

**CHEMISTRY**  
**Bachelor of Arts (B.A.) Secondary Education**  
**2016-2017**

**Requirements for Major:** At least 32 credit hours in the department, including:

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| CH 151 Fundamentals of Chemistry I     |
| CH 152 Fundamentals of Chemistry II    |
| CH 340 Organic Chemistry I             |
| CH 341 Organic Chemistry II            |
| CH 342 Organic Chemistry Laboratory I  |
| CH 343 Organic Chemistry Laboratory II |
| CH 390 Undergraduate Chemical Research |
| CH 391 Chemistry Seminar               |

*Two courses selected from:*

|   |
|---|
| CH 320 Analytical Chemistry   |
| CH 350 Biochemistry I   |
| CH 352 Biochemistry II  |
| CH 360 Descriptive Inorganic Chemistry  |
| CH 380 Fundamentals of Physical Chemistry <u>or</u> CH 381 Physical Chemistry I |

*Two courses selected from:*

|  |
|--|
| CH 321 Analytical Chemistry Laboratory (1) |
| CH 345 Inorganic Chemistry Laboratory (2)  |
| CH 346 Instrumental Analysis (2)           |
| CH 347 Physical Chemistry Concepts Lab (1) |
| CH 351 Biochemistry Laboratory I (2)       |
| CH 353 Biochemistry Laboratory II (2)      |

*Required correlated courses:*

|  |
|--|
| PS 261 College Physics I (General Education course) & PS 262 College Physics II <u>or</u><br>PS 281 General Physics I (General Education course) & PS 282 General Physics II |
| ED 150 Educational Participation in the Community  |
| ED 200 Educational Psychology  |
| ED 225 Becoming an Educational Professional  |
| ED 300 Integrating Technology in the Curriculum  |
| ED 302 Teaching Exceptional Learners   |
| ED 352 Methods of Teaching Science in Sec. School or ED 350 General Secondary Methods  |
| ED 385 Foundation of Education   |
| ED 400 Understanding the School  |
| ED 402 Teaching Struggling Learners  |
| ED 405 Classroom Management  |
| ED 410 Secondary Student Teaching  |
| RD 484 Teaching Reading in Content Areas   |

*Notes*

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|  | Research (CH 390) must be initiated at least one semester prior to the semester of graduation  |
|  |  |
|  | A written report of research or internship is required of all majors   |
|  |  |
|  | All majors shall present a portfolio of results obtained with departmental instrumentation prior to the semester of graduation   |
|  |  |
|  | Courses that must be taken to meet the standards for licensure in Kansas are CH 151, 152, 320, 321, 340, 342, 343, 350, 351, 390, and 391. In addition, students must fulfill the professional education course requirements of the Education Department |

**General Education Distribution Requirements (BA):**

| Humanities (15)<br>(GEHU/GECPA)<br>(Max 6 hours/<br>discipline) | Course<br>Number | Social Sciences (15)<br>(GESS)<br>(Max 6 hours/<br>discipline) | Course<br>Number | Natural Sciences/<br>Mathematics (12)<br>(GENS)<br>(Max 8 Hours or 2<br>Courses/Discipline) | Course<br>Number |
|---|------------------|--|------------------|---|------------------|
| Fine Arts (3)   |                  | Soc. Science 1 (3)   |                  | PS 261 or 281 (3 or 5)  |                  |
| Humanities 2 (3)  |                  | Soc. Science 2 (3)   |                  | Nat. Science 2 (3-5)  |                  |
| Humanities 3 (3)  |                  | Soc. Science 3 (3)   |                  | Nat. Science 3 (3-5)  |                  |
| Humanities 4 (3)  |                  | Soc. Science 4 (3)   |                  | Nat. Science 4 (3-5)  |                  |
| Humanities 5 (3)  |                  | Soc. Science 5 (3)   |                  |   |                  |

**Core University/BA-Specific Requirements:**

|                                    |  |   |  |
|------------------------------------|--|---|--|
| WU 101 (3)* C or Better            |  | Total Hours (124)                           |  |
| EN 101 (3) C or Better             |  | Hours Outside Major (84)                    |  |
| EN 300 (3) C or Better             |  | Upper Division (300 and above) (45)         |  |
| MA 112 or MA 116 (3)** C or Better |  | Hours Within Arts and Sciences (99)         |  |
| >= 2.0 Overall Cumulative GPA      |  | >= C Grade All Major and Correlated Courses |  |
| FL 102 (4)                         |  |   |  |

*\*Students transferring with 24 or more credit hours completed at an accredited post-secondary institution (after graduating from High School) with a GPA of 2.0 or higher are exempt from this requirement*

