

## Chemistry (Teacher Certification), B.S.

43 courses of three or more credits, 3 one-credit Field Experiences, 3 one-credit PE courses

### GENERAL EDUCATION CORE

**BASIC REQUIREMENTS** (2 courses and 3 one-credit PE courses)

Composition and Rhetoric

- EN 103 Composition and Rhetoric I
- EN 104 Composition and Rhetoric II

Physical Education Courses

- PE 100
- PE \_\_\_\_
- PE \_\_\_\_

**MODES OF THINKING** (5 courses)

Literature (Select one)

(*Must be Brit or Am Lit for STEP*)

- EN 110, EN 112, EN 115

Mathematics (*Satisfied by major*)

Natural Science (*Satisfied by major*)

Philosophy

- PL 109

Social Sciences

- ED 209
- (*Required by STEP*)

**CULTURAL LITERACY** (4 courses)

Humanities I and II. Preferably select a set (e.g., HI201/202).

- Hum. I: HI201, PO201, HI213
- Hum. II: HI 202, PO202, HI214

Humanities III: Great Works of Art & Music  
(See Master Schedule of Day Classes)

- \_\_\_\_

Humanities IV: Great Works of Literature  
(See Master Schedule of Day Classes)

- \_\_\_\_

Foreign Language/World Cultures

(Select either two of the same language, any two WC, or one WC and one approved course with international study)

- \_\_\_\_
- \_\_\_\_

### **CHRISTIAN VALUES AND THEOLOGY**

(3 courses)

Catholic Theology

- TH 109

Intermediate Theology (200/300 Level)

- TH \_\_\_\_

Values Seminar

- CH 475 Values Seminar (*Required by STEP*)

### MAJOR

- CH 101: Chemical Principles
- CH 102: General Chemistry
- CH 231: Organic Chemistry I
- CH 232: Organic Chemistry II
- CH 304: Inorganic Chemistry
- CH 351: Physical Chemistry I
- CH 352: Physical Chemistry II
- CH 361: Analytical Chemistry
- CH 362: Instrumental Anal. Chemistry
- CH 435: Biochemistry I
- CH 455: Research Seminar
- CH 461: Research or CH 396-399: Internship
- MA 121: Calculus
- MA 122: Calculus II
- PH 201: Gen Phys. I: Mechanics and Heat
- PH 202: Gen. Phys. II: Wave Phenomena and Electromagnetism

### **STEP Controlled Requirements**

- CH 1053 (1 credit)

**STEP students must take two math courses. MA 107 and MA 108 are recommended.**

### **EDUCATION**

(13 courses & three 1-credit field courses)

- |               |               |
|---------------|---------------|
| ED 109 ____   | ED 3801* ____ |
| ED 205 ____   | ED 3802* ____ |
| ED 218 ____   | ED 413 ____   |
| ED 2801* ____ | ED 405 ____   |
| ED 330 ____   | ED 450 ____   |
| ED 364 ____   | ED 452 ____   |
| ED 366 ____   | ED 454 ____   |
| ED 373 ____   | ED 456 ____   |

(\*One-credit Field Course)

### OTHER REQUIREMENTS

- |                                      |       |
|--------------------------------------|-------|
| PPST: Reading (0710)                 | _____ |
| Mathematics (0730)                   | _____ |
| Writing (0720)                       | _____ |
| Chemistry: Content Knowledge (0245)  | _____ |
| SP-164 Criminal Record Check         | _____ |
| CY-113 Child Abuse History Clearance | _____ |
| FBI Federal Criminal History Check   | _____ |
| Tuberculin (TB) Test                 | _____ |

**DE SALES UNIVERSITY**  
**Typical Program: CHEMISTRY MAJOR (B. S.)**  
**Certification: Chemistry**

**FALL SEMESTER**

Chemical Principles (CH 101)  
Calculus I (MA 121)  
Composition & Rhetoric I (EN 103)  
Foreign Language/World Cultures  
The Educative Process (ED 109)  
Lifetime Fitness and Wellness (PE 100)  
Laboratory Safety (CH 105) \*\* one-credit, offered every other fall

**SPRING SEMESTER**

General Chemistry (CH 102)  
Calculus II (MA 122)  
Composition & Rhetoric II (EN 104)  
Foreign Language/World Cultures  
Technology for Educators (ED 205)  
Physical Education Activity

**FIRST YEAR**

**SECOND YEAR**

Organic Chemistry I (CH 231)  
Humanities I (HI 201 recommended)  
General Physics I (PH 201)  
Philosophical Thinking (PL 109)  
Cognition and Learning (ED 209)  
Literature MOT  
STEP Clinical Field Experiences 1 (ED 2801) *1 credit*  
Physical Education Activity

Organic Chemistry II (CH 232)  
Humanities II (HI 202 recommended)  
General Physics II (PH 202)  
Catholic Theology (TH 109)  
Introduction to Exceptionality (ED 218)  
Instrumental Analytic Chemistry (CH 362) **or**  
Physical Chemistry (CH 352)

**THIRD YEAR**

Analytical Chemistry (CH 361) **or**  
Physical Chemistry (CH 351)  
Humanities III  
Research (CH 461)  
Humanities IV  
Literacy Interventions: 4-12 (ED 366)  
The Inclusive Classroom (ED 364)  
STEP Clinical Field Experiences 2 (ED 3801) *1 credit*

Instrumental Analytic Chemistry (CH 362) **or**  
Physical Chemistry (CH 352)  
Inorganic Chemistry (CH 304)  
Research Seminar (CH 455)  
Intermediate Theology (TH 200 or 300 level)  
Curriculum and Instruction I (ED 330)  
STEP Clin. Field Experience 3 (ED 3802) *1 credit*

**FOURTH YEAR**

Analytical Chemistry (CH 361) **or**  
Physical Chemistry (CH 351)  
Values Seminar  
Biochemistry I (CH 435)  
Teaching English Learners (ED 373)  
Teaching Science in the Secondary Schools (ED 413)  
Advanced Teaching and Assessment (ED 405)

**Student Teaching**  
ED 450 Planning of Instruction  
ED 452 Classroom Management  
ED 454 Instructional Delivery  
ED 456 Professionalism

**No other courses may be taken during student teaching.**

Physical Chemistry I and II are offered on alternate years with Analytical Chemistry, Instrumental Chemistry, and Inorganic Chemistry.

\*\*STEP Required Courses

+*Due to student teaching and certification requirements, students will need to either overload four semesters, or take four summer school classes. No other courses may be taken during student teaching.*

Dr. Katrin Blamey, Chair Education  
A. Koefer, Director of the Academic Resource Center

Effective spring, 2020