

BACHELOR OF ARTS IN BIOLOGICAL SCIENCES

The Bachelor of Arts is recommended only for those students who plan careers in business or secondary education careers related to the Biological Sciences. A minimum of 32 S.H. in Biological Sciences is required for the BA degree.

All biological sciences majors must take the courses as listed for the BA degree in the curriculum sheet.

The BA degree in biological sciences requires a minimum of 32 semester hours from within the Department of Biological Sciences. (Courses at the 1000 level are not applicable to a Bachelor of Arts degree.)

All biological sciences majors must take the following courses for the BA degree:

COURSE	TITLE	S.H.
General Education Requirements		
Core Competencies		
ENGL 1550	Writing 1	3-4
	or ENGL 1549 Writing 1 with Support	
ENGL 1551	Writing 2	3
CMST 1545	Communication Foundations	3
Mathematics Requirement (met through MATH in major)		
Knowledge Domains		
Arts and Humanities (6 s.h.)		6
Natural Sciences (2 courses, 1 with lab) (6-7 s.h.)		
Met through science courses in the major		
Social Science (6 s.h.)		6
Social and Personal Awareness (6 s.h.)		6
STEM 1520	STEM First Year Orientation	2
Foreign Language Requirement		
FNLG 1550: Elementary Foreign Language		
FNLG 2600: Intermediate Foreign Language		
Major Requirements		
BIOL 2601	General Biology: Molecules and Cells ¹	4
BIOL 2602	General Biology: Organisms and Ecology ¹	4
Core Courses		
Select one course from two of the following groups:		7-9
Group A		
BIOL 3702	Microbiology	4
BIOL 3702L	Microbiology Laboratory	0
BIOL 3711	Cell Biology: Fine Structure	
Group B		
BIOL 3725	Mammalogy	3
BIOL 3730	Human Physiology	
Group C		
BIOL 3740	Plant Diversity	
BIOL 3741	Animal Diversity	
Select 13-15 semester hours of courses in the Department of Biological Sciences at the 3000-5000 level. At least two of these courses must have a laboratory component.		13-15
Capstone Course		
BIOL 4861	Senior Biology Capstone Experience	2
Electives		
Select 32 s.h. of Biological Science credit.		32

Additional Course Work

CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHEM 1516 & 1516L	General Chemistry 2 and General Chemistry 2 Laboratory	4
Elementary and Intermediate foreign language		4

Strongly recommended:

CHEM 3719 & 3719L	Organic Chemistry 1 and Organic Chemistry 1 Laboratory	
CHEM 3720 & 3720L	Organic Chemistry 2 and Organic Chemistry 2 Laboratory	
PHYS 1501 & 1501L	Fundamentals of Physics 1 and Fundamentals of Physics Laboratory 1	
PHYS 1502 & 1502L	Fundamentals of Physics 2 and Fundamentals of Physics Laboratory 2	

Total Semester Hours **118-123**

¹ The general biology courses are prerequisites for genetics and all core and upper-division courses.

Students seeking admission to medically related professional schools should complete the BS program.

The mathematics, physics and chemistry courses may not be taken under the credit/no credit option. (For General University Requirements (<http://catalog.yzu.edu/undergraduate/general-information/academic-policies-procedures/general-education-requirements/>), see the Academic Policies and Procedures section of the Undergraduate Catalog.)

Recommended core curriculum meeting science requirements of medically related and other professional schools.

Year 1

Fall		S.H.
BIOL 2601	General Biology: Molecules and Cells	4
CHEM 1515	General Chemistry 1	4
CHEM 1515R	Recitation for General Chemistry 1 (opt)	1
ENGL 1550 or ENGL 1549	Writing 1 (electives may be substituted if excused based on results of Placement Test) or Writing 1 with Support	3-4
GER AL/SS/SPA		3
Semester Hours		15-16

Spring

BIOL 2602	General Biology: Organisms and Ecology	4
CHEM 1516	General Chemistry 2	4
CHEM 1516R	Recitation for General Chemistry 2 (opt)	1
ENGL 1551	Writing 2 (electives may be substituted if excused based on results of Placement Test)	3
GER elective (COMM 1545 recommended)		3
Semester Hours		15

Year 2

Fall		
Biology Core Course		
Select one of the following:		3-5
BIOL 3730	Human Physiology	
BIOL 3711	Cell Biology: Fine Structure	
BIOL 3740	Plant Diversity	
MATH 1570 or MATH 1571	Applied Calculus 1 or Calculus 1	4
GER Elective (AL)		3
General Electives		3

Select an additional 3 s.h.	3
Semester Hours	16-18
Spring	
Biology Core Course	
Select one of the following:	3-5
BIOL 3730 Human Physiology	
BIOL 3721 Genetics	
BIOL 3741 Animal Diversity	
Introductory Foreign Language	4
GER Elective (SI)	3
General Electives	6
Semester Hours	16-18
Year 3	
Fall	
BIOL 3700-5800 course w/ lab	4
Intermediate Foreign Language	4
GER electives (PS), (SI)	6
General Elective	3
Semester Hours	17
Spring	
BIOL 3700-5800 course w/ lab	4
BIOL 3700-5800 course	3-4
GER electives (AL), (PS)	6
General Elective	3
Semester Hours	16-17
Year 4	
Fall	
BIOL 3700 course	3-4
General Electives	9
Semester Hours	12-13
Spring	
BIOL 3700-5800 course	4
BIOL 4861 Senior Biology Capstone Experience	2
General Electives	9
Semester Hours	15
Total Semester Hours	122-129

Learning Outcomes

The department's learning outcomes for the BA in biology are as follows:

- Students will be fluent in the terminology of the biological sciences.
- Students will be competitive for entry into the workplace.
- Students will be familiar with the scientific process and the process of hypothesis testing.
- Students should be able to reason critically, both individually and in collaboration with other students.