

# transfer pathway guide

# 2019-2020

Associate of Science in Software Development To

Bachelor of Science in Computer Information Technology

## Overview

Completion of the following curriculum will satisfy the requirements for the **Associate of Science in Software Development** degree at Ivy Tech Community College and leads to the **Bachelor of Science in Computer Information Technology** degree at Northern Kentucky University.

## 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 for NKU

Students completing an associate degree with a cumulative GPA of 2.0 or higher will be accepted into NKU. In addition, students must earn a grade of C- or better in each course that counts as part of the Computer Information Technology major.

## 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 requirements for the major. In some cases, students must complete a focus or minor as indicated on the pathway.

### Ivy Tech Community College of Indiana

Students must complete the following courses for an Associate of Science degree in Software Development.

#### Category 1: Transfer General Education Core (TGEC) Competencies

| **ITCC Course** | **Course or Category** | **Credits** | **NKU Course** | **Completed** |
| --- | --- | --- | --- | --- |
| ENGL 111 | Written Communication | 3 | ENG 101 |  |
| COMM 101 or COMM 102 | Speaking and Listening | 3 | CMST 101 or CMST 220 |  |
| TBS XXX | Quantitative Reasoning | 3-4 | TBD XXX |  |
| TBS XXX | Quantitative Reasoning | 3-4 | TBD XXX |  |
| 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 | 3-4 | TBD XXX |  |
| TBS XXX | TGEC Elective | 3 | TBD XXX |  |
| TBS XXX | TGEC Elective | 3 | TBD XXX |  |
|  | **Subtotal General Education Core** | **30-38** |  |  |

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

#### Category 2: Degree Requirements for Associate of Science 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 |  |
| INFM 109 | Informatics Fundamentals and | 3 | BIS 101 |  |
| DBMS 110 | Database Design and Management | 3 |  |  |
| ITSP 135 | Hardware/Software Support | 4 |  |  |
| SDEV 120 | Computer Logic | 3 | INF 100T |  |
| SDEV 140 | Introduction to Software Development | 3 |  |  |
| SDEV 200 or SDEV 210 orSDEV 220 orSDEV 230 orSDEV 240 | Software Development using Java orSoftware Development using Visual Basic orSoftware Development using Python orSoftware Development using C++ orSoftware Development using C# or | 3 | INF 120 |  |
| CPIN 279 | Computing and Informatics Exploration and Evaluation | 1 | INF 200T |  |
| SVAD 121 | Transfer Cluster Elective – Enterprise Computing | 3 | CIT 271 |  |
| DBMS 210 | Transfer Cluster Elective – Database Design and Development | 3 | DBMS 110 + DBMS 210 = INF 282 + INF 200T |  |
| SDEV 153 | Transfer Cluster Elective – Web Site Development | 3 | INF 286 |  |
|  | **Total Associate Degree Credit Hours** | **60-68** |  |  |

### Northern Kentucky University

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

Students with an associate degree can earn course credit by meeting the following criteria:

 For CIT 247 credit, one of the following criteria must be met.

* C- or better in NETI 105 and (CSIA 210 or NETI 115)
* Cisco Certified Entry Level (CCENT) certification

For CIT 447 credit, both of the following criteria must be met.

* C- or better in NETI 105 and (CSIA 210 or NETI 115)
* Cisco Certified Network Associate Routing and Switching (CCNA R&S) certification

#### Category 3: Core Requirements for the B.S. 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 200 or SDEV 210 orSDEV 220 orSDEV 230 orSDEV 240 | x |
| INF 282 orCSC 350 | Introduction to Databases orDatabase Programming | 3 | DBMS 110 + DBMS 210 = INF 282 + INF 200T | x |
| INF 284 | Introduction to Computer Networks | 3 | NETI 105 |  |
| INF 286 | Introduction to Web Development | 3 | SDEV 153 | x |
| CIT 130 | Information Technology Fundamentals | 3 | INFM 109 + CSIA 105 =CIT 130 + CIT 100T  |  |
| CIT 271 | Windows Administration | 3 | SVAD 121 | x |
| CIT 285 | Cybersecurity Fundamentals | 3 | CSIA 215 + CSIA 235 = CIT 285 + CIT 200T |  |
| CIT 371 | Unix Systems | 3 |  |  |
| CIT 383 | Scripting I | 3 |  |  |
| STA 205 orSTA 250 | Statistical Methods orProbability and Statistics | 3 |  |  |
| PHI 310 | Information Ethics | 3 |  |  |
| ENG 347 | Technical Writing | 3 | ENGL 211 |  |
|  | Minor or Area of Focus | 15-24 |  |  |
|  | **Subtotal Core Courses Credit Hours** | **40-49** |  |  |

Students must choose one of the following tracks: Network and System Administration Track, Web and Database Administration Track, Cybersecurity Track, or Non-Specialist Track

