  
 Sales Representative  
 Sanitarian Technician

<sup>1</sup> Bachelor Degree or higher required.

## Associate in Science Degree Requirements

| Code               | Title                             | Units     |
|--------------------|-----------------------------------|-----------|
| CHEM-141           | General Chemistry I               | 5         |
| CHEM-142           | General Chemistry II              | 5         |
| CHEM-231           | Organic Chemistry I               | 5         |
| MATH-180           | Analytic Geometry and Calculus I  | 5         |
| MATH-280           | Analytic Geometry and Calculus II | 4         |
| MATH-281           | Multivariable Calculus            | 4         |
| PHYC-201           | Mechanics and Waves               | 5         |
| PHYC-202           | Electricity, Magnetism, and Heat  | 5         |
| PHYC-203           | Light, Optics, and Modern Physics | 5         |
| <b>Total Units</b> |                                   | <b>43</b> |

Plus General Education Requirements (<https://catalog.gcccd.edu/cuyamaca/degree-requirements-transfer-information/>)

Note:

1. Students pursuing an emphasis in biochemistry should also take the following courses: BIO-230 Principles of Cellular, Molecular and Evolutionary Biology, BIO-240 Principles of Ecology, Evolution and Organismal Biology.
2. Students who intend to enroll at UCSD should take MATH-285 Differential Equations and check with the Counseling Center regarding program options.