

# TRANSFER PATHWAY GUIDE

# 2019-2020

Associate of Applied Science in Computer and Information Technologies – Network Administration Track to Bachelor of Science in Computer Information Technology – All Tracks

## Overview

Completion of the following curriculum will satisfy the requirements for the Associate of Applied Science (AAS) in Computer and Information Technologies (Network Administration Track) degree at a Kentucky Community and Technical College System institution and leads to the Bachelor of Science in Computer Information Technology degree at Northern Kentucky University.

There are two pathways in this document. The first pathway is built using the Microsoft Windows Administration Course Sequence in the Network Administration Track at KCTCS and second pathway is built using the Cisco Networking Associate Course Sequence in the Network Administration Track. Each pathway leads into a Computer Information Technology degree at NKU.

## Applying to the KCTCS2NKU 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 their KCTCS institution, enrolled in an associate degree program, plan to transfer to NKU, and maintain a minimum 2.0 cumulative GPA at their KCTCS institution.

## Degree Requirements for KCTCS

1) completion of minimum 60 credit hours, 2) minimum cumulative GPA 2.0, 3) minimum of 25 percent of credit hours required for the degree earned at the institution awarding the degree, 4) demonstration of digital literacy.

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

## General Transfer Information

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

**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.

**Credits for Certifications:** Students with a current certification at the time of registering for classes will receive credit for equivalent NKU courses based on the following course mappings.

| **Examination** | **Equivalent NKU Courses** | **Semester Credits** |
| --- | --- | --- |
| CCNA Routing and Switching | CIT 247 Networking Fundamentals  CIT 447 Network Design/Troubleshooting | 6 |
| CCNA Security | CIT 247 Networking Fundamentals  CIT 484 Network Security | 6 |
| Security+  (versions SY0-501 and later) | CIT 285 Cybersecurity Fundamentals | 3 |
| OCA – Oracle Certified Associate | CIT 472 Database Administration | 3 |

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

### KCTCS AAS IN COMPUTER & INFORMATION TECHNOLOGIES – NETWORK ADMINISTRATION TRACK (MICROSOFT WINDOWS ADMINISTRATION) TO ­­­­­­­­­­­­­­­NKU BS IN COMPUTER INFORMATION TECHNOLOGY CHECKLIST

### Kentucky Community and Technical College System

#### Category 1: KCTCS General Education Requirements

| **KCTCS Course** | **Course or Category** | **Credits** | **NKU Course** | **Completed** |
| --- | --- | --- | --- | --- |
| ENG 101 | Writing I (WC) | 3 | ENG 101 |  |
| MAT 150 | College Algebra (QR) | 3 | (MAT 102 or MAT 103) + MAT 100T |  |
| TBS XXX | Social & Behavioral Sciences (SB) | 3 | TBD XXX |  |
| TBS XXX | Arts & Humanities (AH) Heritage or Humanities | 3 | TBD XXX |  |
| TBS XXX | Natural Science Course with Lab (SL) – Choose from the list below:  BIO 135 -Basic Anatomy & Physiology with Laboratory  BIO 137 -Human Anatomy & Physiology I  BIO 139 - Human Anatomy & Physiology II  BIO 141 -Botany with Laboratory  BIO 143- Zoology with Laboratory  BIO 225 -Medical Microbiology  CHE 220 -Analytical Chemistry  EST 150 -Introductory Ecology  GEO 280 -Environmental Science  GLY 220 -Principles of Physical Geology  PHY 171-Applied Physics | 4 | TBD XXX |  |
|  | **Subtotal General Education Courses** | **16** |  |  |

TBS XXX means to be selected by KCTCS student.

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

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

Students who do not complete a science course with a lab will be required to take an additional science with a lab at NKU.

