

Bachelor of Science in Biology and Education with Endorsement in Elementary Education			
MAJOR REQUIREMENTS/BIOLOGY: 45 Credits		MAJOR REQUIREMENTS/EDUCATION: 30 Credits (a)	
BY109: Intro to Biodiversity & Evolution	4.0	ED250: Foundations of Teaching & Learning	3.0
BY110: Intro to Cell & Molecular Biology	4.0	EDL326: Literacy Instructions in K-5 Educational Settings I	3.0
BY203: Invertebrate Zoology		ED320: Teaching Students with Diverse Needs	3.0
or BY204: Vertebrate Zoology	3.0	EDL327: Literacy Instruction in K-5 Educational Settings II	3.0
BY213: Biology of Vascular Plants		EDL327N: NCATE Assessment	0.0
or BY214: Botany	3.0	ED360: Methods of Teaching Elementary Mathematics	3.0
BY223: General Microbiology	4.0	ED360N: NCATE Assessment	0.0
BY310: Biochemistry and Laboratory	4.0	ED361: Methods of Teaching Science for Elem School	3.0
BY370: Cell Biology	3.0	ED361N: NCATE Assessment	0.0
BY375L: Lab Molecular & Cell	3.0	ED362: Teaching Elementary Social Studies	3.0
BY423: Genetics	4.0	ED362N: NCATE Assessment	0.0
BY425: Principles of Developmental Biology	4.0	ED-PRAXIS: Education Praxis II	0.0
8 crs. of BY electives from among:	8.0	• PRAXIS - 10014	0.0
BY475, BY499			
BY495: Senior Seminar & Portfolio	1.0		
BIOLOGY OUTSIDE MAJOR REQUIREMENTS: 30 Credits		9 Credits as Follows:	
MA115: Math Models in Biology		ED416: Student Teaching AND	8.0
or MA116: Calculus for Biology		ED416S: Seminar in Student Teaching	1.0
or MA125: Calculus with Analytic Geometry I	3.0	OR	
MA151: Statistics with Applications	3.0	ED417: Supervised Student Teaching AND	8.0
CE111: General Chemistry	3.0	ED417S: Seminar - Supervised Student Teaching	1.0
CE111L: General Chemistry Lab	1.0		
CE112: General Chemistry	3.0	EDUCATION OUTSIDE MAJOR REQUIREMENTS: 9 Credits	
CE112L: General Chemistry Lab	1.0	PY103: Introduction to Psychology	3.0
CE241: Organic Chemistry	3.0	PY201: Educational Psychology	3.0
CE241L: Organic Chemistry Lab	2.0	PY206: Child and Adolescent Development	3.0
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) Minimum grade of "C" required for Education Courses

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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 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 BY495, 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/Global Understanding	3 Credits from courses designated with Course*Type: CD	3.0
	3 Credits from courses designated with Course*Type: GU	3.0
	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
		0.0
	Two courses from Education (ED, EDL, EDS) designated with Course*Type: WT	0.0

Total Credits for Bachelor of Science in Biology and Education with Endorsement in Elementary Education = 147
<p>ADDITIONAL ENDORSEMENTS AVAILABLE: (Please review Endorsement Charts for Requirements)</p> <ul style="list-style-type: none"> • TSD - Teacher of Students with Disabilities - Elementary (EDE.TSD.10) • ESL - English as a Second Language - Elementary (ELE.ESL.10) <ul style="list-style-type: none"> • P-3 Early Childhood Endorsement (ELE.P3.10) • MID-SCI - Middles School Science (MID.SCI.10) • Teacher of Supplemental Instruction in Reading/Mathematics K-8 (ELE.READ.MATH.10)

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.