Associate of Applied Science in Computer and Information Technologies – Network Administration 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 (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 GCTC 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.

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.

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

Gateway Community and Technical College

Category I: General Education Requirements				
GCTC 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 – Network Administration Track – Microsoft Windows Administration Sequence				
GCTC 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 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 +	Security Fundamentals +	3	CIT 285 +	
CIT 182	Perimeter Defense (CIT Technical)	3	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	
Total Associate Degree Credit Hours		**60-64**		

Northern Kentucky University

Category III: Additional General Education Courses				
NKU Course	**Course**	**Credits**	**GCTC Course**	**Taken at GCTC**
ENG 291	Advanced College Writing	3	ENG 102	
CMST 101	Oral Communication	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**	**GCTC Course**	**Taken at GCTC**
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	0	CIT 111 + CIT 217 + CIT 160 or CIT 161 = CIT 130 + CIT 100T + INF 284	x
CIT 247	Networking Fundamentals	3	CIT 167	
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 at 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		**133-139**		

*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 V: Network and System Administration Track				
NKU Course	**Course**	**Credits**	**GCTC Course**	**Taken at GCTC**
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	GCTC Course	Taken at GCTC
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 V: Cybersecurity Track				
NKU Course	Course	Credits	GCTC Course	Taken at GCTC
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	GCTC Course	Taken at GCTC
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**	**GCTC Course**	**Taken at GCTC**
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**	**GCTC Course**	**Taken at GCTC**
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**		

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

Gateway Community and Technical College

Category I: General Education Requirements				
GCTC 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 – Network Administration Track – Cisco Networking Associate Sequence				
GCTC 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 161	Introduction to Networks (Level I Networking)	4	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 +	Security Fundamentals +	3	CIT 285 +	
CIT 182	Perimeter Defense (CIT Technical)	3	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	
Total Associate Degree Credit Hours		**61**		

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Category III: Additional General Education Courses				
NKU Course	**Course**	**Credits**	**GCTC Course**	**Taken at GCTC**
ENG 291	Advanced College Writing	3	ENG 102	
CMST 101	Oral Communication	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**	**GCTC Course**	**Taken at GCTC**
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	0	CIT 111 + CIT 217 + CIT 161 = CIT 130 + CIT 100T + INF 284	x
CIT 247	Networking Fundamentals	0	CIT 167	x
CIT 271	Windows Administration	3	CIT 213 + CIT 215 = CIT 271 + CIT 200T	
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
		18		

	Non-Specialist Track (Required courses are listed in Category V boxes below.)			
	Any NKU minor may be selected. Information Systems and Computer Science are common choices and require at 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		**133-139**		

*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 V: Network and System Administration Track				
NKU Course	**Course**	**Credits**	**GCTC Course**	**Taken at GCTC**
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**	**GCTC Course**	**Taken at GCTC**
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 V: Cybersecurity Track				
NKU Course	Course	Credits	GCTC Course	Taken at GCTC
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	GCTC Course	Taken at GCTC
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	GCTC Course	Taken at GCTC
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	GCTC Course	Taken at GCTC
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**		