#### Category 2: KCTCS AAS Requirements

| **KCTCS Course** | **Course or Category** | **Credits** | **NKU Course** | **Completed** |
| --- | --- | --- | --- | --- |
| CIT 105 | Introduction to Computers | 3 | BIS 101 |  |
| CIT 111 +  CIT 217 +  CIT 160 or  CIT 161 | Computer Hardware and Software +  UNIX/Linux Net Infrastructure (CIT Technical) +  Intro to Networking Concepts (Level I Networking)  or Introduction to Networks (Level I Networking) | 4  3  4 | CIT 130 +  CIT 100T +  INF 284 |  |
| CIT 120 | Computational Thinking | 3 | INF 100T |  |
| CIT 141 or  CIT 142 or  CIT 143 or  CIT 144 or  CIT 145 or  CIT 146 or  CIT 147 or  CIT 148 or  CIT 149 or  CS 115 | Level I Programming Language Course:  PHP I or  C++ I or  C# I or  Python I or  Perl I or  Swift I or  Programming I: Language or  Visual Basic I or  Java I or  Introduction to Computer Programming | 3 | INF 120 |  |
| CIT 150 or  CIT 155 or  IMD 230 | Internet Technologies (CIT Technical) or  Web Page Development (CIT Technical) or  Advanced Web Design | 3 | INF 286 |  |
| CIT 170 | Database Design Fundamentals | 3 | INF 282 |  |
| CIT 180 +  CIT 182 | Security Fundamentals +  Perimeter Defense (CIT Technical) | 3  3 | CIT 285 +  CIT 200T |  |
| CIT 213 +  CIT 214 +  CIT 215  Or  CIT 213 +  CIT 261 +  CIT 262 +  CIT 264 | Microsoft Client Configuration +  Microsoft Server Configuration +  Microsoft Server Administration  Or  Microsoft Client Configuration +  MS Network Infrastructure + | 9-12 | CIT 271 +  CIT 200T |  |
| CIT 216 | Microsoft Server Advanced Services | 3 | CIT 200T |  |
| CIT 293 | CIT Employability Studies | 1 | CIT 200T |  |
|  | **Subtotal AAS Requirement Courses** | **45** |  |  |
|  | **Total Associate Degree Hours** | **61-64** |  |  |

### Northern Kentucky University

#### Category 3: Additional General Education Courses

| **NKU**  **Course** | **Course or Category** | **Credits** | **KCTCS**  **Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| ENG 102 | Advanced College Writing | 3 | ENG 102 |  |
| CMST 101 | Public Speaking | 3 | COM 181 |  |
| TBS XXX | Self & Society | 6 |  |  |
| TBS XXX | Culture & Creativity | 3 |  |  |
| TBS XXX | Global Viewpoints | 3 |  |  |
|  | **Subtotal General Education Credit Hours** | **18** |  |  |

#### Category 4: Major Requirements for BS in Computer Information Technology

| **NKU**  **Course** | **Course** | **Credits** | **KCTCS**  **Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| INF 100 | Orientation to College of Informatics | 1 | Waived for students with AAS degree |  |
| INF 120 | Elementary Programming | 3 | CIT 141 or CIT 142 or CIT 143 or CIT 144 or CIT 145 or CIT 146 or CIT 147 or CIT 148 or CIT 149 or CS 115 | x |
| INF 282 | Introduction to Databases | 3 | CIT 170 | x |
| INF 284 | Introduction to Computer Networks | 3 | CIT 160 or CIT 161 | x |
| INF 286 | Introduction to Web Development | 3 | CIT 150 or CIT 155 or IMD 230 | x |
| CIT 130 | Information Technology Fundamentals | 3 | CIT 111 + CIT 217 + CIT 160 or CIT 161 = CIT 130 + CIT 100T + INF 284 | x |
| CIT 271 | Windows Administration | 3 | CIT 213 + CIT 215 =  CIT 271 + CIT 200T | x |
| CIT 285 | Cybersecurity Fundamentals | 3 | CIT 180 +CIT 182 = CIT 285 +CIT 100T | x |
| CIT 371 | Unix Systems | 3 |  |  |
| CIT 383 | Scripting I | 3 |  |  |
| STA 205 or STA 250 | Statistical Methods or  Probability and Statistics | 3 | STA 220 or  (MAT 151 or STA 151 or MAT 161) + STA 251 |  |
| PHI 310 | Information Ethics | 3 |  |  |
| ENG 347 | Technical Writing | 3 |  |  |
|  | Select one track from following tracks:  Network and System Administration Track  Web and Database Administration Track  Cybersecurity Track  Non-Specialist Track  (Required courses are listed in Category 6 tables below.) | 18 |  |  |
|  | **Subtotal Major Credit Hours at NKU** | **34** |  |  |
|  | **Subtotal Major Credit Hours KCTCS** | **21** |  |  |
|  | **Total Major Credit Hours** | **55** |  |  |

