

SAMPLE 4-YEAR PLAN: BIOLOGY B.A. - B.S.

Northern Kentucky University

This is **one way** a student can complete this program in four years if the student enters NKU with a mathematics ACT score of 25 or higher.

MAJOR: Biology

TRACK: B.S. General Biology

FIRST YEAR In addition to these courses for your major, you should be taking an appropriate mathematics course and consider taking a foreign language if you are continuing a language from high school.	Fall Semester		Spring Semester	
	BIO 150 Introduction to Biology and BIO 150L Introduction to Biology Lab	4	BIO 151 Introduction to Biology II and BIO 151L Introduction to Biology II Laboratory	4
CHE 120 General Chemistry I and CHE 120L General Chemistry Lab I Laboratory	4	CHE 121 General Chemistry II and CHE 121L General Chemistry II Laboratory	4	
ENG 101 College Writing	3	MAT 112 Applied Calculus or MAT 129 Calculus I	3-4	
BIO 155 Orientation to Biology	1	CMST 101 Public Speaking	3	
Gen Ed	3			
TOTAL	15	TOTAL	14-15	
SECOND YEAR	Fall Semester		Spring Semester	
	BIO 349 Genetics and BIO 349L Genetics Laboratory	4	BIO 304 General Biology and BIO 304L Ecology Laboratory	4
BIO 291W Advanced Writing in Biology	3	STA 205 Introduction to Statistical Methods	3	
CHE 310 Organic Chemistry and CHE 310L Organic Chemistry Laboratory	4	CHE 311 Organic Chemistry II and CHE 311L*Organic Chemistry II Laboratory	4	
Gen Ed (Foreign Language)	3	Foreign Language	3	
Gen Ed	3	Gen Ed	3	
TOTAL	17	TOTAL	17	
THIRD YEAR The electives chosen should be from the appropriate course groups to fulfill the requirements for this track.	Fall Semester		Spring Semester	
	GMC elective**	3	EEO elective**	4
Field elective	4	BIO 358 Evolution of Organisms	3	
PHY 211 General Physics with Laboratory	5	PHY 213 General Physics with Laboratory II	5	
Elective 300 level or above	3	Elective 300 level or above	3	
TOTAL	15	TOTAL	15	
FOURTH YEAR The electives chosen should be from the appropriate course groups to fulfill the requirements for this track. In addition, you should make sure you have taken enough classes at the 300 level or above to satisfy the university requirement of 45 hours.	Fall Semester		Spring Semester	
	BIO elective	4	BIO elective	4
Gen Ed	3	BIO 491 Comprehensive Examination	0	
Electives 300 level or above	7	Gen Ed	3	
		Electives 300 level or above	6	
TOTAL	14	TOTAL	13	
GRAND TOTAL OF CREDITS			120-121	

Notes:

- * Students may elect to substitute another course for CHE 311 and CHE 311L; please see catalog for list of approved courses.

• ** Refer to the Biological Sciences Course Groups for a list of courses.

