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## TWO DEGREES, ONE PATH

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### **TRANSFER PATHWAY GUIDE 2024-2025**

Associate in Science to  
Bachelor of Science in Physics

#### ***Overview***

Completion of the following curriculum will satisfy the requirements for the Associate in Science (AS) degree at Gateway Community and Technical College (GCTC) and leads to the Bachelor of Science (BS) in Physics degree at Northern Kentucky University (NKU).

#### ***Applying to the Gateway2NKU 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 Gateway, enrolled in an associate degree program, plan to transfer to NKU, and maintain a minimum 2.0 cumulative GPA at Gateway.

#### ***Degree Requirements for GCTC***

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 competence course, 5) demonstration of digital literacy, 6) college success requirement.

#### ***Admission Requirements to 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.

#### ***General Transfer Information***

Students must complete the online application to NKU. There is no application fee for students who are transferring from GCTC.

**KCTCS Scholars Award:** Students who are KY residents transferring directly from a KCTCS institution with at least 36 hours from that institution and minimum GPA of 3.0, were never enrolled as a degree-seeking student at NKU and will be enrolled in at least 12 credit hours both fall and spring semester are eligible for a limited number of \$2,500 annual scholarships (\$1,250 per fall and spring). Students must gain admission to NKU by June 15 for fall and November 1 for spring to be eligible for a possible scholarship. Online accelerated programs are not eligible for the KCTCS Scholars Award.

## GCTC AS TO NKU BS IN PHYSICS CHECKLIST

### Gateway Community and Technical College

#### Category 1: GCTC General Education Core Requirements

GCTC Course	Course or Category	Credits	NKU Course	Completed
ENG 101	Writing I (WC)	3	ENG 101	
ENG 102	Writing II (WC)	3	ENG 102	
TBS XXX	Oral Communication (OC)	3	TBD XXX	
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 with Lab (NS)	5	CHE 120/120L	
CHE 180/185	General College Chemistry II with Lab II (SL)	5	CHE 121/121L	
MAT 175	Calculus I (QR)	5	MAT 129	
MAT 185	Calculus II (QR)	5	MAT 229	
	<b>Subtotal General Education Core Courses</b>	<b>41</b>		

TBS XXX means to be selected by GCTC student.

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

For Social and Behavioral Sciences courses, two disciplines must be represented and different from those in the Arts and Humanities category.

#### Category 2: GCTC AS Requirements

GCTC Course	Course or Category	Credits	NKU Course	Completed
PHY 231/241	General University Physics I with Lab (SL)	5	PHY 220	
PHY 232/242	General University Physics II with Lab (SL)	5	PHY 222	
	<b>Subtotal AS Requirement Courses</b>	<b>10</b>		

#### Category 3: GCTC Electives

GCTC Course	Course or Category	Credits	NKU Course	Completed
FYE 105	Achieving Academic Success	3	UNV 100T	
CIT 105	Introduction to Computers	3	BIS 101	
MAT 275	Calculus III	4	MAT 329	
	<b>Subtotal Elective Courses</b>	<b>10</b>		
	<b>Total Associate Degree Hours</b>	<b>61</b>		

Degree Requirement: One course must be selected from the KCTCS identified Cultural Competence course list in the KCTCS catalog.

**Northern Kentucky University**

**Category 4: NKU Major Requirements for the BS in Physics**

<b>NKU Course</b>	<b>Course</b>	<b>Credits</b>	<b>GCTC Course</b>	<b>Taken at GCTC</b>
CHE 120/120L	General Chemistry I with Lab	4	CHE 170/175	x
CHE 121/121L	General Chemistry II with Lab	4	CHE 180/185	x
MAT 129	Calculus I - QR	4	MAT 175	x
MAT 229	Calculus II	5	MAT 185	x
MAT 325	Differential Equations	3		
MAT 329	Calculus III	4	MAT 275	x
PHY 100	Science, Engineering, and Design	1		
PHY 220	University Physics I with Lab	4	PHY 231/PHY 241	x
PHY 222	University Physics II with Lab	4	PHY 232/PHY 242	x
PHY 224	University Physics III with Lab	4		
PHY 300	Intermediate Physics Lab	2		
PHY 310	Dynamics	3		
PHY 360	Thermodynamics	3		
PHY 361	Modern Physics I	3		
PHY 393	Physics Seminar	1		
PHY 405	Classical Mechanics	3		
PHY 410	Electromagnetic Theory	4		
PHY 460	Quantum Mechanics	3		
Select 1: PHY 301 AST 310	Select one course from the following: Advanced Physics Laboratory Astronomical Techniques	2-3		
Select 6 cr.: PHY 305 PHY 320 PHY 330 PHY 315 PHY 392 PHY 394 PHY 396 PHY 399 PHY 420 PHY 492 AST 315 AST 325 AST 392 AST 394 AST 397 AST 399 AST 492	Select 6 credit hours from the following: Statics Physical Optics Mathematical Physics Introduction to Astrophysics Directed Research: Physics (1-3 credits) Topics: Physics (1-3 credits) Special Projects: Physics (1-3 credits) Readings in Physics (1-3 credits) Modern Physics II Undergraduate Research: Physics (1-3 credits) Introduction to Astrophysics Geology of the Planets Directed Research: Astronomy (1-3 credits) Topics: Astronomy Special Projects: Astronomy (1-3 credits) Independent Study in Astronomy (1-3 credits) Directed Research: Astronomy (1-3 credits)	6		
	<b>Subtotal Major Credit Hours at NKU</b>	<b>38-39</b>		
	<b>Subtotal Major Credit Hours at GCTC</b>	<b>29</b>		
	<b>Total Major Credit Hours</b>	<b>67-68</b>		

**Category 5: Additional Requirements at NKU**

<b>NKU Course</b>	<b>Course</b>	<b>Credits</b>	<b>KCTCS Course</b>	<b>Taken at KCTCS</b>
	<b>Subtotal Minor/Focus Hours</b>	<b>6-24</b>		
	<b>Subtotal Elective (300/400 level) Hours</b>	<b>0-15</b>		
	<b>Total Baccalaureate Degree Credit Hour (with mathematics minor)</b>	<b>120</b>		

Note: A minor in mathematics is recommended and requires two 3-credit-hour courses beyond those required for the physics degree.

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