



Associate of Science to Pre-Veterinary Medicine

Completion of the following curriculum will satisfy the requirements for the **Associate of Science** degree at Gateway Community and Technical College and leads to the **Bachelor of Science in Chemistry (Biochemistry Track) or Bachelor of Science in Biological Sciences (Cellular/Molecular/Genetics Track)** degree at Northern Kentucky University.

Degree requirement for GTC:


1) completion of minimum 60 credit hours, 2) minimum cumulative GPA 2.0, 3) minimum of 15 credit hours earned at the institution awarding the degree, 4) cultural studies course, and 5) demonstration of computer/digital literacy.

Degree requirements for a Pre-Veterinary Medicine:

Pre-veterinary students typically follow degree tracks for Chemistry (Biochemistry Track) or Biological Sciences (Cellular/Molecular/Genetics Track). A grade of C- or better must be earned in all biology courses that count toward completion of major requirements for the BS in Biological Sciences. 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. **At least 45 credit hours must be 300 level or above.** Students must meet the pre-requisites for each course. At least 20 percent of the total required hours must be taken at NKU.


GCTC AS TO NKU BS IN CHEMISTRY (BIOCHEMISTRY TRACK) CHECKLIST


Gateway Community and Technical College

Category I: General Education Core Requirements				
GCTC Course	Course or Category	Credits	NKU Course	
ENG 101	Writing I (WC)	3	ENG 101	
ENG 102	Writing II (WC)	3	ENG 102	
COM 181	Basic Public Speaking (OC)	3	CMST 101	
TBS XXX	Arts & Humanities (AH) – Heritage	3	TBD XXX	
TBS XXX	Arts & Humanities (AH) – Humanities	3	TBD XXX	
TBS XXX	Social & Behavioral Science (SB)	3	TBD XXX	
TBS XXX	Social & Behavioral Science (SB)	3	TBD XXX	
CHE 170/175	General College Chemistry I W/Lab (SL)	5	CHE 120/120L	
CHE 180/185	General College Chemistry II W/Lab (SL)	5	CHE 121/121L	
MAT 175	Calculus I (QR)	4	MAT 129	
MAT 185	Calculus II (QR)	4	MAT 229	
Subtotal General Education Courses		39		

TBS XXX means to be selected by GCTC student.

TBD XXX means to be determined by NKU based on course selected.

Category II: AS Requirements				
GCTC Course	Course or Category	Credits	NKU Course	
CHE 270/275	Organic Chemistry I W/Lab	5	CHE 310/310L	
CHE 280/285	Organic Chemistry II W/Lab	5	CHE 311/311L	
PHY 201/202	College Physics I W/Lab	5	PHY 211	
Subtotal AA Requirement Courses		15		

Category III: Electives				
GCTC Course	Course or Category	Credits	NKU Course	
CIT 105 *	Introduction to Computing*	3	BIS 101	
PHY 203/204	College Physics II W/Lab	5	PHY 213	
BIO 114/115	Biology I W/Lab	4	BIO 150/150L	
BIO 116/117	Biology II W/Lab	4	BIO 151/151L	
Subtotal Elective Courses		16		
Total Associate Degree Hours		70		

*If fulfilling Digital Literacy Requirement in another way besides CIT 105 or OST 105, may need additional hours.


Northern Kentucky University

Category IV: Major Requirements for the BS in Chemistry (Biochemistry Track)				
NKU Course	Course	Credits	GCTC Course	Taken at GCTC
CHE 120/120L	General Chemistry I W/Lab	4	CHE 170/175	x
CHE 121/121L	General Chemistry II W/Lab	4	CHE 180/185	x
CHE 125	Introduction to Chemistry & Biochemistry	1		
CHE 300	Careers in Chemistry	1		
CHE 310/310L	Organic Chemistry I W/Lab	4	CHE 270/275	x
CHE 311/311L	Organic Chemistry II W/Lab	4	CHE 280/285	x
CHE 340/340L	Analytical Chemistry W/Lab	5		
CHE 360	Physical Chemistry I	3		
CHE 361	Physical Chemistry II	3		
CHE 362L	Physical Chemistry Lab	2		
CHE 391W	Chemical Information and Writing	3		
CHE 400	Chemistry Seminar	1		
CHE 482/482L	Biochemistry I W/Lab	4		
CHE 483/483L	Biochemistry II W/Lab	4		
MAT 129	Calculus I	4	MAT 175	x
MAT 229	Calculus II	5	MAT 185	x
PHY 211	General Physics with Lab I	5	PHY 201/202	x
PHY 213	General Physics with Lab II	5	PHY 203/204	x
BIO 150/150L	Introduction to Biology I	4	BIO 114/115	x
BIO 151/151L	Introduction to Biology II	4	BIO 116/117	x
BIO 349/349L	Genetics	4		
Select 2: BIO 302/302L BIO 400/400L BIO 436 CHE 320/320L CHE 350/350L	Select two courses from the following: General Microbiology W/Lab Advanced Molecular Biology W/Lab Advanced Biology of the Cell Inorganic Chemistry W/Lab Instrumental Analysis W/Lab	7-9		
	Electives	10-12		
Subtotal Major Credit Hours Taken at NKU		50		
Total Baccalaureate Degree Credit Hours:		120		

Graduation from NKU requires that a student successfully complete a minimum of 120 hours in college-level coursework, 45 of which must be earned at the 300/400 level. Students should work closely with their NKU academic advisor to ensure all major/minor and graduation requirements are fulfilled.