**Category 5: Additional Requirements at NKU**

| **NKU Course** | **Course** | **Credits** | **KCTCS**  **Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
|  | **Subtotal Minor Credit Hours**  Focus or Minor and Electives to meet NKU graduation requirements.  Any NKU focus or minor may be selected. Information Systems and Computer Science are common choices and require 9-15 additional credits.  (Required courses for these minors are listed in Category 7 tables below.) | At Least 18 |  |  |
|  | **Total Baccalaureate Degree Credit Hours** | **131-134** |  |  |

Students must choose a track as part of the Computer Information Technology major. Track requirements are listed in the Category 6 tables below.

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

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CIT 247 | Networking Fundamentals | 3 | CIT 167 |  |
| CIT 447 | Network Design/Troubleshooting | 3 |  |  |
| CIT 470 | Advanced Network and System Administration | 3 |  |  |
| CIT 484 | Network Security | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
|  | **Additional Credit Hours for Track** | **18** |  |  |

#### Category 6: NKU Major Requirements for the Web and Database Administration Track

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CSC 260 | Object-Oriented Programming I | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 360 or  CIT 483 | Object-Oriented Programming II or  Scripting II | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 301 | Web Programming | 3 |  |  |
| CIT 436 | Web Server Administration | 3 |  |  |
| CIT 472 | Database Administration | 3 |  |  |
| CSC 456 or  CIT XXX | Advanced Web Application Development or  One 300/400-level CIT course | 3 |  |  |
|  | **Additional Credit Hours for Track** | **18** |  |  |

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#### Category 6: NKU Major Requirements for the Cybersecurity Track

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CIT 247 | Networking Fundamentals | 3 | CIT 167 |  |
| CIT 430 | Computer Forensics | 3 |  |  |
| CIT 484 | Network Security | 3 |  |  |
| CIT 485 | Advanced Cybersecurity | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
|  | **Additional Credit Hours for Track** | **18** |  |  |

BIS 382, CSC 482 and CSC 483 may count as the CIT elective in the Cybersecurity Track.

#### Category 6: NKU Major Requirements for the Non-Specialist Track

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CSC 260 | Object-Oriented Programming I | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 360 or  CIT 483 | Object-Oriented Programming II or  Scripting II | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CIT 436 or  CIT 438 or  CIT 472 | Web Server Administration or  Cloud Computing or  Database Administration | 3 |  |  |
| CIT 470 or  CIT 485 | Advanced Network and System Administration or Advanced Cybersecurity | 3 |  |  |
| CIT XXX | One 300/400-level CIT course  (not above) | 3 |  |  |
| CIT XXX | One 300/400-level CIT course  (not above) | 3 |  |  |
|  | **Additional Credit Hours for Track** | **18** |  |  |

Students may choose one of the following minors listed below in Category 7 tables or any other minor offered at NKU.

#### Category 7: NKU Requirements for the Information Systems Minor

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| INF 120 | Elementary Programming | 3 | CIT 141 or CIT 142 or CIT 143 or CIT 144 or CIT 145 or CIT 146 or CIT 147 or CIT 148 or CIT 149 or CS 115 | x |
| INF 282 | Introduction to Databases | 3 | CIT 170 | x |
| INF 286 | Introduction to Web Development | 3 | CIT 150 or CIT 155 or IMD 230 | x |
| BIS 275 | Introduction to Business Analysis | 3 |  |  |
| BIS 300 | Management Information Systems | 3 |  |  |
| BIS 310 | Information Systems Analysis | 3 | CIT 291 |  |
| BIS 330 | IT Project Management | 3 |  |  |
| BIS XXX | One 300/400-level BIS course from list | 3 |  |  |
|  | **Additional Credit Hours for Minor** | **15** |  |  |