MAJOR: Biology
TRACK: Cell/Molecular/Genetics

FIRST YEAR	Fall Semester		Spring Semester	
	BIO 150 Introduction to Biology and BIO 150L Introduction to Biology I Laboratory	4	BIO 151 Introduction to Biology II and BIO 151L Introduction to Biology II Laboratory	4
CHE 120 General Chemistry I and CHE 120L General Chemistry I with Laboratory	4	CHE 121 General Chemistry II and CHE 121L General Chemistry II Laboratory	4	
ENG 101 College Writing	3	MAT 112 Applied Calculus or MAT 129 Calculus I	3-4	
STA 205 Introduction to Statistical Methods	3	CMST 101 Public Speaking	3	
BIO 155 Orientation to Biology	1			
TOTAL	15	TOTAL	14-15	
SECOND YEAR	Fall Semester		Spring Semester	
BIO 349 Genetics and BIO 349L Genetics Laboratory	4	BIO 304 General Ecology	3	
BIO 291W Advanced Writing in Biology	3	CHE 311 Organic Chemistry II and CHE 311L Organic Chemistry II Laboratory	4	
CHE 310 Organic Chemistry I and CHE 310L Organic Chemistry I with Laboratory	4	Gen Ed	6	
BIO 342 Biometry	3	Foreign Language	3	
Gen Ed (foreign language)	3			
TOTAL	17	TOTAL	16	
THIRD YEAR	Fall Semester		Spring Semester	
The electives chosen should be from the appropriate course groups to fulfill the requirements for this track.	BIO 302 General Microbiology and BIO 302L General Microbiology Laboratory	4	GMC* elective	4
	PHY 211 General Physics with Laboratory	5	CHE 483 Biochemistry II	3
	CHE 482 Biochemistry I	3	PHY 213 General Physics with Laboratory II	5
	Gen Ed	3	Gen Ed	3
	TOTAL	15	TOTAL	15
FOURTH YEAR	Fall Semester		Spring Semester	
The electives chosen should be from the appropriate course groups to fulfill the requirements for this track. In addition, you should make sure you have taken enough classes at the 300 level or above to satisfy the university requirement of 45 hours.	GMC* elective	4	BIO elective	4
	BIO 400 Advanced Molecular Biology and BIO 400L Advanced Molecular Biology Laboratory	4	BIO 491 Comprehensive Examination	0
	Electives 300 level or above	4	BIO 360 Advanced Biology of the Cell	3
	Gen Ed	3	Electives 300 level or above	6
	TOTAL	15	TOTAL	13
GRAND TOTAL OF CREDITS			120-121	

Notes:

- * Refer to the Biological Sciences Course Groups for a list of courses.

MAJOR: Biology

TRACK: Ecology/Evolution/Organismal

FIRST YEAR	Fall Semester		Spring Semester	
	BIO 150 Introduction to Biology and BIO 150L Introduction to Biology I Laboratory	4	BIO 151 Introduction to Biology II and BIO 151L Introduction to Biology II Laboratory	4
CHE 120 General Chemistry I and CHE 120L General Chemistry I Laboratory	4	CHE 121 General Chemistry II and CHE 121L General Chemistry II Laboratory	4	
ENG 101 College Writing	3	MAT 112 Applied Calculus or MAT 129 Calculus I	3-4	
BIO 155 Orientation to Biology	1	CMST 101 Public Speaking	3	
Gen Ed	3			
TOTAL	15	TOTAL	14-15	
SECOND YEAR	Fall Semester		Spring Semester	
	BIO 304 General Ecology and BIO 304L Ecology Laboratory	4	BIO 349 Genetics and BIO 349L Genetics Laboratory	4
BIO 291W Advanced Writing in Biology	3	BIO 342 Biometry	3	
CHE 310 Organic Chemistry I and CHE 310L Organic Chemistry I Laboratory	4	CHE 311 Organic Chemistry II and CHE 311L* Organic Chemistry II Laboratory	4	
STA 205 Introduction to Statistical Methods	3	Gen Ed	3	
Gen Ed	3			
TOTAL	17	TOTAL	14	
THIRD YEAR	Fall Semester		Spring Semester	
	Ecology elective**	4	Organismal elective**	3
Field elective	4	BIO 358 Evolution of Organisms	3	
PHY 211 General Physics with Laboratory I	5	PHY 213 General Physics with Laboratory II	5	
Gen Ed (foreign language)	3	Foreign language	3	
TOTAL	16	TOTAL	14	
FOURTH YEAR	Fall Semester		Spring Semester	
	BIO elective	4	BIO elective	4
BIO elective	4	BIO 491 Comprehensive Examination	0	
Gen Ed	3	Electives 300 level or above	11	
Elective 300 level or above	4			
TOTAL	15	TOTAL	15	
GRAND TOTAL OF CREDITS			120-121	

Notes:

- * Students may elect to substitute another course for CHE 311 and CHE 311L; please see catalog for list of approved courses.
- ** Refer to the Biological Sciences Course Groups for lists of courses.