*\*\*May be waived if the student successfully places into a higher-level mathematics course with an ACT score of 25 or higher and then successfully completes that course with a grade of C or higher or if a student presents an ACT score in mathematics of at least 28 (SAT of at least 640).*

# Sample 4-Year Schedule for Chemistry Secondary Ed Specialization Major Bachelor of Arts 140 Hours

Curriculum for students starting 2016-2017 Academic Year  
Students starting in different academic years should contact their advisor.

|   |           |  |           |
|---|-----------|--|-----------|
| <b>Freshman</b>                             |           |  |           |
| <b>Fall Semester</b>                        |           | <b>Spring Semester</b>                             |           |
| CH 151 – Fundamentals of Chemistry I        | 5         | CH 152 – Fundamentals of Chemistry II              | 5         |
| MA 116 – College Algebra                    | 3         | Soc. Sci. General Education                        | 3         |
| EN 101 – English Composition                | 3         | CM 101 – Computer Competency and Internet          | 3         |
| WU 101 – Washburn Experience                | 3         | CN 150 – Public Speaking                           | 3         |
| Soc. Sci. General Education                 | 3         | Natural Science General Education                  | 3         |
| <b>TOTAL</b>                                | <b>17</b> | <b>TOTAL</b>                                       | <b>17</b> |
| <b>Summer Session</b>                       |           |  |           |
| Humanities General Education                | 3         |  |           |
| <b>TOTAL</b>                                | <b>3</b>  |  |           |
| <b>Sophomore</b>                            |           |  |           |
| <b>Fall Semester</b>                        |           | <b>Spring Semester</b>                             |           |
| CH 340 – Organic Chemistry I                | 3         | CH 341 – Organic Chemistry II                      | 3         |
| CH 342 – Organic Chemistry I Lab            | 2         | CH 343 – Organic Chemistry II Lab                  | 2         |
| AR/MU/TH General Education                  | 3         | Humanities General Education                       | 3         |
| Natural Science General Education           | 4         | FL 102 – Foreign Language II                       | 4         |
| FL 101 – Foreign Language I                 | 4         | ED 150 – EPIC                                      | 1         |
|   |           | ED 200 – Educational Psychology                    | 3         |
| <b>TOTAL</b>                                | <b>16</b> |  | <b>16</b> |
| <b>Summer Session</b>                       |           |  |           |
| Soc Sci General Education                   | 3         |  |           |
| ED 225 – Becoming an Education Professional | 3         |  |           |
| <b>TOTAL</b>                                | <b>6</b>  |  |           |
| <b>Junior</b>                               |           |  |           |
| <b>Fall Semester</b>                        |           | <b>Spring Semester</b>                             |           |
| EN 300 – Advanced Composition               | 3         | CH 390 – Chemistry Research                        | 1         |
| CH 320 – Analytical Chemistry               | 3         | CH 391 – Chemistry Seminar                         | 1         |
| CH 321 – Analytical Chemistry Lab           | 1         | PS 261 – College Physics II                        | 5         |
| ED 302 – Teaching Exceptional Learner       | 3         | ED 300 – Integrating Technology into the Classroom | 3         |
| PS 261 – College Physics I                  | 5         | ED 352 – Methods of Teaching Science               | 3         |
|   |           | Soc Sci General Education                          | 3         |
| <b>TOTAL</b>                                | <b>15</b> | <b>TOTAL</b>                                       | <b>16</b> |
| <b>Summer Session</b>                       |           |  |           |

|                                       |           |                                     |           |
|---------------------------------------|-----------|-------------------------------------|-----------|
| RD 484 – Teaching Reading Content     | 3         |                                     |           |
| <b>TOTAL</b>                          | <b>3</b>  |                                     |           |
| <b>Senior</b>                         |           |                                     |           |
| <b>Fall Semester</b>                  |           | <b>Spring Semester</b>              |           |
| CH 350 – Biochemistry I               | 3         | ED 400 – Understanding Schools      | 2         |
| CH 351 – Biochemistry I Lab           | 2         | ED 405 – Classroom Management       | 1         |
| ED 385 – Foundations of Education     | 3         | ED 410 – Secondary Student Teaching | 12        |
| ED 402 – Teaching Struggling Learners | 2         |                                     |           |
| Soc Sci General Education             | 3         |                                     |           |
| Humanities General Education          | 3         |                                     |           |
| <b>TOTAL</b>                          | <b>16</b> |                                     | <b>15</b> |

Required research completed prior to the semester of graduation

Presentation of portfolio of instrumentation results prior to the semester of graduation