



---

# TWO DEGREES, ONE PATH

---

## TRANSFER PATHWAY GUIDE 2023-2024

Associate of Science in Biology (TSAP) To  
Bachelor of Science in Biological Sciences

### ***Overview***

Completion of the following curriculum will satisfy the requirements for the Associate of Science (AS) in Biology (TSAP) degree at Ivy Tech Community College (ITCC) and leads to the Bachelor of Science (BS) in Biological Sciences degree at Northern Kentucky University (NKU).

### ***Applying to the IvyTech2NKU Program***

Students can apply to participate in the pathway program by completing the online application on the NKU transfer webpage. Students must be enrolled in at least six credit hours at Ivy Tech, enrolled in an associate degree program, plan to transfer to NKU, and maintain a minimum 2.0 cumulative GPA at Ivy Tech.

### ***Degree Requirements for Ivy Tech***

To earn a degree at Ivy Tech a student must successfully complete the required number of credits for the degree, attain a minimum GPA of 2.0 in the required technical and general education courses, and complete at least 15 degree credits in the curriculum as a regular student of Ivy Tech.

### ***Admission Requirements for NKU***

Students completing an associate degree with a cumulative GPA of 2.0 or higher will be accepted into NKU.

### ***Degree Requirements for NKU***

To earn a bachelor's degree at NKU, students must complete a minimum of 120 credit hours with at least 45 credit hours numbered 300 and above. In addition, at least 25% of the credit hours required for the degree and the last 30 credit hours must be completed at NKU. Students must have an overall GPA of 2.0 and meet all prerequisites for courses and requirements for the major.

Students pursuing a degree in the biological sciences may do so by choosing one of five different tracks. These tracks allow the individual student to place an emphasis on areas of biology that they find of interest. However, the faculty of the department feel very strongly that each student completing a degree in biology must have a solid foundation in the discipline. Therefore, there is a core of courses required of all majors. A grade of C- or better must be earned in all biology courses that count toward completion of major requirements. The department has also identified a common core of support courses that must be completed with a C- or better by all biological science majors. A biological sciences major does not require a secondary area of study (e.g. minor or focus).

## Ivy Tech Community College of Indiana

### Category 1: ITCC Indiana College Core Competencies

ITCC Course	Course or Category	Credits	NKU Course	Completed
ENGL 111	English Composition	3	ENG 101	
COMM 101	Fundamentals of Public Speaking	3	CMST 101	
MATH 211	Calculus I	4	MAT 129	
PHYS 101	Physics I	4	PHY 211	
PHYS 102	Physics II	4	PHY 213	
BIOL 221	Molecular Biology	4	BIO 400/400L	
XXXX 102	Foreign Language II (FREN, GERM, SPAN)	3	TBD XXX	
TBS XXX	Social and Behavioral Ways of Knowing	3	TBD XXX	
TBS XXX	Social and Behavioral or Humanistic Ways of Knowing or Quantitative Reasoning Elective	3	TBD XXX	
<b>Subtotal General Education Core</b>		<b>31</b>		

TBS XXX means to be selected by Ivy Tech student

TBD XXX means to be determined by NKU based on course selected at Ivy Tech

Student may need to complete the Foreign Language I course before the Foreign Language II course.

### Category 2: ITCC Degree Requirements for AS in Biology (TSAP)

ITCC Course	Course or Category	Credits	NKU Course	Completed
IVYT 111	Student Success in University Transfer	1	UNV 100T	
ENGL 215	Rhetoric and Argument	3	ENG 102	
CHEM 105	General Chemistry I	5	CHE 120/120L	
CHEM 106	General Chemistry II	5	CHE 121/121L	
BIOL 105	Biology I – Molecular and Cellular Processes	5	BIO 150/150L	
BIOL 107	Biology II – Diversity of Life	5	BIO 151/151L	
Select 1: BIOL 222 BIOL 240	Select one course from the following: Genetics Ecology	4	BIO 349/349L BIO 304/304L	
BIOL 279	Capstone	1	BIO 399	
<b>Subtotal Category II Courses</b>		<b>29</b>		
<b>Total Associate Degree Credit Hours</b>		<b>60</b>		

## Northern Kentucky University

All students must complete the core requirements for a BS in Biological Sciences.

### Category 3: NKU Core Requirements for the BS in Biological Sciences

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
BIO 150/150L	Introduction to Biology I with lab	4	BIOL 105	x
BIO 151/151L	Introduction to Biology II with lab	4	BIOL 107	x
BIO 155	Orientation to Biology	1		
BIO 291W	Advanced Writing in Biology	3		
BIO 304	General Ecology	3	BIOL 240	x
BIO 349/349L	Genetics with lab	4	BIOL 222	
BIO 458	Evolution of Organisms	3		
BIO 491	Comprehensive Examination	0		
CHE 120/120L	General Chemistry I with lab	4	CHEM 105	x
CHE 121/121L	General Chemistry II with lab	4	CHEM 106	x
PHY 211/213 or PHY 220/222	General Physics with Laboratory I and II or University Physics with Laboratory I and II	8-10	PHYS 101/102	x
STA 205	Statistical Methods	3	MATH 200	
	Foreign Language (must complete a course at the 102 or higher level or CLEP or AP exam equivalency)	0-6		x
	Choose one of the following tracks: General Biology (B.S.) Track Cellular/Molecular/Genetics Track Ecology/Evolution/Organismal Track Forensic Science Track Pharmaceutical Sciences Track Courses are listed in Categories 5 – 9 tables below.	22-59		
	<b>Subtotal Major Credit Hours at NKU</b>	<b>36-73</b>		
	<b>Subtotal Major Credit Hours at ITCC</b>	<b>30</b>		
	<b>Total Major Credit Hours</b>	<b>66-103</b>		

Students will complete either BIOL 240 or BIOL 222 while at Ivy Tech.

