



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

Completion of the following curriculum will satisfy the requirements for the **Associate of Applied Science (AAS) in Computer and Information Technologies (Information Security 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.

Admission Requirements for a Bachelor of Science in Computer Information Technology

Students completing the AAS 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 AAS IN COMPUTER & INFORMATION TECHNOLOGIES – INFORMATION SECURITY TRACK 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 | |
| MAT 150 | College Algebra (QR) | 3 | MAT 109 | |
| 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)* | 3-4 | TBD XXX | |
| Subtotal General Education Courses | | 15-16 | | |

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

TBS XXX means to be selected. TBD XXX means to be determined.

| Category II: Degree Requirements for the AAS in Computer & Information Technologies – Information Security Track | | | | |
|---|---|----------------|-------------------|--|
| KCTCS Course | Course or Category | Credits | NKU Course |  |
| CIT 105 | Introduction to Computers | 3 | BIS 101 | |
| CIT 111 + | Computer Hardware and Software + | 4 | CIT 130 + | |
| CIT 217 + | UNIX/Linux Net Infrastructure (CIT Technical) + | 3 | CIT 100T + | |
| CIT 160 or | Intro to Networking Concepts (Level I Networking) | 4 | INF 284 | |
| CIT 161 | or Introduction to Networks (Level I Networking) | | | |
| CIT 120 | Computational Thinking | 3 | INF 100T | |
| CIT 141 or | Level I Programming Language Course: | | | |
| CIT 142 or | PHP I or | | | |
| CIT 143 or | C++ I or | | | |
| CIT 144 or | C# I or | | | |
| CIT 145 or | Python I or | 3 | INF 120 | |
| CIT 146 or | Perl I or | | | |
| CIT 147 or | Swift I or | | | |
| CIT 148 or | Programming I: Language or | | | |
| CIT 149 or | Visual Basic I or | | | |
| CS 115 | Java I or | | | |
| | Introduction to Computer Programming | | | |
| CIT 167 | Routing & Switching Essentials (Network Elective) | 4 | CIT 247 | |
| CIT 170 | Database Design Fundamentals | 3 | INF 282 | |
| CIT 180 + | Security Fundamentals + | 3 | CIT 285 + | |
| CIT 182 | Perimeter Defense | 3 | CIT 100T | |
| CIT 184 | Attacks and Exploits | 3 | CIT 100T | |
| CIT 213 + | Microsoft Client Configuration (CIT Technical) | 3 | CIT 271 + | |
| CIT 215 | | 3 | CIT 200T | |

| | | | | |
|---|---|--------------|----------|--|
| | Microsoft Server Administration (Network Elective) | | | |
| CIT 284 or CIT 285 or CIT 286 or CIT 287 or CIT 288 | Security Elective Computer Forensics or Windows OS Security or UNIX/Linux OS Security or Cisco OS Security or Network Security | 3 | CIT 200T | |
| CIT 293 | CIT Employability Studies | 1 | CIT 200T | |
| Total Associate Degree Credit Hours | | 61-62 | | |

Northern Kentucky University

| Category III: Additional General Education Courses | | | | |
|--|--------------------------|-----------|--------------|----------------|
| NKU Course | Course | Credits | KCTCS Course | Taken at KCTCS |
| ENG 291 | 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 NKU General Education Courses Credit Hours | | 18 | | |

| Category IV: 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 | 0 | CIT 111 + CIT 217 + CIT 160 or CIT 161 = CIT 130 + CIT 100T + INF 284 | x |
| CIT 247 | Networking Fundamentals | 0 | CIT 167 | x |
| CIT 271 | Windows Administration | 0 | CIT 213 + CIT 215 = CIT 271 + CIT 200T | x |

| | | | | |
|--|--|----------------|---|---|
| CIT 285 | Cybersecurity Fundamentals | 0 | CIT 180 +CIT 182 = CIT 285 +CIT 100T | x |
| CIT 371 | Unix Systems | 3 | | |
| CIT 383 | Scripting | 3 | | |
| STA 205 or STA 250 | Introduction to Statistical Methods or Probability and Statistics | 3 | STA 220 | |
| 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 V boxes below.) | 18 | | |
| | Any NKU minor may be selected. Information Systems and Computer Science are common choices and require 15 additional credits. (Required courses for these minors are listed in Category VI boxes below.) | 15 | | |
| | Additional hours at the 300/400 level to meet the 45 credit hour graduation requirement* | 3-9 | | |
| Subtotal NKU Courses Credit Hours | | 72-78 | | |
| Total Baccalaureate Degree Credit Hours | | 133-140 | | |

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

Students must choose one track as part of the Computer Information Technology degree.

| 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 V: 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 V: 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 and 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 | | |