



***Associate of Science to Bachelor of Science in Computer Information Technology
– All Tracks***

Completion of the following curriculum will satisfy the requirements for the **Associate of Science (AS)** 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 Associate of Science degrees in this document. The first AS degree prepares students for a major in Computer Information Technology with the Network and System Administration Track or the Cybersecurity Track. The second AS degree prepares students for a major in Computer Information Technology with the Web and Database Track or the Non-Specialist Track.

Admission Requirements for a Bachelor of Science in Computer Information Technology

Students completing the AS with a gpa of 2.0 or higher will be admitted into the Computer Information Technology major at NKU.


Students with 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 AS TO NKU BS IN COMPUTER INFORMATION TECHNOLOGY – ALL TRACKS CHECKLIST

Kentucky Community and Technical College

| Category I: General Education Requirements | | | | |
|--|-----------------------------------|-----------|------------|---|
| KCTCS Course | Course or Category | Credits | NKU Course |  |
| ENG 101 | Writing I (WC) | 3 | ENG 101 | |
| ENG 102 | Writing II (WC) | 3 | ENG 291 | |
| COM 181 | Basic Public Speaking (OC) | 3 | CMST 101 | |
| TBS XXX | Arts & Humanities (AH) Heritage | 3 | TBD XXX | |
| TBS XXX | Arts & Humanities (AH) Humanities | 3 | TBD XXX | |
| TBS XXX | Social & Behavioral Sciences (SB) | 3 | TBD XXX | |
| TBS XXX | Social & Behavioral Sciences (SB) | 3 | TBD XXX | |
| TBS XXX | Natural Science with Lab (SL) | 4 | TBD XXX | |
| TBS XXX | Natural Science (NS) | 3 | TBD XXX | |
| MAT 150 | College Algebra (QR) | 3 | MAT 109 | |
| STA 220 | Statistics (QR) | 3 | STA 205 | |
| Subtotal General Education Courses | | 34 | | |

TBS XXX means to be selected.

TBD XXX means to be determined.

| Category II: Degree Requirements for the AS | | | | |
|--|---|---------|------------|---|
| KCTCS Course | Course or Category | Credits | NKU Course |  |
| TBS XXX | Quantitative Reasoning (QR) | 3 | TBD XXX | |
| TBS XXX | Quantitative Reasoning (QR) | 3 | TBD XXX | |
| TBS XXX | General Education Elective | 3 | TBD XXX | |
| TBS XXX | General Education Elective | 3 | TBD XXX | |
| CIT 105 | Introduction to Computers (if needed) | 0-3 | BIS 101 | |
| 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 (CIT Technical) | 3 | INF 286 | |

| | | | | |
|--|----------------------------------|--------------|---------|--|
| CIT 170 | Database Design and Fundamentals | 3 | INF 282 | |
| TBS XXX | Elective | 3 | TBD XXX | |
| Total Associate Degree Credit Hours | | 61-64 | | |

Northern Kentucky University

| Category III: Major Requirements for the BS in Computer Information Technology | | | | |
|--|--|---------|---|----------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| INF 120 | Elementary Programming | 0 | 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 | 0 | CIT 170 | x |
| INF 286 | Introduction to Web Development | 0 | 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 | |
| CIT 247 | Networking Fundamentals | 3 | CIT 167 | |
| CIT 271 | Windows Administration | 3 | CIT 213 + CIT 215 = CIT 271 + CIT 200T | |
| CIT 285 | Cybersecurity Fundamentals | 3 | CIT 180 + CIT 182 = CIT 285 + CIT 100T | |
| CIT 371 | Unix Systems | 3 | | |
| CIT 383 | Scripting | 3 | | |
| STA 205 or STA 250 | Introduction to Statistical Methods or Probability and Statistics | 0 | STA 220 | x |
| PHI 310 | Information Ethics | 3 | | |
| ENG 347 | Technical Writing | 3 | | |
| | Select one track from following tracks: Network and Administration Track Web and Database Administration Track Cybersecurity Track Non-Specialist Track (Required courses are listed in Category IV boxes below.) | 18 | | |
| | Any NKU minor may be selected. Information Systems and Computer Science are common choices and require at most 15 additional credits. | 15 | | |

| | | | | |
|--|--|----------------|--|--|
| | (Required courses for these minors are listed in Category V boxes below.) | | | |
| | Additional hours at the 300/400-level to meet the 45 credit hour graduation requirement* | 3-9 | | |
| Subtotal NKU Courses Credit Hours | | 60-66 | | |
| Total Baccalaureate Degree Credit Hours | | 124-130 | | |

*Students selecting minors other than Information Systems and Computer Science may need additional hours to complete this requirement.