**GCTC AS TO NKU BS IN BIOLOGICAL SCIENCES
(CELLULAR/MOLECULAR/GENETICS TRACK) CHECKLIST**


Gateway Community and Technical College

Category I: General Education Core Requirements				
GCTC Course	Course or Category	Credits	NKU Course	
ENG 101	Writing I (WC)	3	ENG 101	
ENG 102	Writing II (WC)	3	ENG 102	
COM 181	Basic Public Speaking (OC)	3	CMST 101	
TBS XXX	Arts & Humanities (AH) – Heritage	3	TBD XXX	
TBS XXX	Arts & Humanities (AH) – Humanities	3	TBD XXX	
TBS XXX	Social & Behavioral Science (SB)	3	TBD XXX	
TBS XXX	Social & Behavioral Science (SB)	3	TBD XXX	
BIO 114/115	Biology I W/Lab (SL)	4	BIO 150/150L	
BIO 116/117	Biology II W/Lab (SL)	4	BIO 151/151L	
MAT 170	Brief Calculus with Applications (QR)	3	MAT 112	
STA 220	Statistics (QR)	3	STA 205	
Subtotal General Education Courses		35		

TBS XXX means to be selected by GCTC student.

TBD XXX means to be determined by NKU based on course selected.

Category II: AS Requirements				
GCTC Course	Course or Category	Credits	NKU Course	
CHE 170/175	General College Chemistry I W/Lab (SL)	5	CHE 120/120L	
CHE 180/185	General College Chemistry II W/Lab (SL)	5	CHE 121/121L	
Subtotal AA Requirement Courses		10		

Category III: Electives				
GCTC Course	Course or Category	Credits	NKU Course	
CIT 105 *	Introduction to Computing*	3	BIS 101	
CHE 270/275	Organic Chemistry I W/Lab	5	CHE 310/310L	
CHE 280/285	Organic Chemistry II W/Lab	5	CHE 311/311L	
PHY 201/202	College Physics I W/Lab	5	PHY 211	
PHY 203/204	College Physics II W/Lab	5	PHY 213	
Subtotal Elective Courses		23		
Total Associate Degree Hours		68		

*If fulfilling Digital Literacy Requirement in another way besides CIT 105 or OST 105, may need additional hours.

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Category IV: Major Requirements for the BS in Biological Sciences (Cellular/Molecular/Genetics Track)				
NKU Course	Course	Credits	GCTC Course	Taken at GCTC
BIO 150/150L	Introduction to Biology I	4	BIO 114/115	x
BIO 151/151L	Introduction to Biology II	4	BIO 116/117	x
BIO 155	Orientation to Biology	1		
BIO 291W	Advanced Writing in Biology	3		
BIO 304	General Ecology	3		
BIO 349/349L	Genetics	4		
BIO 458	Evolution of Organisms	3		
BIO 491	Comprehensive Examination	0		
STA 205	Introduction to Statistical Methods	3	STA 220	x
CHE 120/120L	General Chemistry I	4	CHE 170/175	x
CHE 121/121L	General Chemistry II	4	CHE 180/185	x
PHY 211	General Physics with Lab I	5	PHY 201/202	x
PHY 213	General Physics with Lab II	5	PHY 203/204	x
TBS XXX ¹ TBS XXX	Foreign Language Requirement ¹	0-6		
BIO 302/302L	General Microbiology	4		
BIO 400/400L or BIO 436	Advanced Molecular Biology or Advanced Biology of the Cell	3-4		
Select 2: CHE 310/310L CHE 311/311L CHE 482 CHE 483	Select two courses: Organic Chemistry I W/Lab Organic Chemistry II W/Lab Biochemistry I Biochemistry II	6-8	CHE 270/275 CHE 280/285	x
MAT 112 or MAT 129	Applied Calculus or Calculus I	3-4	MAT 170 or MAT 175	x
	Electives	24-31		
Subtotal Major Credit Hours Taken at NKU:		52		
Total Baccalaureate Degree Credit Hours:		120		

¹Foreign language requirement (0-6 credits): All biological science majors are required to complete the 102 level or higher of a foreign language. Students may satisfy this requirement by completing the appropriate two-course sequence in a foreign language, or via CLEP or AP exam equivalency.

Graduation from NKU requires that a student successfully complete a minimum of 120 hours in college-level coursework, 45 of which must be earned at the 300/400 level. Students should work closely with their NKU academic advisor to ensure all major/minor and graduation requirements are fulfilled.

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