

BIOLOGY B.S. WITH AN EDUCATION MINOR (VISTA)

Requirements

Students seeking the Bachelor of Science degree in Biology Teacher Education with a minor in Education must complete the Lower and Upper Division core requirements and the following courses. This program is associated with the Integrated Teacher Education Program (ITEP/VISTA)

Code	Title	Units
Core Curriculum Requirements (https://catalog.vanguard.edu/college/core-curriculum/)		44-42
Biology Major Core Requirements		52
Integrated Teacher Education Program Requirements (p. 1)		40
Total Units		136-134

Biology Major Core Requirements

Code	Title	Units
Lower Division Requirements		
BIOL-111 & 111L	Principles of Cell and Molecular Biology and Principles of Biology Lab, Principles of Cell/ Molecular Biology Lab	4
BIOL-112 & 112L	Principles of Organismal Biology and Principles of Organismal Biology Lab	4
BIOL-220 & 220L	Cell Biology and Cell Biology Lab	4
CHEM-120 & 120L	General Chemistry I and General Chemistry I Lab	4
CHEM-121 & 121L	General Chemistry II and General Chemistry II Lab	4
MATH-180C	Calculus 1	4
PSCI-223C & 223CL	Mechanics of Solids and Fluids and Mechanics of Solids and Fluids Lab	4
or PSCI-130 & 130CL	Introduction to Physics I and General Physics I Lab	
PSCI-225 & 225L	Electricity and Magnetism and Electricity and Magnetism Lab	4
or PSCI-131 & 131L	General Physics II and General Physics II Lab	
Upper Division Requirements		
BIOL-309 & 309L	Microbiology and Microbiology Laboratory	4
BIOL-311 & 311L	Genetics and Genetics Laboratory	4
CHEM-304 & 304L	Organic Chemistry I and Organic Chemistry Techniques I	4
BIOL-485	Undergrad Biological Research	2
or BIOL-488	Biology Senior Project	
or BIOL-450	UG Research or Internship Program	
BIOL-499C	Capstone Seminar in Biology	2
Select on of the following Ecology Focus courses:		4

BIOL-315 & 315L	General Ecology and Ecology Field and Lab Practicum	
BIOL-345C	Mountain Field Biology	
BIOL-346C	Desert Field Ecology	
BIOL-348C	Coastal Ecology	
Total Units		52

Integrated Teacher Education Program Requirements

Code	Title	Units
Requirements		
MATH-265C	Intro to Statistical Methods	3
or MATH-270C	Health Professions Statistical Methods	
POLS-155C	American Democracy	3
ENGL-453	Language, Culture, and Linguistics	3
Electives		
Select one lecture/laboratory course from BIOL		4
Credentialing Coursework		
EDUC-424	Foundations in Teaching for Single Subject	2
EDUC-426	Instructional Design and Subject Specific Pedagogy for Single Subject	4
EDUC-434	Curriculum Unit Planning for Single Subject	2
EDUC-435	Supervised Fieldwork for Single Subject	4
EDUC-442	CalTPA Cycle 1	0.5
EDUC-443	CalTPA Cycle 2	0.5
EDUC-444	Language Acquisition for Secondary Students	1
EDUC-447	Metacognition/Reading Strategies for Secondary Students	1
EDUC-452	Literacy in Content Areas for Secondary Students	1
EDUC-464	Use of Technology in the Classroom	1
EDUC-488	Clinical Practice Seminar for Single Subject	2
EDUC-489	Clinical Practice Fieldwork for Single Subject	8
Total Units		40

¹ POLS-155C American Democracy is both a CTC Credential requirement and fulfills a CORE Curriculum requirement.

² In consultation with your academic advisor, select one lecture/lab combination that best aligns with your career goals. Additional course selections in Chemistry, Education, Environmental Sciences, Kinesiology, Mathematics, or Psychology may be approved on a case-by-case basis.

Four Year Plan

Disclaimer: This *sample* Four Year Plan is provided as a guide for the recommended sequencing of courses. Vanguard University requires that students complete a minimum of 120 units of required course work as outlined on the Requirements tab in order to receive a Bachelor of Arts, Bachelor of Music, Bachelor of Science, or Bachelor of Science in Nursing degree. It is the student's responsibility to confirm with the department the course rotation before enrolling in courses. If applicable, please note the footnotes at the bottom of the page for additional information related

to courses listed in a particular year and term. Questions, contact the Department of Biological Sciences.