#### Category 7: NKU Requirements for the Computer Science Minor

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| INF 120 | Elementary Programming | 3 | CIT 141 or CIT 142 or CIT 143 or CIT 144 or CIT 145 or CIT 146 or CIT 147 or CIT 148 or CIT 149 or CS 115 | x |
| CSC 260 | Object-oriented Programming I | 3 | CIT 149 + CIT 249 = CSC 260 +CSC 360 |  |
| CSC 360 | Object-oriented Programming II | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 362 or  CSC 364 | Computer Systems or  Data Structures and Algorithms | 3 |  |  |
| CSC XXX | One 300/400-level CSC course | 3 |  |  |
| CSC XXX | One 300/400-level CSC course | 3 |  |  |
| INF XXX or CSC XXX or  CIT XXX | Two 300/400-level INF, CSC, or CIT courses not listed above in Category 6  (met by CIT major requirements) | 6 |  |  |
|  | **Additional Credit Hours for Minor** | **15** |  |  |

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### KCTCS AAS IN COMPUTER & INFORMATION TECHNOLOGIES – NETWORK ADMINISTRATION TRACK (CISCO NETWORKING ASSOCIATE) TO ­­­­­­­­­­­­­­­NKU BS IN COMPUTER INFORMATION TECHNOLOGY CHECKLIST

### Kentucky Community and Technical College System

#### Category 1: KCTCS General Education Requirements

| **KCTCS Course** | **Course or Category** | **Credits** | **NKU Course** | **Completed** |
| --- | --- | --- | --- | --- |
| ENG 101 | Writing I (WC) | 3 | ENG 101 |  |
| MAT 150 | College Algebra (QR) | 3 | (MAT 102 or MAT 103) + MAT 100T |  |
| TBS XXX | Social & Behavioral Sciences (SB) | 3 | TBD XXX |  |
| TBS XXX | Arts & Humanities (AH) Heritage or Humanities | 3 | TBD XXX |  |
| TBS XXX | Natural Science Course with Lab (SL) – Choose from the list below:  BIO 135 -Basic Anatomy & Physiology with Laboratory  BIO 137 -Human Anatomy & Physiology I  BIO 139 - Human Anatomy & Physiology II  BIO 141 -Botany with Laboratory  BIO 143- Zoology with Laboratory  BIO 225 -Medical Microbiology  CHE 220 -Analytical Chemistry  EST 150 -Introductory Ecology  GEO 280 -Environmental Science  GLY 220 -Principles of Physical Geology  PHY 171-Applied Physics | 4 | TBD XXX |  |
|  | **Subtotal General Education Courses** | **16** |  |  |

TBS XXX means to be selected by KCTCS student.

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

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

Students who do not complete a science course with a lab will be required to take an additional science with a lab at NKU.

#### Category 2: KCTCS AAS Requirements

| **KCTCS Course** | **Course or Category** | **Credits** | **NKU Course** | **Completed** |
| --- | --- | --- | --- | --- |
| CIT 105 | Introduction to Computers | 3 | BIS 101 |  |
| CIT 111 +  CIT 217 +  CIT 161 | Computer Hardware and Software +  UNIX/Linux Net Infrastructure (CIT Technical) +  Introduction to Networks (Level I Networking) | 4  3  4 | CIT 130 +  CIT 100T +  INF 284 |  |
| CIT 120 | Computational Thinking | 3 | INF 100T |  |
| CIT 141 or  CIT 142 or  CIT 143 or  CIT 144 or  CIT 145 or  CIT 146 or  CIT 147 or  CIT 148 or  CIT 149 or  CS 115 | Level I Programming Language Course:  PHP I or  C++ I or  C# I or  Python I or  Perl I or  Swift I or  Programming I: Language or  Visual Basic I or  Java I or  Introduction to Computer Programming | 3 | INF 120 |  |
| CIT 150 or  CIT 155 or  IMD 230 | Internet Technologies (CIT Technical) or  Web Page Development (CIT Technical) or  Advanced Web Design | 3 | INF 286 |  |
| CIT 170 | Database Design Fundamentals | 3 | INF 282 |  |
| CIT 180 +  CIT 182 | Security Fundamentals +  Perimeter Defense (CIT Technical) | 3  3 | CIT 285 +  CIT 200T |  |
| CIT 167 | Routing and Switching Essentials | 4 | CIT 247 |  |
| CIT 209 | Scaling Networks | 4 | INF 284 |  |
| CIT 212 | Connecting Networks | 4 | INF 200T |  |
| CIT 293 | CIT Employability Studies | 1 | CIT 100T |  |
|  | **Subtotal AAS Requirement Courses** | **45** |  |  |
|  | **Total Associate Degree Hours** | **61** |  |  |

