

TRANSFER PATHWAY GUIDE

2024-2025

Associate of Science in Physics at Sinclair College to a Bachelor of Science in Physics at Northern Kentucky University

Overview

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

Degree Requirements for Sinclair College

To earn a degree at Sinclair College, a student must complete a minimum of 60 credit hours, attain a minimum cumulative GPA of 2.0, and earn a minimum of 20 credit hours at Sinclair College.

Admission Requirements for NKU

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

Tuition and Scholarships

For information on tuition and scholarships, please visit <https://nku.edu/admissions/adult/online.html>

NKU Contact

For more information, students should contact Kim McCoy, Assistant Director of Transfer Services, at mccoyk8@nku.edu.

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 must complete a focus or minor as indicated on the pathway.

Note: In addition, NKU offers a Bachelor of Arts in Physics. Students wishing to teach physics at the secondary level should complete the BA in physics along with the BA in Secondary Education.

SINCLAIR COLLEGE AS IN PHYSICS TO NKU BS IN PHYSICS CHECKLIST

Sinclair College

Category 1: Sinclair Requirements for the AS in Physics

Sinclair Course	Course or Category	Credits	NKU Course	Completed
CHE 1211	General Chemistry I	5	CHE 120/120L	
CHE 1221	General Chemistry II	5	CHE 121/121L	
CHE 1251	Lab for General Chemistry I	0	CLAB100G	
CHE 1261	Lab for General Chemistry II	0	CLAB200G	
COM 2206 or COM 2211 or COM 2225	Interpersonal Communication or Effective Public Speaking or Small Group Communication	3	CMST 220 CMST 101 CMST 230	
ENG 1101	English Composition I	3	ENG 101	
MAT 2270	Calculus & Analytic Geometry I	5	MAT 129	
MAT 2280	Calculus & Analytic Geometry II	5	MAT 229	
MAT 2290	Calculus & Analytic Geometry III	5	MAT 329	
MAT 2320 or MAT 2330 or PHY 2210	Linear Algebra or Differential Equations and Linear Algebra (preferred) or MATLAB for Scientists & Engineers	3-5	MAT 234 or MAT 234 + MAT 325 or PHY 200T	
PHY 2201	General Physics I	5	PHY 220	
PHY 2202	General Physics II	5	PHY 222	
PHY 2203	Introduction to Modern Physics	3	PHY 361	
PHY 2207	Lab for General Physics I	0	PLAB200G	
PHY 2208	Lab for General Physics II	0	PLAB200G	
PHY 2780	Scientific Thought & Method	3	PHY 200T	
TBS XXX	Ohio Transfer 36: Arts & Humanities Elective	6	TBD XXX	
TBS XXX	Ohio Transfer 36: Social & Behavioral Sciences Elective	6	TBD XXX	
Total Associate Degree Hours		62-64		

TBS XXX means to be selected by Sinclair College student.

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

Northern Kentucky University

Category 2: NKU Major Requirements for the BS in Physics

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
CHE 120/120L	General Chemistry I with Lab	4	CHE 1211	x
CHE 121/121L	General Chemistry II with Lab	4	CHE 1221	x

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
MAT 129	Calculus I	4	MAT 2270	x
MAT 229	Calculus II	5	MAT 2280	x
MAT 329	Calculus III	4	MAT 2290	x
MAT 325	Differential Equations	3	MAT 2330 or MAT 2310	Can be taken at Sinclair
PHY 100	Science, Engineering, and Design	1		
PHY 220	University Physics with Laboratory I	4	PHY 2201	x
PHY 222	University Physics with Laboratory II	4	PHY 2202	x
PHY 224	University Physics with Laboratory III	4		
PHY 300	Intermediate Physics Laboratory	2		
PHY 310	Dynamics	3		
PHY 360	Thermodynamics	3		
PHY 361	Modern Physics I	3	PHY 2203	x
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		
	Total NKU Major Credit Hours	67-68		
	Less Major Credit Hours from Sinclair	32-35		
	Subtotal Major Credit Hours at NKU	32-36		

Category 3: Additional Requirements at NKU

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
	<p>Subtotal Minor Credit Hours Taken at NKU Students who take MAT 2330 at Sinclair will need one additional 300 level or above MAT course to complete a minor in Mathematics.</p>	3-24		
	Subtotal Elective (some 300/400 level) Hours	0-23		
	Total Baccalaureate Degree Credit Hours	120		

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