MAJOR: Biology

TRACK/OPTION: B.A. General Biology

FIRST YEAR	Fall Semester		Spring Semester	
	BIO 150 Introduction to Biology and BIO 150L Introduction to Biology Laboratory	4	BIO 151 Introduction to Biology II and BIO 151L Introduction to Biology II Laboratory	4
CHE 120 General Chemistry I and CHE 120L General Chemistry I Laboratory	4	CHE 121 General Chemistry II and CHE 121L General Chemistry II Laboratory	4	
ENG 101 College Writing	3	MAT 112 Applied Calculus or MAT 129 Calculus I	3-4	
BIO 155 Orientation to Biology	1	CMST 101 Public Speaking	3	
Gen Ed	3			
TOTAL	15	TOTAL	14-15	
SECOND YEAR	Fall Semester		Spring Semester	
	BIO 349 Genetics and BIOL 349 Genetics Laboratory	4	BIO 304 General Ecology and BIO 304L Ecology Laboratory	4
BIO 291W Advanced Writing in Biology	3	STA 205 Introduction to Statistical Methods	3	
CHE 310 Organic Chemistry I and CHE 310L Organic Chemistry I Laboratory	4	Elective 300 level or above	4	
Gen Ed (Foreign Language)	3	Foreign Language	3	
TOTAL	14	TOTAL	14	
THIRD YEAR	Fall Semester		Spring Semester	
	GMC* elective	4	BIO 410 Conservation Biology	4
EEO* elective	4	BIO 358 Evolution of Organisms	3	
PHY 211 General Physics with Laboratory I	5	PHY 213 General Physics with Laboratory II	5	
Gen Ed	3	Gen Ed	3	
TOTAL	16	TOTAL	15	
FOURTH YEAR	Fall Semester		Spring Semester	
	Field elective	4	BIO Elective	4
Gen Ed	3	BIO 491 Comprehensive Examination	0	
Electives 300 level or above	9	Electives 300 level or above	12	
TOTAL	16	TOTAL	16	
			GRAND TOTAL OF CREDITS	120-121

Notes:

- * Refer to the Biological Sciences Course Groups for lists of courses.

MAJOR: Biology

TRACK: B.A. Teacher Education

FIRST YEAR	Fall Semester		Spring Semester	
	BIO 150 Introduction to Biology and BIO 150L Introduction to Biology I Laboratory	4	BIO 151 Introduction to Biology II and BIO 151L Introduction to Biology II Laboratory	4
CHE 120 General Chemistry I and CHE 120L General Chemistry I Laboratory	4	CHE 121 General Chemistry II and CHE 121L General Chemistry II Laboratory	4	

In addition to these courses for your major you should be taking an appropriate mathematics course and consider taking a foreign language if you are continuing a language from high school.

	ENG 101 College Writing	3	PSY 100 Introduction to Psychology (Gen Ed)	3
	BIO 155 Orientation to Biology	1	CMST 101 Public Speaking	3
	Gen Ed	3	EDU 104 Orientation: Education Profession/Program	1
	TOTAL	15	TOTAL	15
<p>SECOND YEAR</p> <p>In addition to these courses for your major you should continue to take courses to fulfill the general education requirements and your mathematics requirement.</p>	Fall Semester		Spring Semester	
	BIO 349 Genetics and BIO 349L Genetics Laboratory	4	BIO 304 General Ecology and BIO 304L Ecology Laboratory	4
	BIO 291W Advanced Writing in Biology	3	BIO 358 Evolution of Organisms	3
	STA 205 Introduction to Statistical Methods	3	EDU 300 Human Growth and Development	3
	Gen Ed	3	EDU 305 Introduction to Education	2
	Foreign Language (Gen Ed)	3	EDS 360 Students with Exceptionalities in School	2
			Foreign Language	3
	TOTAL	16	TOTAL	17
<p>THIRD YEAR</p> <p>The electives chosen should be from the appropriate course groups to fulfill the requirements for this track.</p>	Fall Semester		Spring Semester	
	BIO elective	4	Gen Ed	3
	PHY 211 General Physics with Laboratory I	5	PHY 213 General Physics with Laboratory II	5
	Gen Ed	3	EDU 319 Classroom Climate Secondary Management	1
	EDU 311 Admission Practicum for Secondary Grades	2	EDS 324 Instructional Planning for Inclusive Secondary Classrooms	3
	EDU 313 Instructional Technology	2	EDU 324 Fundamentals of Secondary Education	2
			EDU 393 Secondary Practicum I	2
	TOTAL	16	TOTAL	16
<p>FOURTH YEAR</p> <p>The electives chosen should be from the appropriate course groups to fulfill the requirements for this track. In addition, you should make sure you have taken enough classes at the 300 level or above to satisfy the university requirement of 45 hours.</p>	Fall Semester		Spring Semester	
	BIO elective	4	EDU 496 Clinical Experience Secondary	12
	BIO elective	4	BIO 491 Comprehensive Examination	0
	EDU 325 Educational Assessment Secondary	2		
	EDU 396 Secondary Practicum II	2		
	EDU 330 Teaching Science in Secondary School	3		
	TOTAL	15	TOTAL	12
			GRAND TOTAL OF CREDITS	122
<p>Notes:</p> <ul style="list-style-type: none"> • Please consult the admissions requirements to the teacher education program when developing your plan. • MAT 119 or a minimal mathematics ACT score of 25 or equivalent placement is required for PHY 211. • Please note, general education courses and mathematics courses have been largely omitted from this list to allow the student the flexibility of choosing which courses and when to take them. Please be sure to include these courses in your personal four year plan. 				

