



## CURRICULUM GUIDE 2017-2018

### CHEMISTRY

#### Associate in Science in Chemistry

The Associate in Science in Chemistry offered by Ohlone College is designed to prepare students for studying Chemistry at most universities. The core courses required in the Associate in Science in Chemistry will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in chemistry, physics, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science degree program in Chemistry meet with a counselor at the start of their academic work. Counselors will assist students in preparing a comprehensive Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

#### Requirements for Associate in Science Degree:

- Complete Major Field courses with a grade of C or better.
- Complete Ohlone College General Education (Plan A), CSU GE (Plan B), or IGETC (Plan C) requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete CHEM-101B, CHEM-112A, and CHEM-112B at Ohlone College.

#### Student Learning Outcomes

- Apply the major chemical concepts including atomic theory, conservation of mass, reactions, stoichiometry, energy, solutions, materials, acids and bases, electrochemistry and catalysts, including mathematical treatment, in the context of the scientific method.
- Demonstrate proper safety practices and protocols in the laboratory.

#### MAJOR FIELD

|           |                                  |   |
|-----------|----------------------------------|---|
| CHEM-101A | General Chemistry                | 5 |
| CHEM-101B | General Chemistry                | 5 |
| CHEM-112A | Organic Chemistry                | 5 |
| CHEM-112B | Organic Chemistry                | 5 |
| MATH-101A | Calculus with Analytic Geometry  | 5 |
| MATH-101B | Calculus with Analytic Geometry  | 5 |
| MATH-101C | Calculus with Analytic Geometry  | 5 |
| PHYS-140  | Mechanics                        | 4 |
| PHYS-141  | Electricity and Magnetism        | 4 |
| PHYS-142  | Optics, Heat, and Modern Physics | 4 |

Total Required Units: 47

**RECOMMENDED COURSES**

|          |                                |     |
|----------|--------------------------------|-----|
| MATH-103 | Introduction to Linear Algebra | (3) |
| MATH-104 | Differential Equations         | (5) |