From: **Langara College (LANG)** Associate of Science Degree, Computer Science	To: **University of Northern BC (UNBC)** Bachelor of Science (BSc Degree, Computer Science Major)

The following list of course equivalents will appear on the transfer credit summary for students who have successfully completed **Langara's Associate of Science Degree** and declare their **major in Computer Science at UNBC**.

Information in this handout is unofficial and should be used as a guide only. For questions regarding admission to UNBC or course selection please contact Student Recruitment & Advising at 250-960-6306 or advising@unbc.ca.

NOTE: *As per UNBC Undergraduate Calendar Regulation number 14, "Students must complete a minimum of 30 credit hours of upper division UNBC course work to receive a UNBC degree."*

LANG Requirement Applicable to Computer Science	**LANG Course Name**	**UNBC Equivalence[1]**
All of		
CPSC 1050	Introduction to Computer Science	CPSC 126-3
CPSC 1150	Program Design	CPSC 100-4
CPSC 1160	Algorithms and Data Structures I	CPSC 1XX-3
CPSC 1181	Object-oriented Computing	CPSC 1XX-3 (Waive CPSC 101-4)
CPSC 2150	Algorithms and Data Structures II	CPSC 281-3
MATH 2362	Linear Algebra	MATH 220-3
Two of		
CPSC 1280 or a 2nd year CPSC course[1]	Unix Tools and Scripting	CPSC 1XX-3
One of		
MATH 1171	Calculus I	MATH 100-3
MATH 1173 and MATH 1183	Calculus I with Computer Explorations Computer Explorations for Calculus I	MATH 100-3
One of		
MATH 1271	Calculus II	MATH 101-3
MATH 1273 and MATH 1283	Calculus II with Computer Explorations Computer Explorations for Calculus II	MATH 101-3
Two of		
CMNS 1118, CMNS 2228, ENGL 1127 or ENGL 1128, ENGL 1129 or ENGL 1130		ENGL 1XX-3, HUMN 2XX-3, ENGL 170-3 ENGL 170-3, ENGL 100-3 ENGL 1XX-3
Two	University-transferable arts (6 credits, excluding ENGL, CMNS, and MATH)	
Two	Second-year science (6 credits)	
Four	University-transferable electives (12 credits), at least one of which is in a lab science.	

Date of last update: **January 2019**

Other required LANG credit	Specifics	UNBC Equivalence[2] Used towards this BSc Requirement
6 credits	MATH which shall include at least one course (3 credits) in Calculus;	
a minimum of 36 credits	Science, which shall include at least: a) 3 credits in a laboratory science; b) a minimum of 18 credits in science at the second-year level taken in two or more subject areas;	
6 credits	First-year ENGL;	
6 credits	First or second year arts other than ENGL (excluding MATH and laboratory-based science courses);	* Please discuss how to complete this requirement with your Student Advisor. Depending on course selection, students may be able to complete some or all of this requirement at Langara. [3]
a minimum of 6 credits	First or second year arts, science or other university-transfer courses. (Students may include university-transfer credit from career program and KINS and RECR course offerings);	
The last 50% of the courses used towards the associate degree at Langara College within the last five years; and all courses used towards the degree with a cumulative GPA of 2.0, including a minimum cumulative GPA of 2.0 in all Langara College courses used towards the degree;		
A minimum cumulative GPA of 2.0.		

[1] Course equivalencies were determined through the articulation process and are listed on the BC Transfer Guide, www.bctransferguide.ca Student will need to choose coursework appropriately so as not to receive duplicate Transfer Credit.

[2] Students need to choose coursework transferable to UNBC in order to receive credit in these areas.

[3] Students need to verify they are completing approved University Transfer Credit coursework as per the BC Transfer Guide. Courses in the Creative and Performing Arts as well as Career program and other courses considered for the Associate degree may not be eligible for transfer credit to UNBC.

Note: Above based on Langara 2018/19 Academic Calendar.

Recommended Courses to take:

LANG Courses	Specifics	UNBC Equivalence[1] Used towards this BSc Requirement
ENGL 1128	Short Prose Selections and Composition	ENGL 170-3 or ENGL 1XX-3
MATH 1271	Calculus	MATH 101-3[2]
PHYS 1125	Physics I with Calculus	PHYS 110-4
PHYS 1225	Physics II with Calculus	PHYS 111-4

[1] Course equivalencies were determined through the articulation process and are listed on the BC Transfer Guide, www.bctransferguide.ca Student will need to choose coursework appropriately so as not to receive duplicate Transfer Credit.

