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# TWO DEGREES, ONE PATH

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## TRANSFER PATHWAY GUIDE 2024-2025

Associate of Science in Software Development To  
Bachelor of Science in Information Technology

### ***Overview***

Completion of the following curriculum will satisfy the requirements for the Associate of Science (AS) in Software Development degree at Ivy Tech Community College (ITCC) and leads to the Bachelor of Science (BS) in Information Technology 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 to NKU***

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

The Information Technology, B.S. – Cloud and Systems Administration Track is offered both face-to-face and online.

### ***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, including earning a C- or

better in all courses that count toward the major or minor. Students must complete a focus or minor as indicated on the pathway.

**Credits for Certifications:** Students who have taken and passed an examination and hold a current certification at the time of registering for classes will receive credit for equivalent NKU courses based on the following course mappings.

**Cisco**

Students with an associate degree and Cisco Certified Entry Level (CCENT) certification will receive credit for CIT 247.

Students with an associate degree and Cisco Certified Network Associate Routing and Switching (CCNA R&S) certification will receive credit for CIT 447.

The chart below shows the semester credit hours and the equivalent NKU course.

EXAMINATION	EQUIVALENT NKU COURSE	TOTAL SEMESTER HOURS
CCNA Exam (200-301)*	CIT 247 Networking Fundamentals CIT 447 Network Design/Troubleshooting	6
CCNP Security Core Exam (350-701)*	CYS 484 Network Security	3
Certified Entry Networking	CIT 247 Networking Fundamentals	3

\*Credit given for exams taken after Summer 2020

**Computing Technology Industry Association (CompTIA)**

NKU students who have taken and passed an examination from CompTIA, and hold a current certification (at the time of registering for classes) will receive credit for an equivalent NKU course. The chart below shows the semester credit hours and the equivalent NKU course.

EXAMINATION	EQUIVALENT NKU COURSE	TOTAL SEMESTER HOURS
Security+ (versions SY0-501 and later)	CYS 285 Cybersecurity Fundamentals	3
Network+	INF 284 Introduction to Computer Networks	3
Linux+	CIT 371 Unix Systems	3

Note: Students with Security+ exams SY0-401 and before will be required to take CYS 285.

## Ivy Tech Community College of Indiana

Students must complete the following courses for an AS degree in Software Development.

### 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 or COMM 102	Fundamentals of Public Speaking or Introduction to Interpersonal Communication	3	CMST 101 CMST 220	
MATH 136	College Algebra	3	(MAT 102 or MAT 103) + MAT 100T	
MATH 200	Statistics	3	STA 205	
TBS XXX	Scientific Ways of Knowing	3-5	TBD XXX	
TBS XXX	Scientific Ways of Knowing	3-5	TBD XXX	
TBS XXX	Social and Behavioral Ways of Knowing	3	TBD XXX	
TBS XXX	Humanistic and Artistic Ways of Knowing	3-4	TBD XXX	
TBS XXX	Social and Behavioral Ways of Knowing, Scientific Ways of Knowing, or Quantitative Reasoning	3	TBD XXX	
TBS XXX	Scientific Ways of Knowing or Quantitative Reasoning	3	TBD XXX	
	<b>Subtotal General Education Core</b>	<b>30-35</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

A grade of A or B in MAT 136 equates to MAT 103 + MAT 100T. Grade of C or D in MAT 150 equates to MAT 102 + MAT 100T.

### Category 2: ITCC Degree Requirements for AS in Software Development and NKU Recommendations

ITCC Course	Course or Category	Credits	NKU Course	Completed
IVYT 111	Student Success in University Transfer	1	UNV 100T	
CPIN 279	Information Technology Capstone	1	INF 200T	
DBMS 110 or CSCI 210	Introduction to Data Analytics or Database Systems (preferred)	3	INF 200T INF 282	
INFM 109	Informatics Fundamentals	3	CIT 130	
SDEV 120	Computing Logic	3	INF 100T	
SDEV 140 or CSCI 101	Introduction to Software Development or Computer Science I	3	INF 120 CSC 200T	
SDEV 153	Website Development	3	INF 286	
SDEV 265 or CPIN 269	Systems/Software Analysis and Projects or Information Technology Project Management	3	CSC 200T INF 200T	
Choose 1: SDEV 200 SDEV 220 SDEV 230	Choose one course from the following: Software Development using Java Software Development using Python Software Development using C++	3	INF 120 INF 120 INF 120	