MAJOR: Biology

TRACK: Forensic Science

FIRST YEAR	Fall Semester	Spring Semester
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	BIO 150 Introduction to Biology and BIO 150L Introduction to Biology Laboratory	4	BIO 151 Introduction to Biology II and BIO 151L Introduction to Biology II Laboratory	4
	CHE 120 General Chemistry I and CHE 120L General Chemistry I Laboratory	4	CHE 121 General Chemistry II and CHE 121L General Chemistry II Laboratory	4
	ENG 101 College Writing	3	MAT 112 Applied Calculus or MAT 129 Calculus I	3-4
	BIO 155 Orientation to Biology	1	CMST 101 Public Speaking	3
	Gen Ed	3		
	TOTAL	15	TOTAL	14-15
SECOND YEAR	Fall Semester		Spring Semester	
	BIO 349 Genetics and BIO 349L Genetics Laboratory	4	BIO 304 General Ecology	3
	BIO 291W Advanced Writing in Biology	3	BIO 342 Biometry	3
	CHE 310 Organic Chemistry I and CHE 310L Organic Chemistry I with Laboratory	4	CHE 311 Organic Chemistry II and CHE 311L Organic Chemistry II Laboratory	4
	STA 205 Introduction to Statistical Methods	3	Foreign Language	3
	Gen Ed (Foreign Language)	3	Gen Ed	3
	TOTAL	17	TOTAL	16
THIRD YEAR The electives chosen should be from the appropriate course groups to fulfill the requirements for this track.	Fall Semester		Spring Semester	
	BIO 400 Advanced Molecular Biology and BIO 400L Advanced Molecular Biology Lab	4	BIO 302 General Microbiology and BIO 302L General Microbiology Laboratory	4
	PHY 211 General Physics with Laboratory I	5	JUS 101 Introduction to Criminal Justice	3
	CHE 340 Analytical Chemistry and CHE 340L Advanced Chemistry Laboratory	4	PHY 213 General Physics with Laboratory II	5
	Gen Ed	3	Gen Ed	3
	TOTAL	16	TOTAL	15
FOURTH YEAR The electives chosen should be from the appropriate course groups to fulfill the requirements for this track. In addition, you should make sure you have taken enough classes at the 300 level or above to satisfy the university requirement of 45 hours.	Fall Semester		Spring Semester	
	Elective 300 level or above	4	BIO 455 Scanning Electron Microscopy or CHE 350 Instrumental Analysis and CHE 350L Instrumental Analysis Laboratory	3-4
	CHE 482 Biochemistry I and CHE 482L Biochemistry I Laboratory	4	BIO 491 Comprehensive Examination	0
	BIO 320 Entomology and BIO 320L Entomology Laboratory	4	JUS 203 The Criminal Court Systems	
	Gen Ed	3	Electives 300 level or above	9
	TOTAL	15	TOTAL	12-13
GRAND TOTAL OF CREDITS				120-122