

| Bachelor of Science in Biology and Education with Endorsement in Elementary Education | | | |
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| MAJOR REQUIREMENTS/BIOLOGY: 45 Credits (a) | | MAJOR REQUIREMENTS/EDUCATION: 36 Credits (c) | |
| BY-109: Intro to Biodiversity & Evolution | 4.0 | EDL-201: Educational Psychology | 3.0 |
| BY-110: Intro to Cell & Molecular Biology | 4.0 | | |
| BY-205: Zoology | 3.0 | | |
| BY-214: Botany | 3.0 | | |
| BY-223: General Microbiology | 4.0 | EDL-206: Child and Adolescent Development | 3.0 |
| BY-310: Biochemistry and Laboratory | 4.0 | | |
| BY-370: Cell Biology | 3.0 | | |
| BY-375L: Lab in Molecular & Cellular Biology | 3.0 | | |
| BY-423: Genetics | 4.0 | ED-250: Foundations of Teaching and Learning | 3.0 |
| BY-425: Principles of Developmental Biology | 4.0 | | |
| Take 8 Credits of Biology from the Following Courses: | 8.0 | EDL-326: Literacy Instruction in K-6 Educational Settings I | 3.0 |
| BY-211: Physiology with Anatomy I | | | |
| BY-212: Physiology with Anatomy II | | | |
| BY-324: Applied Microbiology | | ED-320: Teaching Students with Diverse Needs | 3.0 |
| BY-340: Ecology | | | |
| BY-406: Introduction to Neurosciences | | | |
| BY-410: Molecular Biology | | EDL-327: Literacy Instruction in K-6 Educational Settings II | 3.0 |
| BY-475: Endocrinology | | | |
| BY-499: Independent Study in Biology | | | |
| BY-495: Senior Seminar | 1.0 | ED-360: Methods of Teaching Elementary Mathematics | 3.0 |
| BIOLOGY OUTSIDE MAJOR REQUIREMENTS: 30 Credits | | | |
| MA-115: Intro to Math. Models in Bio. Science | 3.0 | ED-361: Methods of Teaching Science for Elementary School | 3.0 |
| or MA-116: Calculus for the Biological Science | | | |
| or MA-116: Calculus for the Biological Science | | | |
| MA-151: Statistics with Applications | 3.0 | ED-362: Teaching Elementary Social Studies | 3.0 |
| CE-111: General Chemistry | 3.0 | | |
| CE-111L: General Chemistry Lab | 1.0 | | |
| CE-112: General Chemistry | 3.0 | | |
| CE-112L: General Chemistry Lab | 1.0 | | |
| CE-241: Organic Chemistry | 3.0 | | |
| CE-241L: Organic Chemistry Lab | 2.0 | 9 Credits as Follows (d): | |
| CE-242: Organic Chemistry | 3.0 | ED-416: Student Teaching AND | 8.0 |
| PH-105: Physics for the Life Sciences | 3.0 | ED-416S: Seminar in Student Teaching | 1.0 |
| PH-105L: Physics for the Life Sciences Lab | 1.0 | | |
| PH-106: Physics for the Life Sciences | 3.0 | | |
| PH-106L: Physics for the Life Sciences Lab | 1.0 | | |
| <p>(a) Courses BY-101 through BY-108 are not used to calculate major GPA.</p> <p>(b) BY-102, BY-104, BY-105, and BY-106 are not available to BY majors.</p> <p>(c) Minimum grade of "C" required for Education Courses</p> <p>(d) Students must complete the appropriate test requirement(s) with a passing score PRIOR to Student Teaching.</p> | | | |

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| GENERAL EDUCATION REQUIREMENTS: 36 Credits | | Credits |
| First Year Seminar | FY-101: First Year Seminar *(Select Section "BY") | 3.0 |
| Reading and Writing | EN-101: College Composition I | 3.0 |
| | EN-102: College Composition II | 3.0 |
| Mathematics | Fulfilled in Biology Outside Major Requirements with MA-115, or MA-116, or MA-125, or MA-151 | 0.0 |
| Natural Sciences | Fulfilled in Major Requirements with required BY courses | 0.0 |
| Literature | 3 Credits from courses designated with Course*Type: LIT | 3.0 |
| Aesthetics and Creativity | 3 Credits from Art, Music, Theatre, or Dance | 3.0 |
| Technological Literacy | IT-102: Information Technology for Scientists | 3.0 |
| Reasoned Oral Discourse | Fulfilled in Major Requirements with BY-375L, or ED-320 | 0.0 |
| Historical Perspective | 3 Credits from courses designated with Course*Type: HS.SV | 3.0 |
| Social Science | 3 Credits from courses designated with Course*Type: SS.SV | 3.0 |
| Historical Perspective/Social Sciences | 3 Credits from courses designated with Course*Type: HS.SV | 3.0 |
| | or 3 Credits from courses designated with Course*Type: SS.SV | |
| Interdisciplinary Perspectives | 3 Credits from courses designated with Course*Type: ISP | 3.0 |
| Cultural Diversity and Global Understanding or Foreign Language | 3 Credits from courses designated with Course*Type: CD | 6.0 |
| | or 3 Credits from courses designated with Course*Type: GU | |
| | 6 Credits from the SAME foreign language | |
| Experiential Education | One course designated with Course*Type: EX | 0.0 |
| Writing Intensive | Two courses from Biology (BY) designated with Course*Type: WT | 0.0 |
| | | 0.0 |
| | Two courses from Education (ED, EDL, EDS) designated with Course*Type: WT | 0.0 |
| | | 0.0 |

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| Minimum Credits for Bachelor of Science in Biology and Education with Endorsement in Elementary Education = 147.0 | |
| ADDITIONAL ENDORSEMENTS AVAILABLE: | |
| • TSD - Teacher of Students with Disabilities - Elementary | • ESL - English as a Second Language - Elementary |
| • P-3 Early Childhood Endorsement | • MID-SCI - Middle School Science |

NOTES:

* 58 credits must be completed at the 200 level or higher.

** Education majors are required to have an overall GPA of 3.00 for State Certification.

***By state regulation, all Education Majors seeking content area endorsement must complete 30 content credits (12+ credits at the 300+ level).