ITCC Course	Course or Category	Credits	NKU Course	Completed
SDEV 240 SDEV 255 SDEV 260 CSCI 201	Software Development using C# Web Application Development iOS Swift Application Development Computer Science II		INF 120 CSC 200T	
Choose 7 cr: CPIN 280  CSCI 105 CSCI 202 SDEV 148 SDEV 155 SDEV 245 SDEV 248 SDEV 257 SDEV 264 SDEV 266 SDEV 268 SDEV 181 – SDEV 194 SDEV 281 – SDEV 294 SDEV 270  SDEV 271  SDEV 272 SDEV 273  SDEV 275 SDEV 276	Choose seven credits from the following: Computing and Informatics CO-OP/Internship/ Externship Discrete Logic for Computers Data Structures Introduction to Game Development Content Management Systems Security and Secure Coding Advanced Simulation and Game Design Hybrid Apps and Frameworks Mobile Application Development Advanced iOS Swift Application Development Algorithms and Design Patterns Special Topics in Software Development  Advanced Special Topics in Software Development  Workforce Preparation: Microsoft Development Fundamentals MTA Certification Workforce Preparation: Java Foundations Certification Workforce Preparation: Python Workforce Preparation: C++ Institute Certified Associate Programmer Certification Workforce Preparation: MTA 98-375 HTML5 Fundamentals Certification Workforce Preparation: ATC Android Application Development Certification	7	INF 200T  CSC 100T CSC 200T         ASE 200T  ASE 200T ASE 200T	
	<b>Total Associate Degree Credit Hours</b>	<b>60-65</b>		

### Northern Kentucky University

Students must complete the following for a BS in Information Technology: the core requirements, a minor or area of focus, and one of the four tracks.

#### Category 3: NKU Core Requirements for the BS in Information Technology

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
INF 100	Orientation to College of Informatics	1	Waived for students	

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
			with AS degree	
INF 120	Elementary Programming	3	SDEV 140 or SDEV 200 or SDEV 210 or SDEV 220 or SDEV 230 or SDEV 240	x
INF 282 or CSC 350	Introduction to Databases or Database Programming	3	CSCI 210	x
INF 284	Introduction to Computer Networks	3	NETI 104	
INF 286	Introduction to Web Development	3	SDEV 153	x
CIT 130	Information Technology Fundamentals	3	INFM 109	x
CIT 171	Introduction to Linux	1		
CIT 271	Windows Administration	3	SVAD 121	
CIT 371	Linux System Administration	3		
CIT 383	Scripting I	3		
CYS 285	Cybersecurity Fundamentals	3	CSIA 215 + CSIA 235 = CYS 285 + CIT 200T	
STA 205 or STA 250	Statistical Methods or Probability and Statistics	3	MATH 200	x
PHI 310	Information Ethics	3		
ENG 347	Technical Writing	3	ENGL 211	
	Select one of the following tracks: Network and Administration Track Cloud and System Administration Track Cybersecurity Track General Track (Courses are listed in Categories 5-8 tables below)	18		
	<b>Subtotal Major Credit Hours at NKU</b>	<b>40</b>		
	<b>Subtotal Major Credit Hours at ITCC</b>	<b>15</b>		
	<b>Total Major Credit Hours</b>	<b>55</b>		

#### Category 4: Additional Requirements at NKU

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
	<b>Subtotal Minor Credit Hours Taken at NKU</b> Any NKU minor may be selected. Information Systems and Computer Science are common choices and require 15 additional credits.	<b>15-24</b>		
	<b>Subtotal Elective (300/400 level) Hours</b>	<b>0-6</b>		

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
	<b>Total Baccalaureate Degree Credit Hours</b>	<b>120-131</b>		

Credits hours for the baccalaureate degree can vary based on the courses taken at ITCC and the minor selected at NKU.

Students must choose one of the following tracks: Network and System Administration Track, Cloud and System Administration Track, Cybersecurity Track or General Track.

#### Category 5: NKU Requirements for the Network and System Administration Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
CIT 247	Networking Fundamentals	3	NETI 109 + NETI 119 + NETI 209	
CIT 447	Network Design/Troubleshooting	3		
CIT 470	Advanced Network and System Administration	3		
CYS 484	Network Security	3		
CIT XXX	300/400-level CIT course not listed above	3		
CIT XXX	300/400-level CIT course not listed above	3		
	<b>Additional Track Credit Hours</b>	<b>18</b>		

#### Category 6: NKU Requirements for the Cloud and System Administration Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
CIT 436	Web Server Administration	3		
CIT 438	Cloud Computing	3		
CIT 470	Advanced Network and System Administration	3		
CIT 472	Database Administration	3		
CIT XXX or CYS 439	Add two electives from CIT 300/400 or CYS 439	6		
	<b>Additional Track Credits</b>	<b>18</b>		

#### Category 7: NKU Requirements for the Cybersecurity Track

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
CYS 330	Introduction to Ethical Hacking	3		
CYS 385	Cybersecurity Analysis I	3		
CYS 484	Network Security	3		
CYS 485	Cybersecurity Analysis II	3		
CIT/CYS XXX	Two 300/400 level CIT or CYS courses not included above; BIS 382, CSC 482, and CSC 483 may count toward these electives	6		

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
	<b>Additional Track Credits</b>	<b>18</b>		

**Category 8: NKU Requirements for the General Track**

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
CIT 436	Web Server Administration	3		
CIT 438	Cloud Computing	3		
CIT 470	Advanced Network and System Administration	3		
CIT 472	Database Administration	3		
CYS 330	Introduction to Ethical Hacking	3		
CYS 385	Cybersecurity Analysis I	3		
	<b>Additional Track Credits</b>	<b>18</b>		

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