



**Bachelor of Science
Major: Chemistry Education
2021-2022 Sample 4-Year Plan**

Total Degree Requirements: 120 credits

Student _____ Student ID# _____ Student Phone # _____
 Advisor _____ Minimum GPA 2.0 Minor/Career Interest(s) _____

Students are not limited to this plan; it is meant to be used as a guide for planning purposes in consultation with your advisor. The sample schedule is one possible path to completing your degree within four years. For official program requirements, please refer to the [Undergraduate Catalog](#).

First Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--|------------------------|---------|----------|-------|
| CHEM 119 | First Year Seminar | | 1 | F | |
| CHEM 112/112L | General Chemistry I and Lab | p. MATH 114/114L | 4 | F | |
| ENGL 101 | Composition I | | 3 | F, S, SU | |
| MATH 123 | Calculus I | Based on placement | 4 | F, S, SU | |
| SGR #3 | Social Science Elective (from two different disciplines) | | 3 | | |
| Total Credit Hours | | | 15 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--|-------------------------------|---------|----------|-------|
| CHEM 114/114L | General Chemistry II and Lab | p. CHEM 112/112L and MATH 114 | 4 | S | |
| EDFN 101 | Explore Teaching/Learning | | 1 | | |
| ENGL 201 | Composition II | p. ENGL 101 | 3 | F, S, SU | |
| MATH 125 | Calculus II | p. MATH 123 | 4 | F, S, SU | |
| SGR #4 | Humanities Elective (from two different disciplines) | | 3 | | |
| Total Credit Hours | | | 15 | | |

Second Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|-----------------------------------|------------------------|---------|----------|-------|
| CHEM 237 | Intermediate Lab Investigations | p. CHEM 114/114L | 1 | F | |
| CHEM 326/326L | Organic Chemistry I and Lab | p. CHEM 114/114L | 4 | F | |
| CHEM 332/332L | Analytical Chemistry I and Lab | p. CHEM 114/114L | 4 | F | |
| CMST 101 | Fundamentals of Speech | | 3 | F, S, SU | |
| PHYS 111/111L | Introduction to Physics I and Lab | p. MATH 114 or higher | 4 | F, S | |
| Total Credit Hours | | | 16 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--|------------------------|---------|----------|-------|
| CHEM 328/328L | Organic Chemistry II and Lab | p. CHEM 326/326L | 4 | S | |
| CHEM 498 | Undergraduate Research/Scholarship | p. CHEM 237 | 2 | F, S, SU | |
| AIS 211 | SD American Indian Culture and Education | | 3 | F, S, SU | |
| PHYS 113/113L | Introduction to Physics II and Lab | p. PHYS 111/111L | 4 | S | |
| SGR #3 | Social Science Elective (from two different disciplines) | | 3 | | |
| Total Credit Hours | | | 16 | | |



Third Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--|--|---------|-------------|-------|
| CHEM 452/452L | Inorganic Chemistry and Lab | p. CHEM 326/326L | 4 | F (even) | |
| CHEM 464 | Biochemistry I | p.. CHEM 328/328 | 3 | F | |
| CHEM 482 or CHEM 484 | Environmental Chemistry (Fall odd years) or Chemical Toxicology (Fall even years) | p. CHEM 114/114L or p. CHEM 464 | 3 | F | |
| BIOL 151/151L | General Biology I and Lab | | 4 | F | |
| EDFN 340 | Adolescent Development in Educational Contexts | c. EDFN 351; Teaching, Learning and Leadership department consent required | 3 | | |
| EDFN 351 | Teaching and Learning I | c. EDFN 340: Teaching, Learning and Leadership department consent required | 1 | | |
| Total Credit Hours | | | 18 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--|---|---------|----------|-------|
| CHEM 343 | Fundamentals of Thermodynamics | p. MATH 123 and CHEM 114/114L | 2 | S | |
| CHEM 466 | Laboratory Methods in Biochemistry | p. CHEM 464 | 1 | F, S | |
| BIOL 153/153L | General Biology II and Lab | p. BIOL 151/151L | 4 | | |
| EDFN 352/352L | Teaching and Learning II and Lab | p. EDFN 351; Teaching, Learning and Leadership department consent required. | 5 | | |
| SGR #4 | Humanities Elective (from two different disciplines) | | 3 | | |
| General Elective | | Taken as needed to reach 120 credits and 33 upper division credits | 1 | | |
| Total Credit Hours | | | 16 | | |

Fourth Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|-------------------------------|--|---------|----------|-------|
| EDFN 453 | Teaching and Learning III | p. EDFN 352; Teaching, Learning and Leadership department consent required | 3 | | |
| EDFN 453L | Teaching and Learning III Lab | p. EDFN 352; Teaching, Learning and Leadership department consent required | 4 | | |
| SEED 413 | 7-12 Science Methods | | 3 | | |
| SEED 450 | Reading and Context Literacy | p. Teaching, Learning and Leadership department consent required. | 2 | | |
| Total Credit Hours | | | 12 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--------------------------|---|---------|----------|-------|
| EDFN 454 | Teaching and Learning IV | p. EDFN 453; Teaching, Learning and Leadership department consent required. | 11 | | |
| SEED 456 | Capstone/Action Research | c. EDFN 454; Teaching, Learning and Leadership department consent required. | 1 | | |
| Total Credit Hours | | | 12 | | |

Comments/Notes

Students from all academic majors can pursue graduation with Fishback Honors College distinction. View the [Honors program requirements](#).

As part of the Department of Chemistry and Biochemistry, students in this program must complete:

- a minimum of 33 upper division credits (300-400 level courses)
- a capstone course in the major (SEED 456)
- a designated diversity, equity, and inclusion course – or AIS 211 for teaching specialization students only
- minor, second major, or teaching specialization

A grade of “C” or better is required in all courses required for the major.