Students must choose a track as part of the Computer Information Technology major.

| Category IV: Network and System Administration Track | | | | |
|---|--|----------------|---------------------|-----------------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| 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 | | |
| CIT XXX | 300/400-level CIT Course (not above) | 3 | | |
| Additional Credit Hours in Track | | 18 | | |

| Category IV: 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 | Object-Oriented Programming 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 in Track | | 18 | | |

| Category IV: Cybersecurity Track | | | | |
|---|---------------------------------------|-----------|--------------|----------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| 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 | | |
| CIT XXX | 300/400-level CIT Course (not above)* | 3 | | |
| Additional Credit Hours in Track | | 18 | | |

*BIS 383, CSC 482 and CSC 483 may count toward these electives.

| Category IV: 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 | Object-Oriented Programming 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 | 3 | | |
| CIT XXX | One 300/400-level CIT course | 3 | | |
| Additional Credit Hours in Track | | 18 | | |

Students may choose one of the minors listed below or any other minor offered at NKU.


| Category VI: Additional Requirements for Information Systems Minor | | | | |
|--|-----------------------------------|---------|---|----------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| INF 120 | Elementary Programming | 0 | 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 | 0 | CIT 170 | x |
| INF 286 | Introduction to Web Development | 0 | 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 in Minor | | 15 | | |

| Category VI: Additional Requirements for Computer Science Minor | | | | |
|--|--|----------------|---|-----------------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| INF 120 | Elementary Programming | 0 | 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 (met by CIT major requirements) | 0 | | |
| Additional Credit Hours in Minor | | 15 | | |


**KCTCS AS TO NKU BS IN COMPUTER INFORMATION TECHNOLOGY –
WEB AND DATABASE ADMINISTRATION OR NON-SPECIALIST TRACK CHECKLIST**

Kentucky Community and Technical College

| Category I: General Education Requirements | | | | |
|---|-----------------------------------|----------------|-------------------|---|
| KCTCS Course | Course or Category | Credits | NKU Course |  |
| ENG 101 | Writing I (WC) | 3 | ENG 101 | |
| ENG 102 | Writing II (WC) | 3 | ENG 291 | |
| COM 181 | Basic Public Speaking (OC) | 3 | CMST 101 | |
| TBS XXX | Arts & Humanities (AH) Heritage | 3 | TBD XXX | |
| TBS XXX | Arts & Humanities (AH) Humanities | 3 | TBD XXX | |
| TBS XXX | Social & Behavioral Sciences (SB) | 3 | TBD XXX | |
| TBS XXX | Social & Behavioral Sciences (SB) | 3 | TBD XXX | |
| TBS XXX | Natural Science with Lab (SL) | 4 | TBD XXX | |
| TBS XXX | Natural Science (NS) | 3 | TBD XXX | |
| MAT 150 | College Algebra (QR) | 3 | MAT 109 | |
| STA 220 | Statistics (QR) | 3 | STA 205 | |
| Subtotal General Education Courses | | 34 | | |

TBS XXX means to be selected.

TBD XXX means to be determined.

| Category II: Degree Requirements for the AS | | | | |
|--|---|----------------|-------------------|---|
| KCTCS Course | Course or Category | Credits | NKU Course |  |
| TBS XXX | Quantitative Reasoning (QR) | 3 | TBD XXX | |
| TBS XXX | Quantitative Reasoning (QR) | 3 | TBD XXX | |
| TBS XXX | General Education Elective | 3 | TBD XXX | |
| TBS XXX | General Education Elective | 3 | TBD XXX | |
| CIT 105 | Introduction to Computers (if needed) | 0-3 | BIS 101 | |
| CIT 111 | Computer Hardware and Software | 3 | CIT 100T | |
| CIT 120 + | Computational Thinking and Java I and Java II | 3 | INF 120 + | |
| CIT 149 + | | 3 | CSC 260 + | |
| CIT 249 | | 3 | CSC 360 | |
| CIT 170 | Database Design and Fundamentals | 3 | INF 282 | |
| Total Associate Degree Credit Hours | | 61-64 | | |