#### Category 4: Requirements for the Network and System Administration Track

| **NKU Course** | **Course** | **Credits** | **ITCC Course** | **Taken at ITCC** |
| --- | --- | --- | --- | --- |
| CIT 247 | Networking Fundamentals | 3 | NETI 105 and(CSIA 210 or NETI 115) |  |
| CIT 447 | Network Design/Troubleshooting | 3 | C- or better in NETI 105 and (CSIA 210 or NETI 115), A.S., and CCNA R&S certification |  |
| CIT 470 | Advanced Network and System Administration | 3 |  |  |
| CIT 484 | Network Security | 3 |  |  |
| Select two 300/400 level CIT courses | CIT Electives | 6 |  |  |
|  | **Additional Track Credit Hours** | **18** |  |  |
|  | **Total Bachelor Degree Credit Hours** | **120-134** |  |  |

An alternative equivalency is NETI 105 and NETI 115 or CCENT certification.

Credits hours for the bachelor degree can vary based on the courses taken at ITCC and the minor selected at NKU. The lowest total credit hours for this track is based on the student completing an A.S. in Software Development at ITCC and an Information Systems Minor at NKU.

#### Category 4: Requirements for the Web and Database Administration Track

| **NKU Course** | **Course** | **Credits** | **ITCC Course** | **Taken at ITCC** |
| --- | --- | --- | --- | --- |
| CSC 260 | Object-Oriented Programming I | 3 |  |  |
| CSC 360 orCIT 483 | Object-Oriented Programming II orScripting II | 3 |  |  |
| CSC 301 | Web Programming | 3 |  |  |
| CIT 436 | Web Server Administration | 3 |  |  |
| CIT 472 | Database Administration | 3 |  |  |
| CSC 456 orOne 300/400 CIT | Advanced Web Application Development or CIT Elective | 3 | C- or better in NETI 105 and (CSIA 210 or NETI 115), A.S., and CCNA R&S certification equates toCIT 447 and satisfies elective requirement |  |
|  | **Additional Track Credits** | **18** |  |  |
|  | **Total Bachelor Degree Credit Hours** | **120-134** |  |  |

Credits hours for the bachelor degree can vary based on the courses taken at ITCC and the minor selected at NKU. The lowest total credit hours for this track is based on the student completing an A.S. in Software Development at ITCC and an Information Systems Minor at NKU.

#### Category 4: Requirements for the Cybersecurity Track

| **NKU Course** | **Course** | **Credits** | **ITCC Course** | **Taken at ITCC** |
| --- | --- | --- | --- | --- |
| CIT 247 | Networking Fundamentals | 3 | NETI 105 and(CSIA 210 or NETI 115) |  |
| CIT 430 | Computer Forensics | 3 |  |  |
| CIT 484 | Network Security | 3 |  |  |
| CIT 485 | Advanced Cybersecurity | 3 |  |  |
| Select two 300/400 level CIT course or BIS 382 or CSC 482 or CSC 483 | Track Elective | 3 | C- or better in NETI 105 and (CSIA 210 or NETI 115), A.S., and CCNA R&S certification equates to CIT 447 and satisfies one elective requirement |  |
|  |  **Additional Track Credits** | **18** |  |  |
|  | **Total Bachelor Degree Credit Hours** | **120-134** |  |  |

An alternative equivalency is NETI 105 and NETI 115 or CCENT certification.

Credits hours for the bachelor degree can vary based on the courses taken at ITCC and the minor selected at NKU. The lowest total credit hours for this track is based on the student completing an A.S. in Software Development at ITCC and an Information Systems Minor at NKU.

#### Category 4: Requirements for the Non-Specialist Track

| **NKU Course** | **Course** | **Credits** | **ITCC Course** | **Taken at ITCC** |
| --- | --- | --- | --- | --- |
| CSC 260 | Object-Oriented Programming I | 3 |  |  |
| CSC 360 or CSC 483 | Object-Oriented Programming II or Scripting II | 3 |  |  |
| CIT 436 orCIT 438 orCIT 472 | Web Server Administration orCloud Computing orDatabase Administration | 3 |  |  |
| CIT 470 orCIT 485 | Advanced Network and System Administration or Advanced Cybersecurity | 3 |  |  |
| Select two 300/400 level CIT course | CIT Electives | 6 | C- or better in NETI 105 and (CSIA 210 or NETI 115), A.S., and CCNA R&S certification equates toCIT 447 and satisfies one elective requirement |  |
|  | **Additional Track Credits** | **18** |  |  |
|  | **Total Bachelor Degree Credit Hours** | **120-134** |  |  |

Credits hours for the bachelor degree can vary based on the courses taken at ITCC and the minor selected at NKU. The lowest total credit hours for this track is based on the student completing an A.S. in Software Development at ITCC and an Information Systems Minor at NKU.

Updated May 2019 for Fall 2019 Start