#### Category 4: Additional Requirements at NKU

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
	<b>Subtotal Elective (300/400 level) Hours</b>	<b>0-24</b>		
	<b>Total Baccalaureate Degree Credit Hours</b>	<b>120-133</b>		

The Pharmaceutical Track is the only track that will result in more than 120 credit hours to complete the baccalaureate degree.

#### Category 5: NKU Requirements for the General Biology Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
BIO 304L	Ecology Laboratory	1	BIOL 240	
TBS XXX	Select one course from the cellular/molecular/genetics group (see NKU catalog for choices)	3-4		
TBS XXX	Select one course from the ecology/evolution/organismal group (see NKU catalog for choices)	3-4		
BIO XXX	Complete at least 7 additional credit hours from the CMG, EEO, or general elective groups. Students may take electives from across these different groups	7-8		
CHE 310/310L	Organic Chemistry I	4	CHEM 211	
CHE 311/311L	Organic Chemistry II	4	CHEM 212	
MAT 112 or MAT 128 or MAT 129	Applied Calculus or Calculus A or Calculus I	3-4	MATH 211	x
	<b>Additional NKU Credit Hours</b>	<b>22-25</b>		

TBS XXX means to be selected by Ivy Tech student

#### Category 6: NKU Requirements for the Cellular/Molecular/Genetics Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
BIO 302/302L	General Microbiology with lab	4		
BIO 400/400L or BIO 436	Advanced Molecular Biology with lab or Advanced Biology of the Cell	3-4	BIOL 221	x
TBS XXX	Select two courses from the cellular/molecular/genetics group	6-8		
CHE 310/310L	Organic Chemistry I with lab	4	CHEM 211	
CHE 311/311L	Organic Chemistry II with lab	4	CHEM 212	
CHE 482	Biochemistry I	3		

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
CHE 483	Biochemistry II	3		
MAT 112 or MAT 128 or MAT 129	Applied Calculus or Calculus A or Calculus I	3-4	MATH 211	x
	<b>Additional NKU Credit Hours</b>	<b>24-27</b>		

TBS XXX means to be selected.

### Category 7: NKU Requirements for the Ecology/Evolution/Organismal Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
BIO 342	Biometry	3		
BIO 304L	Ecology Laboratory	1		
TBS XXX	Select four courses from the ecology/evolution/organismal group	12-16		
CHE 310/310L	Organic Chemistry I with lab	4	CHEM 211	
CHE 311/311L or GEO 418	Organic Chemistry II with lab or Geographic Information Systems	4	CHEM 212	
MAT 112 or MAT 128 or MAT 129	Applied Calculus or Calculus A or Calculus I	3-4	MATH 211	x
	<b>Additional NKU Credit Hours</b>	<b>24-28</b>		

TBS XXX means to be selected.

### Category 8: NKU Requirements for the Forensic Science Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
BIO 342	Biometry	3		
BIO 302/302L	General Microbiology	4		
BIO 320/320L	Entomology	4		
BIO 400/400L	Advanced Molecular Biology	4	BIOL 221	x
BIO 455 or CHE 350/350L	Scanning Electron Microscopy or Instrumental Analysis	3-5		
CHE 310/310L	Organic Chemistry I	4	CHEM 211	
CHE 311/311L	Organic Chemistry II	4	CHEM 212	
CHE 340/340L	Analytical Chemistry (need additional lab hours with CHEM 215)	5	CHEM 215	
CHE 482/482L	Biochemistry I	4		
JUS 101	Introduction to Criminal Justice	3	CRIM 101	
JUS 204	Criminal Investigation	3	CRIM 204	
MAT 129	Calculus I	4	MATH 211	x

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
	<b>Additional NKU Credit Hours</b>	<b>37-39</b>		

### Category 9: NKU Requirements for the Pharmaceutical Sciences Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
BIO 302/302L	General Microbiology with lab	4		
BIO 425/425L	Advanced Human Anatomy and Physiology I with lab	4		
CHE 310/310L	Organic Chemistry I with lab	4	CHEM 211	
CHE 311/311L	Organic Chemistry II with lab	4	CHEM 212	
CHE 482	Biochemistry I	3		
MAT 112 or MAT 129	Applied Calculus or Calculus I	3-4	MATH 211	x
	Pharmacy School Coursework	30-39		
	<b>Additional NKU Credit Hours</b>	<b>49-59</b>		

Pharmacy schools do not require students to complete a bachelor's degree prior to admission. The pharmaceutical sciences track is designed to enable students interested in applying to pharmacy school early (generally after their third year) to complete a bachelor's degree by transferring coursework from the pharmacy school back to satisfy the remaining requirements for graduation. Due to the fact that pharmacy schools have a varied list of prerequisites and due to the complexity of the pharmaceutical sciences track, students need to work closely with their NKU academic advisor to ensure success. Should a student decide not to attend pharmacy school after their third year, they can complete the requirements for the cellular/molecular/genetics track during their fourth year. In order to complete the requirements for graduation, the student will need to complete 30-39 credits of approved coursework in a pharmacy school which has a pathway agreement with NKU.

Updated April 2023