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# TWO DEGREES, ONE PATH

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## TRANSFER PATHWAY GUIDE 2023-2024

Associate of Science in Data Analytics To  
Bachelor of Science in Computer Information Technology

### ***Overview***

Completion of the following curriculum will satisfy the requirements for the Associate of Science (AS) in Data Analytics degree at Ivy Tech Community College (ITCC) and leads to the Bachelor of Science (BS) in Computer 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 Computer 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.

NKU students who have taken and passed an examination from Cisco, 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 |
|------------------------------------|---|----------------------|
| CCNA Exam (200-301)*               | CIT 247 Networking Fundamentals<br>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 in Data Analytics.

### 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<br>COMM 102                | Fundamentals of Public Speaking or<br>Introduction to Interpersonal Communication                  | 3            | CMST 101<br>CMST 220                  |           |
| MATH 136                               | College Algebra  | 3            | (MAT 102 or<br>MAT 103) +<br>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  | 3-4          | TBD XXX                               |           |
| TBS XXX                                | Humanistic and Artistic Ways of Knowing  | 3            | TBD XXX                               |           |
| TBS XXX                                | Social and Behavioral Ways of Knowing,<br>Scientific Ways of Knowing, or Quantitative<br>Reasoning | 3            | TBD XXX                               |           |
| TBS XXX                                | Scientific Ways of Knowing or Quantitative<br>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 Data Analytics 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                | Introduction to Data Analytics   | 3       | INF 200T   |           |
| DBMS 130                | Data Management using Structured Query<br>Language   | 3       | INF 282    |           |
| DBMS 160                | Data Visualization and Analysis  | 3       |            |           |
| DBMS 260                | Advanced Data Analytics  | 3       |            |           |
| INFM 109                | Informatics Fundamentals   | 3       | CIT 130    |           |
| SDEV 120                | Computer Logic   | 3       | INF 100T   |           |
| SDEV 140 or<br>SDEV 220 | Introduction to Software Development or<br>Software Development Using Python<br>(Transfer Cluster) | 3       | INF 120    |           |
| SDEV 153                | Web Site Development (Transfer Cluster)  | 3       | INF 286    |           |
|                         | Transfer Cluster Electives   | 4       |            |           |

| ITCC Course | Course or Category                         | Credits      | NKU Course | Completed |
|-------------|--|--------------|------------|-----------|
|             | <b>Total Associate Degree Credit Hours</b> | <b>60-65</b> |            |           |

### Northern Kentucky University

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

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

| NKU Course         | Course   | Credits   | ITCC Course                              | Taken at ITCC |
|--------------------|--|-----------|--|---------------|
| INF 100            | Orientation to College of Informatics  | 1         | Waived for students with AS degree       |               |
| INF 120            | Elementary Programming   | 3         | SDEV 140 or SDEV 220                     | x             |
| INF 282 or CSC 350 | Introduction to Databases or Database Programming  | 3         | DBMS 130                                 | 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         |  |               |
| CIT 371            | Unix Systems   | 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:<br>Network and Administration Track<br>Cloud and System Administration Track<br>Cybersecurity Track<br>(Courses are listed in Categories 5-7 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><br>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>0-5</b>     |             |               |
|            | <b>Total Baccalaureate Degree Credit Hours</b>   | <b>120-129</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, or Cybersecurity 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<br>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**

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

Updated April 2023