

Bachelor of Science in Biology and Education with Endorsement in Elementary Education			
MAJOR REQUIREMENTS/BIOLOGY: 45 Credits (a)		MAJOR REQUIREMENTS/EDUCATION: 36 Credits (b)	
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
BY213: Biology of Vascular Plants		EDL326: Literacy Instructions in K-5 Educational Settings I	3.0
OR BY214: Botany	3.0	ED320: Teaching Students with Diverse Needs	3.0
BY223: General Microbiology	4.0	EDL327: Literacy Instruction in K-5 Educational Settings II	3.0
BY310: Biochemistry and Laboratory	4.0	EDL327N: NCATE Assessment	0.0
BY370: Cell Biology	3.0	ED360: Methods of Teaching Elementary Mathematics	3.0
BY375L: Lab Molecular & Cell	3.0	ED360N: NCATE Assessment	0.0
BY423: Genetics	4.0	ED361: Methods of Teaching Science for Elementary School	3.0
BY425: Principles of Developmental Biology	4.0	ED361N: NCATE Assessment	0.0
8 crs. of BY electives from among: BY111, BY112, BY340, BY324, BY406, BY410, BY475, BY499	8.0	ED362: Teaching Elementary Social Studies	3.0
BY495: Senior Seminar	1.0	ED362N: NCATE Assessment	0.0
BIOLOGY OUTSIDE MAJOR REQUIREMENTS: 30 Credits		9 Credits as Follows (c):	
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	EDUCATION OUTSIDE MAJOR REQUIREMENTS: 3 Credits	
CE112: General Chemistry	3.0	PY103: Introduction to Psychology	3.0
CE112L: General Chemistry Lab	1.0		
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) BY102 and BY104 are not available to BY majors, nor used to calculate major GPA.

(b) Minimum grade of "C" required for Education Courses

(c) 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/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	3.0
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

Total Credits for Bachelor of Science in Biology and Education with Endorsement in Elementary Education = 153
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.