### Northern Kentucky University

#### Category 3: Additional General Education Courses

| **NKU**  **Course** | **Course or Category** | **Credits** | **KCTCS**  **Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| ENG 102 | Advanced College Writing | 3 | ENG 102 |  |
| CMST 101 | Public Speaking | 3 | COM 181 |  |
| TBS XXX | Self & Society | 6 |  |  |
| TBS XXX | Culture & Creativity | 3 |  |  |
| TBS XXX | Global Viewpoints | 3 |  |  |
|  | **Subtotal General Education Credit Hours** | **18** |  |  |

#### Category 4: Major Requirements for BS in Computer Information Technology

| **NKU**  **Course** | **Course** | **Credits** | **KCTCS**  **Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| INF 100 | Orientation to College of Informatics | 1 |  |  |
| INF 120 | Elementary Programming | 3 | CIT 141 or CIT 142 or CIT 143 or CIT 144 or CIT 145 or CIT 146 or CIT 147 or CIT 148 or CIT 149 or CS 115 | x |
| INF 282 | Introduction to Databases | 3 | CIT 170 | x |
| INF 284 | Introduction to Computer Networks | 3 | CIT 209 | x |
| INF 286 | Introduction to Web Development | 3 | CIT 150 or CIT 155 or IMD 230 | x |
| CIT 130 | Information Technology Fundamentals | 3 | CIT 111 + CIT 217 + CIT 161 = CIT 130 + CIT 100T + INF 284 | x |
| CIT 271 | Windows Administration | 3 | CIT 213 + CIT 215 =  CIT 271 + CIT 200T | x |
| CIT 285 | Cybersecurity Fundamentals | 3 | CIT 180 +CIT 182 = CIT 285 +CIT 100T | x |
| CIT 371 | Unix Systems | 3 |  |  |
| CIT 383 | Scripting I | 3 |  |  |
| STA 205 or STA 250 | Statistical Methods or  Probability and Statistics | 3 | STA 220 or  (MAT 151 or STA 151 or MAT 161) + STA 251 |  |
| PHI 310 | Information Ethics | 3 |  |  |
| ENG 347 | Technical Writing | 3 |  |  |
|  | Select one track from following tracks:  Network and System Administration Track  Web and Database Administration Track  Cybersecurity Track  Non-Specialist Track  (Required courses are listed in Category 5 tables below.) | 15-18 |  |  |
|  | **Subtotal Major Credit Hours at NKU** | **31-34** |  |  |
|  | **Subtotal Major Credit Hours KCTCS** | **21-24** |  |  |
|  | **Total Major Credit Hours** | **55** |  |  |

**Category 5: Additional Requirements at NKU**

| **NKU Course** | **Course** | **Credits** | **KCTCS**  **Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
|  | **Subtotal Minor Credit Hours**  Focus or Minor and Electives to meet NKU graduation requirements.  Any NKU focus or minor may be selected. Information Systems and Computer Science are common choices and require 9-15 additional credits.  (Required courses for these minors are listed in Category 7 tables below.) | At Least 18 |  |  |
|  | **Total Baccalaureate Degree Credit Hours** | **128-131** |  |  |

Students must choose a track as part of the Computer Information Technology major. The course requirements for the tracks are listed in Category 6 tables below.