Northern Kentucky University

| Category III: Major Requirements for the BS in Computer Information Technology | | | | |
|--|---|----------------|---|----------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| INF 120 | Elementary Programming | 0 | 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 | 0 | CIT 170 | x |
| INF 286 | Introduction to Web Development | 3 | CIT 150 or CIT 155 or IMD 230 | |
| CIT 130 | Information Technology Fundamentals | 3 | CIT 111 + CIT 217 + CIT 160 or CIT 161 = CIT 130 + CIT 100T + INF 284 | |
| CIT 247 | Networking Fundamentals | 3 | CIT 167 | |
| CIT 271 | Windows Administration | 3 | CIT 213 + CIT 215 = CIT 271 + CIT 200T | |
| CIT 285 | Cybersecurity Fundamentals | 3 | CIT 180 + CIT 182 = CIT 285 + CIT 100T | |
| CIT 371 | Unix Systems | 3 | | |
| CIT 383 | Scripting | 3 | | |
| STA 205 or STA 250 | Introduction to Statistical Methods or Probability and Statistics | 0 | STA 220 | x |
| PHI 310 | Information Ethics | 3 | | |
| ENG 347 | Technical Writing | 3 | | |
| | Select one track from following tracks: Web and Database Administration Track Non-Specialist Track (Required courses are listed in Category IV boxes below.) | 12 | | |
| | Any NKU minor may be selected. Information Systems and Computer Science are common choices and require at most 15 additional credits. (Required courses for these minors are listed in Category V boxes below.) | 9-15 | | |
| | Additional hours at the 300/400-level to meet the 45 credit hour graduation requirement* | 3-9 | | |
| Subtotal NKU Courses Credit Hours | | 57-60 | | |
| Total Baccalaureate Degree Credit Hours | | 121-124 | | |

*Students selecting minors other than Information Systems and Computer Science may need additional hours to complete this requirement.

Students must choose a track as part of the Computer Information Technology major. The recommended tracks for this pathway are Web and Database Administration Track and Non-Specialist Track.

| Category IV: Web and Database Administration Track | | | | |
|---|---|----------------|---------------------------------------|-----------------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| CSC 260 | Object-Oriented Programming I | 0 | CIT 149 +CIT 249= CSC 260 +CSC 360 | x |
| CSC 360 | Object-Oriented Programming II | 0 | CIT 149 +CIT 249= CSC 260 +CSC 360 | x |
| 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 in Track | | 12 | | |

| Category IV: Non-Specialist Track | | | | |
|--|---|----------------|---------------------------------------|-----------------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| CSC 260 | Object-Oriented Programming I | 0 | CIT 149 +CIT 249= CSC 260 +CSC 360 | x |
| CSC 360 | Object-Oriented Programming II | 0 | CIT 149 +CIT 249= CSC 260 +CSC 360 | x |
| 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 | 3 | | |
| CIT XXX | One 300/400-level CIT course | 3 | | |
| Additional Credit Hours in Track | | 12 | | |

Students may choose one of the minors listed below or any other minor offered at NKU.

| Category VI: Additional Requirements for Information Systems Minor | | | | |
|--|--|-----------|---|----------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| INF 120 | Elementary Programming | 0 | 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 | 0 | CIT 170 | x |
| INF 286 | Introduction to Web Development (Requirement for CIT major above) | 3 | CIT 150 or CIT 155 or IMD 230 | |
| 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 in Minor | | 18 | | |

| Category VI: Additional Requirements for Computer Science Minor | | | | |
|---|--|----------|---|----------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| INF 120 | Elementary Programming | 0 | 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 | 0 | CIT 149 +CIT 249= CSC 260 +CSC 360 | x |
| CSC 360 | Object-oriented Programming II | 0 | CIT 149 +CIT 249= CSC 260 +CSC 360 | x |
| 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 (met by CIT major requirements) | 0 | | |
| Additional Credit Hours in Minor | | 9 | | |