[1] Must achieved a C- (60% at UNBC) or better for all Math transfer credit to use as a prerequisite for UNBC coursework

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Sample of **UNBC Calendar** requirements for the Computer Science major and how LANG Associate of Science Degree in Computer Science coursework *may be* used towards completion of the degree at UNBC[5]:

UNBC Calendar Information		Langara Equivalence
The minimum requirement for completion of a Bachelor of Science with a major in Computer Science is 120 credit hours.		
Program Requirements *Note: Unless otherwise specified, students enrolling in any Computer Science or Mathematics course with prerequisites are required to have completed all prerequisite courses for that course with a "C-" or better, or have permission to enroll from the Program Chair.		
Lower-Division Requirement		
100 Level		
CPSC 100-4	Computer Programming I	✓Completed at LANG, CPSC 1150
CPSC 101-4	Computer Programming II	✓Completed at LANG, CPSC 1181
CPSC 141-3	Discrete Computational Mathematics	✓Completed at LANG, CPSC 2190
ENGL 170-3	Writing and Communication Skills	* Can be completed at LANG, ENGL 1128
or ENGL 270-3	Expository Writing	
MATH 100-3	Calculus I	*Can be completed at LANG, MATH 1271
or MATH 105-3	Enriched Calculus	
*Note: MATH 101-3 Calculus II is strongly recommended		
200 Level		
CPSC 200-3	Algorithm Analysis and Development	✓Completed at LANG, CPSC 2150
CPSC 222-3	Introduction to Concurrent and Distributed Programming	□ To be completed at UNBC
CPSC 230-4	Introduction to Logic Design	
CPSC 231-4	Computer Organization and Architecture	
CPSC 242-3	Mathematical Topics in Computer Science	
CPSC 260-3	Ethics in Computing	
CPSC 281-3	Data Structures I	
MATH 220-3	Linear Algebra	✓Completed at LANG, MATH 2363
General Science Requirement Students must take two courses from the following list of science courses. It is recommended that computer science majors take PHYS 110-4 and PHYS 111-4. However, students may take any two courses from the following list, according to their interests, to fulfill the general science requirement:		
PHYS 110-4	Introductory Physics I: Mechanics	*Can be completed at LANG, PHYS 1125 and LANG, PHYS 1225
PHYS 111-4	Introductory Physics II: Waves and Electricity	
PHYS 100-4	Introduction to Physics I	
PHYS 101-4	Introduction to Physics II	
CHEM 100-3	General Chemistry I	
CHEM 101-3	General Chemistry II	
BIOL 103-3	Introductory Biology I	
BIOL 104-3	Introductory Biology II	

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UNBC Computer Science major Calendar requirements continued:

PSYC 101-3	Psychology as a Science	*Can be completed at LANG, see previous page
ENVS 101-3	Introduction to Environmental Citizenship	
GEOG 204-3	Introduction to GIS for the Social Sciences	
GEOG 205-3	Cartography and Geomatics	
GEOG 210-3	Geomorphology	

*Note: In some special cases other science courses approved by the Chair of Computer Science may be used to satisfy this requirement.

Upper-Division Requirement

Computer Science Breadth

CPSC 300-3	Software Engineering	□ To be completed at UNBC
CPSC 320-3	Programming Languages	
CPSC 321-3	Operating Systems	
CPSC 324-3	Introduction to Database Systems	
CPSC 340-3	Theory of Computation	
CPSC 344-3	Data Communication and Networking	
or CPSC 444-3	Computer Networking	

*Note: STAT 371-3 Probability and Statistics for Scientists and Engineers is strongly recommended.

400 Level

At least 12 credit hours of Computer Science courses must be taken at the 400 level, and at least nine of these credit hours must be outside the seminar course, project course, (other than CPSC 400-3), research course, or special topics course category.

Alternate courses may be substituted for the above with the written permission of the Program Chair. □ To be completed at UNBC

Subject Requirement

Six additional credit hours chosen from the following:

Computer Science at any level

MATH 335-3	Numerical Analysis I
STAT 371-3	Probability and Statistics for Scientists and Engineers

Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). A total of 45 credit hours in upper-division (300 and 400 level) courses from any discipline are required for graduation.

* Please discuss how to complete this requirement with your Student Advisor. Depending on course selection, students may be able to complete some or all of this requirement at Langara.

[1]Based on the 2018/19 UNBC Academic Calendar year.

[2] Must have a C- or better at CNC to use as a prerequisite at UNBC.