

Bachelor of Science in Biology and Education with Endorsement in Secondary Education in Biology			
MAJOR REQUIREMENTS/BIOLOGY: 45 Credits (a)		MAJOR REQUIREMENTS/EDUCATION: 24 Credits (b)	
BY109: Intro to Biodiversity & Evolution	4.0	ED250: Foundations of Teaching and Learning	3.0
BY110: Intro to Cell & Molecular Biology	4.0		
BY205: Zoology	3.0	EDL201: Educational Psychology	3.0
BY213: Biology of Vascular Plants		EDL206: Child and Adolescent Development	3.0
OR BY214: Botany	3.0		
		ED319: Literacy Across the Secondary Curriculum	3.0 0.0
BY223: General Microbiology	4.0	ED319N: NCATE Assessment	0.0
BY310: Biochemistry and Laboratory	4.0		
BY370: Cell Biology	3.0	ED320: Teaching Students with Diverse Needs	3.0
BY375L: Lab Molecular & Cell	3.0		
BY423: Genetics	4.0		
BY425: Principles of Developmental Biology	4.0	9 Credits as Follows (c):	
		ED416: Student Teaching AND	8.0
8 crs. of BY electives from among: BY111, BY112, BY340, BY324, BY406, BY410, BY475, BY499	8.0	ED416S: Seminar in Student Teaching	1.0
		OR	
BY495: Senior Seminar	1.0	ED417: Supervised Student Teaching AND	8.0
		ED417S: Seminar - Supervised Student Teaching	1.0
BIOLOGY OUTSIDE MAJOR REQUIREMENTS: 30 Credits		EDUCATION METHODS REQUIREMENTS: 6 Credits (b)	
MA115: Math Models in Biology			
OR MA116: Calculus for Biology		ED369: Teaching Secondary Science Part I	
OR MA125: Calculus with Analytic Geometry I	3.0	*OR* ED375: Secondary Teaching Methods Part I	3.0
MA151: Statistics with Applications	3.0		
		ED370: Teaching Secondary Science Part II	
CE111: General Chemistry	3.0	*OR* ED376: Secondary Teaching Methods Part II	3.0
CE111L: General Chemistry Lab	1.0		
CE112: General Chemistry	3.0		
CE112L: General Chemistry Lab	1.0		
CE241: Organic Chemistry	3.0		
CE241L: Organic Chemistry Lab	2.0		
CE242: Organic Chemistry	3.0		
		EDUCATION OUTSIDE MAJOR REQUIREMENTS: 3 Credits	
PH105: Physics for the Life Sciences	3.0		
PH105L: Physics for the Life Sciences Lab	1.0	PY103: Introduction to Psychology	3.0
PH106: Physics for the Life Sciences	3.0		
PH106L: Physics for the Life Sciences Lab	1.0		
<p>(a) BY102 and BY104 are not available to BY majors, nor used to calculate major GPA.</p> <p>(b) Minimum grade of "C" required for Education Courses</p> <p>(c) Students must complete the appropriate test requirement(s) with a passing score PRIOR to Student Teaching.</p>			

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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, and/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 Education Outside Major Requirements with PY103	0.0
Historical	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
	Two courses from Education (ED, EDL, EDS) designated with Course*Type: WT	0.0
		0.0
		0.0

Total Credits for Bachelor of Science in Biology and Education with Endorsement in Secondary Education in Biology = 141

ADDITIONAL ENDORSEMENTS AVAILABLE:
 • TSD - Teacher of Students with Disabilities - Secondary
 • ESL - English as a Second Language - Secondary

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.