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

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CIT 247 | Networking Fundamentals | 3 | CIT 167 | x |
| CIT 447 | Network Design/Troubleshooting | 3 |  |  |
| CIT 470 | Advanced Network and System Administration | 3 |  |  |
| CIT 484 | Network Security | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
|  | **Additional Credit Hours for Track** | **15** |  |  |

#### Category 6: NKU Major Requirements for the Web and Database Administration Track

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CSC 260 | Object-Oriented Programming I | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 360 or  CIT 483 | Object-Oriented Programming II or  Scripting II | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 301 | Web Programming | 3 |  |  |
| CIT 436 | Web Server Administration | 3 |  |  |
| CIT 472 | Database Administration | 3 |  |  |
| CSC 456 or  CIT XXX | Advanced Web Application Development or  One 300/400-level CIT course  (not above) | 3 |  |  |
|  | **Additional Credit Hours for Track** | **18** |  |  |

#### Category 6: NKU Major Requirements for the Cybersecurity Track

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CIT 247 | Networking Fundamentals | 3 | CIT 167 | x |
| CIT 430 | Computer Forensics | 3 |  |  |
| CIT 484 | Network Security | 3 |  |  |
| CIT 485 | Advanced Cybersecurity | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
| CIT XXX | 300/400-level CIT Course (not above) | 3 |  |  |
|  | **Additional Credit Hours for Track** | **15** |  |  |

BIS 382, CSC 482 and CSC 483 may count as the CIT elective in the Cybersecurity Track.

#### Category 6: NKU Major Requirements for the Non-Specialist Track

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| CSC 260 | Object-Oriented Programming I | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 360 or  CIT 483 | Object-Oriented Programming II or  Scripting II | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CIT 436 or  CIT 438 or  CIT 472 | Web Server Administration or  Cloud Computing or  Database Administration | 3 |  |  |
| CIT 470 or  CIT 485 | Advanced Network and System Administration or Advanced Cybersecurity | 3 |  |  |
| CIT XXX | One 300/400-level CIT course  (not above) | 3 |  |  |
| CIT XXX | One 300/400-level CIT course  (not above) | 3 |  |  |
|  | **Additional Credit Hours for Track** | **18** |  |  |

Students may choose one of the following minors listed below in Category 7 tables or any other minor offered at NKU.

#### Category 7: NKU Requirements for the Information Systems Minor

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| INF 120 | Elementary Programming | 3 | CIT 141 or CIT 142 or CIT 143 or CIT 144 or CIT 145 or CIT 146 or CIT 147 or CIT 148 or CIT 149 or CS 115 | x |
| INF 282 | Introduction to Databases | 3 | CIT 170 | x |
| INF 286 | Introduction to Web Development | 3 | CIT 150 or CIT 155 or IMD 230 | x |
| BIS 275 | Introduction to Business Analysis | 3 |  |  |
| BIS 300 | Management Information Systems | 3 |  |  |
| BIS 310 | Information Systems Analysis | 3 | CIT 291 |  |
| BIS 330 | IT Project Management | 3 |  |  |
| BIS XXX | One 300/400-level BIS course from list | 3 |  |  |
|  | **Additional Credit Hours for Minor** | **15** |  |  |

#### Category 7: NKU Requirements for the Computer Science Minor

| **NKU Course** | **Course** | **Credits** | **KCTCS Course** | **Taken at KCTCS** |
| --- | --- | --- | --- | --- |
| INF 120 | Elementary Programming | 3 | CIT 141 or CIT 142 or CIT 143 or CIT 144 or CIT 145 or CIT 146 or CIT 147 or CIT 148 or CIT 149 or CS 115 | x |
| CSC 260 | Object-oriented Programming I | 3 | CIT 149 +CIT 24 = CSC 260 +CSC 360 |  |
| CSC 360 | Object-oriented Programming II | 3 | CIT 149 + CIT 249 = CSC 260 + CSC 360 |  |
| CSC 362 or  CSC 364 | Computer Systems or  Data Structures and Algorithms | 3 |  |  |
| CSC XXX | One 300/400-level CSC course | 3 |  |  |
| CSC XXX | One 300/400-level CSC course | 3 |  |  |
| INF XXX or CSC XXX or  CIT XXX | Two 300/400-level INF, CSC, or CIT courses not listed above in Category 6  (met by CIT major requirements) | 6 |  |  |
|  | **Additional Credit Hours for Minor** | **15** |  |  |

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