



TRANSFER GUIDE - ASSOCIATE DEGREE PROGRAMS
 Northwood Tech Program: Information Technology - Web and Software Developer 2021-22
 Lakeland University Program: Computer Science with any emphasis 2021-22
 Minimum GPA for admission: 2.0
 Review Date: 8/18

General Education Courses					
Technical College			Lakeland		
Course No.	Course Title	Credits	Course No.	Course Title/Field	Credits
10809198	Introduction to Psychology	3	PSY 200	General Psychology	3
10801136	English Composition 1	3	GEN 110	Composition I: Academic Writing	3
10804123	Math with Business Applications --OR--	3		An elective course	3
10804113	College Technical Mathematics 1A --OR--		MAT 130	Intermediate Algebra	
10804133	Mathematics and Logic			An elective course	
10801196	Oral/Interpersonal Communication --OR--	3	COM 111	Fundamentals of Public Speaking	3
10801198	Speech				
10809166	Introduction to Ethics: Theory and Application --OR--	3	PHI 232	Ethics	3
10809172	Introduction to Diversity Studies --OR---		SOC 210	Majority-Minority Relations	
10809195	Economics		ECN 235	Principles of Macroeconomics	
Total general education credits earned:		15	Total general education credits accepted:		15
Occupational Courses					
Course No.	Course Title	Credits	Course No.	Course Title	Credits
10152100	Database Concepts and SQL	3	DAT 210	Database Basics	3
10152101	Web Design and Development	3	CPS 280	Special Topics in Computer Science	3
10152115	Beginning .NET Programming	3	CPS 200	Programming I	3
10152135	Program Logic	3		An elective course	3
10152102	Advanced Website Development	3	CPS 280	Special Topics in Computer Science	3
10152106	Java Programming - Beginning	3	CPS 315	Object-Oriented Programming I	3
10152110	Programming in SQL	3		An elective course	3
10152117	Advanced .NET Programming	3		An elective course	3
10152107	Java Programming - Advanced	3	CPS 316	Object-Oriented Programming II	3
10152111	Systems Analysis and Design	3	DAT 445	Systems Analysis & Design (Writing Intensive)	3
10152112	Server-Side Web Development	3		An elective course	3
10152119	Development in Emerging Technologies	3	CPS 435	Mobile Application Development	3
10152108	Enterprise Java Programming	3		An elective course	3
10152113	Applications Development	3		An elective course	3
10152116	Web Tools of the Trade	2		An elective course	2
10152118	Enterprise Programming in .NET	3		An elective course	3
Total of Occupational/Elective		47	Total transferable credits:		62
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NOTE: Transfer credits noted assume completed Associate's Degree.

^ Courses offered at Lakeland University main campus only

Courses needed to complete degree at Lakeland University:

Course No.	Course Title	Credits
GEN 112	Composition II: Argumentation & Research	3
GEN 3XX	CORE II: Exploring the Human Condition	3
GEN 4XX	CORE III: Shaping the Future	3
Complete one area of emphasis		
Computer Science Emphasis: Choose 3		9
CPS 212	Programming II	3
CPS 362	Introduction to Data Structures	3
DAT 442	Data Management & Warehousing	3
MAT 250	Discrete Mathematics	3
CPS 221	COBOL Programming	
CPS 313	Advanced Programming	
CPS 314	Programming Languages	
CPS 323	Computer Architecture	
CPS 325	Networking & Telecommunications	
CPS 400	Internship in Computer Science	
CPS 420	Operating Systems	
CPS 421	Human-Computer Interaction Lab I [^]	
CPS 422	Human-Computer Interaction Lab II [^]	
CPS 425	Artificial Intelligence	
CPS 426	Game Design & Development	
CPS 480	Special Topics in Computer Science	
CPS 490	Independent Study in Computer Science	
CYS 250	Foundations of Cybersecurity	
CYS 450	Ethical Hacking & Penetration Testing	
CYS 451	Digital Forensics	
DAT 301	Introduction Data Visualization Techniques	
DAT 318	Computational Modeling and Visualization	
DAT 401	Operations Research	
DAT 402	Adv. Modeling Techniques & Visualization (WI)	
DAT 452	Information Technology Project Management	
DAT 455	Predictive Analysis	
Up to four semester hours from non-CPS designated courses:		
MAT 370	Numerical Analysis	
	A foreign language course	
Electives needed to reach the 120 credit minimum:		28
Cybersecurity Emphasis:		24
CPS 313	Advanced Programming	
CPS 323	Computer Architecture	
CPS 325	Networking & Telecommunications	
CPS 420	Operating Systems	
CRJ 232	Introduction to Criminology	
CYS 250	Foundations of Cybersecurity	
CYS 450	Ethical Hacking & Penetration Testing	
CYS 451	Digital Forensics	
Elective credits needed to reach 120 minimum:		13
Computer Science & Data Analytics Emphases		12
DAT 301	Introduction Data Visualization Techniques	
DAT 452	Information Technology Project Management	
DAT 455	Predictive Analytics	
One of the following:		
CPS 221	COBOL Programming	
CPS 314	Programming Languages	
Elective credits needed to reach 120 minimum:		25
Computer Science & Software Design Emphases:		9
CPS 313	Advanced Programming OR	
OR CPS 221	COBOL Programming	
CPS 314	Programming Languages	
An additional course from the Computer Science emphasis		
Elective credits needed to reach 120 minimum:		28
Total credits needed to complete Lakeland University degree:		57