

Bachelor of Science in Biology and Education with Endorsement in Elementary Education			
MAJOR REQUIREMENTS/BIOLOGY: 45 Credits (a)		MAJOR REQUIREMENTS/EDUCATION: 36 Credits (c)	
BY109: Intro to Biodiversity & Evolution	4.0	EDL201: Educational Psychology	3.0
BY110: Intro to Cell & Molecular Biology	4.0	EDL206: Child and Adolescent Development	3.0
BY205: Zoology	3.0	ED250: Foundations of Teaching and Learning	3.0
BY214: Botany	3.0	EDL326: Literacy Instruction in K-5 Educational Settings I	3.0
BY223: General Microbiology	4.0	ED320: Teaching Students with Diverse Needs	3.0
BY310: Biochemistry and Laboratory	4.0	EDL327: Literacy Instruction in K-5 Educational Settings II	3.0
BY370: Cell Biology	3.0	EDL327N: NCATE Assessment	0.0
BY375L: Lab Molecular & Cell	3.0	ED360: Methods of Teaching Elementary Mathematics	3.0
BY423: Genetics	4.0	ED360N: NCATE Assessment	0.0
BY425: Principles of Developmental Biology	4.0	ED361: Methods of Teaching Science for Elementary School	3.0
8 crs. of BY electives from among: BY211, BY212, BY340, BY324, BY406, BY410, BY475, BY499	8.0	ED361N: NCATE Assessment	0.0
BY495: Senior Seminar	1.0	ED362: Teaching Elementary Social Studies	3.0
BIOLOGY OUTSIDE MAJOR REQUIREMENTS: 30 Credits		ED362N: NCATE Assessment	0.0
MA115: Intro to Mathematical Mod. in Bio.		9 Credits as Follows (d):	
OR MA116: Calculus for Biological Sciences		ED416: Student Teaching AND	8.0
OR MA125: Calculus with Analytic Geometry I	3.0	ED416S: Seminar in Student Teaching	1.0
MA151: Statistics with Applications	3.0	*OR*	
CE111: General Chemistry	3.0	ED417: Supervised Student Teaching AND	8.0
CE111L: General Chemistry Lab	1.0	ED417S: Seminar - Supervised Student Teaching	1.0
CE112: General Chemistry	3.0	EDUCATION OUTSIDE MAJOR REQUIREMENTS: 3 Credits	
CE112L: General Chemistry Lab	1.0	PY103: Introduction to Psychology	3.0
CE241: Organic Chemistry	3.0		
CE241L: Organic Chemistry Lab	2.0		
CE242: Organic Chemistry	3.0		
PH105: Physics for the Life Sciences	3.0		
PH105L: Physics for the Life Sciences Lab	1.0		
PH106: Physics for the Life Sciences	3.0		
PH106L: Physics for the Life Sciences Lab	1.0		

(a) Courses BY101 through BY108 are not used to calculate major GPA.
 (b) BY102, BY104, BY105, and BY106 are not available to BY majors.
 (c) Minimum grade of "C" required for Education Courses
 (d) Students must complete the appropriate test requirement(s) with a passing score PRIOR to Student Teaching.

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GENERAL EDUCATION REQUIREMENTS: 33 Credits		Credits
First Year Seminar	FY-101: First Year Seminar *(Select Section "BY")	3.0
Reading and Writing	EN101: College Composition I	3.0
	EN102: College Composition II	3.0
Mathematics	Fulfilled in Biology Outside Major Requirements with MA115, or MA116, or MA125, or MA151	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	IT102: Information Technology for Scientists	3.0
Reasoned Oral Discourse	Fulfilled in Major Requirements with BY375L, or ED320	0.0
Historical Perspective	3 Credits from courses designated with Course*Type: HS.SV	3.0
Social Science	Fulfilled in Outside Major Requirements with PY103	0.0
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
	3 Credits from courses designated with Course*Type: GU	
	or 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
	Two courses from Education (ED, EDL, EDS) designated with Course*Type: WT	0.0
	Two courses from Education (ED, EDL, EDS) designated with Course*Type: WT	0.0
	Two courses from Education (ED, EDL, EDS) designated with Course*Type: WT	0.0

Minimum Credits for Bachelor of Science in Biology and Education with Endorsement in Elementary Education = 147.0
ADDITIONAL ENDORSEMENTS AVAILABLE: <ul style="list-style-type: none"> • TSD - Teacher of Students with Disabilities - Elementary • ESL - English as a Second Language - Elementary <ul style="list-style-type: none"> • P-3 Early Childhood Endorsement • MID-SCI - Middles School Science • Teacher of Supplemental Instruction in Reading/Mathematics K-8

NOTES:

- * 58 credits must be completed at the 200 level or higher.
- ** Education majors are required to have an overall GPA of 2.75 for State Certification.
- ***By state regulation, all Education Majors seeking content area endorsement must complete 12+ credits at the 300+ level in the content major.