TRANSFER PATHWAY GUIDE
2019-2020

Associate of Science in Computer Science To
Bachelor of Science in Computer Science

Overview
Completion of the following curriculum will satisfy the requirements for the **Associate of Science in Computer Science** degree at Ivy Tech Community College and leads to the **Bachelor of Science in Computer Science** 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 Science 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 in Computer Science.

Category 1: Transfer General Education Core (TGEC) Competencies

ITCC Course	Course or Category	Credits	NKU Course	Completed
ENGL 111	English Composition	3	ENG 101	
COMM 101	Fundamentals of Public Speaking	3	CMST 101	
MATH 211	Calculus I	4	MAT 129	
MATH 212	Calculus II	4	MAT 227	
BIOL 105 or CHE 105 or PHYS 220	Biology I Molecular and Cellular Processes or General Chemistry I or Mechanics	5	BIO 150/150L CHE 120/120L PHY 200G/ PLAB 200G	
BIOL 107 or CHEM 106 or PHYS 221	Biology II Diversity of Life or General Chemistry II or Heat, Electricity and Optics	5	BIO 151/151L CHE 121/121L PHY 200G/ PLAB 200G	
TBS XXX	Social and Behavioral Ways of Knowing	3-4	TBD XXX	
TBS XXX	Humanistic and Artistic Ways of Knowing	3-4	TBD XXX	
	Subtotal General Education Core	**30-32**		

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 Computer Science and NKU Recommendations

ITCC Course	Course or Category	Credits	NKU Course	Completed
IVYT 115	Student Success in Computing and Informatics	1	UNV 100T	
CSCI 101 and CSCI 201 and CSCI 202	Computer Science I and Computer Science II and Data Structures	9	CSC 260 + CSC 360 + CSC 100T	
CSCI 210	Database Systems	3	INF 282	
ITSP 135	Hardware/Software Support	4	CIT 100T	
CSCI 105	Discrete Logic for Computers	3	CSC 100T	
SDEV 120	Computer Logic	3	INF 100T	
SDEV 220	Software Development using Python	3	INF 120	
SDEV 265	Systems/Software Analysis and Projects	3	CSC 200T	
CPIN 279	Computer Science Capstone	1	INF 200T	
	Total Associate Degree Credit Hours	**60-62**		

SDEV 220 is the preferred choice; however, students can also take SDEV 200, SDEV 210 or SDEV 240.

Northern Kentucky University

Students must complete the following for a B.S. in Computer Science

Category 3: Major Requirements for the BS in Computer Science

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 220	x
INF 284 or CIT 247	Introduction to Networks and Data Communication or Networking Fundamentals	3	NETI 105	
INF 286	Introduction to Web Development	3	SDEV 153	
CSC 260	Object-Oriented Programming I	3	CSCI 101 + CSCI 201 + CSCI 202 = CSC 260 + CSC 360 + CSC 100T	x
CSC 350	Database Programming	3		
CSC 360	Object-Oriented Programming II	3	CSCI 101 + CSCI 201 + CSCI 202 = CSC 260 + CSC 360 + CSC 100T	x
CSC 362	Computer Systems	3		
CSC 364	Data Structures and Algorithms	3		
CSC 402	Advanced programming Methods	3		
CSC 439	Software Testing and Maintenance	3		
CSC 440	Software Engineering	3		
CSC 460	Operating Systems	3		
CSC 485	Theory of Computation	3		
CSC 491	Comprehensive Examination	0		
CSC XXX	Select one 300/400-level CSC course not included above. (see catalog)	3		
TBS XXX TBS XXX	Select two 400-level CSC courses not included above; only one of CSC 415 or CSC 416 may count; MAT 360 may count for either a 300- or 400-level course.	6		
MAT 128 and MAT 227 and MAT 228 OR MAT 129 and MAT 229	Calculus A, B and C or Calculus I and II	9	MATH 211 and MATH 212	Student must take MAT 228 (3 cr)

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
STA 250	Probability and Statistics	3		
MAT 385	Discrete Mathematics	3		
	Subtotal Major Credit Hours at NKU	**49**		
	Subtotal Major Credit Hours at ITCC	**15**		
	Total Major Credit Hours	**64**		

Category 5: Additional Requirements at NKU

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
	Subtotal Minor Credit Hours Taken at NKU	**6-21**		
	Subtotal Elective (300/400 level) Hours	**0-6**		
	Minimum Baccalaureate Degree Credit Hours	**121**		

Note: In order to complete a B.S. degree in Computer Science at NKU, a student must complete a minor. A mathematics, computer information technology, or information systems minor would be a good choice. Category 6 tables below show the courses needed for the suggested minors. Students should discuss options for minors with an NKU advisor after transferring to NKU.

Category 6: Additional Requirements for Minor in Mathematics

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
MAT 129	Calculus A	3	MATH 211	x
MAT 227	Calculus B	3	MATH 212	x
MAT 228	Calculus C	3		
MAT 234	Linear Algebra	3		
STA 250	Probabilities and Statistics	3		
MAT 385	Discrete Math	3		
TBS XXX	MAT course at the 300-level or above. (CSC 250 or MAT 119 may be substituted)	3		
	Additional Credit Hours for Mathematics Minor (MAT 228, STA 250, and MAT 385 are required for the B.S. degree in Computer Science, so they are not counted as additional credit hours)	**6**		

Category 6: Additional Requirements for Minor in Computer Information Technology

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
CIT 130	Information Technology Fundamentals	3	INSE 101	
CIT 271 or CIT 371	Windows Administration or Unix Systems	3		
INF 110 or INF 120 or CSC 260	Elementary Programming	3	SDEV 220	x
INF 284	Introduction to Computer Networks	3	NETI 105	
CIT XXX	Select one 300/400 level CIT course not listed above	3		
	Select 6 credit hours of INF, CIT, or CSC courses not included above	6		
	Additional Credit Hours for Computer Information Technology Minor (INF 284 and six credits of CSC courses are required for the B.S. degree in Computer Science, so they are not counted as additional credit hours)	**9**		

Category 6: Additional Requirements for Minor in Information Systems

NKU Course	Course	Credits	ITCC Course	Taken at ITCC
INF 120	Elementary Programming	3	SDEV 220	x
INF 282	Introduction to Databases	3	CSCI 210	x
INF 286	Introduction to Web Development	3		
BIS 275	Introduction to Business Analysis	3		
BIS 300	Management Information Systems	3		
BIS 310	Systems Analysis and Design	3		
BIS 330	IT Project Management	3		
Select one: BIS 305, BIS 357, BIS 380, BIS 382, BIS 384, BIS 402, BIS 420, BIS 430, BIS 435, BIS 440	BIS Elective	3		
	Additional Credit Hours for Information Systems Minor (INF 286 is required for the B.S. degree in Computer Science, so it is not counted as additional credit hours)	**15**		