



**Northcentral**  
TECHNICAL COLLEGE

**TRANSFER GUIDE - ASSOCIATE DEGREE PROGRAMS**

NTC Program: IT - Software Developer

Lakeland University Program: Computer Science

Minimum GPA for admission: 2.0

Initial effective date:

**General Education Courses**

NTC			Lakeland University		
Course No.	Course Title	Credits	Course No.	Course Title/Field	Credits
10-801-196	Oral/Interpersonal Communications	3	COM 111	Fundamentals of Public Speaking	3
10-801-195	Written Communication OR	3	GEN 110	Composition I	3
10-801-136	English Composition 1				
10-804-189	Introductory Statistics	3	MAT 220	Probability & Statistics	3
10-809-199	Psychology of Human Relations <u>OR</u>	3	PSY ELEC	Psychology Elective	3
10-809-198	Intro to Psychology		PSY 200	General Psychology	
10-804-133	Math & Logic	3		An elective course	3
10-809-166	Intro to Ethics: Theory & App	3	PHI 232	Ethics	3
	<b>Total general education credits earned:</b>	<b>18</b>			
	Total transferable general education credits:	18		<b>Total general education credits accepted:</b>	<b>18</b>

**Occupational Courses**

Course No.	Course Title	Credits	Course No.	Course Title	Credits
10-152-211	Web Design I	3	CPS 280	Special Topics in Computer Science	3
10-152-310	Client-Side Web Development 1	3	CPS 200	Programming I	3
10-152-331	Data Concepts	3	CPS 210	Database Basics	3
10-152-332	Database Design and SQL	3		An Elective course	3
10-152-351	Client-Side Web Development 2 <u>OR</u>	3		An Elective course	3
10-152-391	Collaborative Application Development	3	CPS280	Special Topics in Computer Science	3
10-152-362	Open-Source Web Development <u>OR</u>	3		An elective course	3
10-152-337	Data Analytics			An elective course	
10-152-223	User Experience Design	3		An elective course	3
10-152-333	Advanced Data Management	3		An elective course	3
10-152-392	Software Architecture	3		An elective course	3
10-152-393	Application Development Capstone Project	3		An elective course	3
10-152-500	IT Development and Design Fundamentals	1		An elective course	1
10-152-501	Programming Concepts A	1		An elective course	1
10-152-502	Programming Concepts B	1		An elective course	1
10-152-503	Programming Concepts C	1		An elective course	1
10-152-504	Object - Oriented Programming A	1		An elective course	1

10-152-505	Object - Oriented Programming B	1		An elective course	1
10-152-506	Object - Oriented Programming C	1		An elective course	1
10-152-507	Object - Oriented Design A	1		An elective course	1
10-152-508	Object - Oriented Design B	1		An elective course	1
10-152-509	Object - Oriented Design C	1		An elective course	1
10-152-510	Advanced .Net Programming A	1		An elective course	1
10-152-511	Advanced .Net Programming B	1		An elective course	1
10-152-512	Advanced .Net Programming C	1		An elective course	1
	<b>Total occupational course credits earned:</b>	<b>46</b>		<b>Total occupational course credits accepted:</b>	<b>46</b>
	<b>Total credits required for graduation:</b>	<b>64</b>			
	<b>Total transferable credits:</b>	<b>64</b>		<b>Total credits accepted at Lakeland University:</b>	<b>64</b>

***Courses needed to complete degree at Lakeland University:***

Course No.	Course Title	Credits
GEN 112	Composition II: Argumentation and Research	3
GEN 3XX	Core II: Exploring the Human Condition	3
GEN 4XX	Core III: Shaping the Future (Writing Intensive)	3
<b>Complete one area of emphasis</b>		
	<b>Computer Science Emphasis: 18 semester hours from the following:</b>	18
CPS 212	Programming II	3
CPS 362	Introduction to Data Structures	3
CPS 442	Data Management, Warehousing & Mining	3
CPS 445	Systems Analysis & Design (Writing Intensive)	3
MAT 250	Discrete Mathematics	3
CPS 221	COBOL Programming	
CPS 250	Cybersecurity I	
CPS 313	Advanced Programming	
CPS 314	Programming Languages	
CPS 315	Object-Oriented Programming I	
CPS 316	Object-Oriented Programming II	
CPS 323	Computer Architecture	
CPS 325	Networking & Telecommunications	
CPS 400	Internship in Computer Science	
CPS 420	Operating Systems	
CPS 425	Artificial Intelligence	
CPS 435	Mobile Application Development	
CPS 450	Cybersecurity II	
CPS 452	Information Technology Project Management	

CPS 455	Predictive Analysis	
CPS 480	Special Topics in Computer Science	
CPS 490	Independent Study in Computer Science	
	<b>Up to four semester hours from the following non-CPS designated courses</b>	
BUS 301	Management Information Systems	
MAT 370	Numerical Analysis	
	A foreign language course	
	Additional general electives needed for degree completion	14
	<b>Information Systems Emphasis: 18 total</b>	<b>18</b>
BUS 301	Management Information Systems	
CPS 314	Programming Languages	
<b>OR CPS 221</b>	<b>OR COBOL Programming</b>	
CPS 315	Object-Oriented Programming I	
CPS 452	Information Technology Project Management	
CPS 455	Predictive Analysis	
	Three (3) additional semester hours from the Computer Science emphasis not already earned as transfer or used in above emphasis	
	Additional general electives needed for degree completion	14
	<b>Software Design Emphasis: 18 total</b>	<b>18</b>
CPS 313	Advanced Programming	
<b>OR CPS 221</b>	<b>OR COBOL Programming</b>	
CPS 314	Programming Languages	
CPS 315	Object-Oriented Programming I	
CPS 316	Object-Oriented Programming II	
CPS 435	Mobile Application Development	
	Three (3) additional semester hours from the Computer Science emphasis not already earned as transfer or used in above emphasis	
	Additional general electives needed for degree completion	14
	<b>Total credits needed to complete degree any emphasis:</b>	<b>56</b>

Disclaimer: Students planning to transfer should contact NTC's Transfer Specialist and transfer personnel at Lakeland University for the most current transfer information.

Updated on:12/7/18