From: **Langara College (LANG)**
Associate of Science Degree, Chemistry

To: **University of Northern BC (UNBC)**
Bachelor of Science (BSc Degree, Chemistry)

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 Chemistry 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 Chemistry	LANG Course Name	UNBC Equivalence[1]
All of:		
CHEM 1120	General Chemistry I	CHEM 100-3, CHEM 101-3, CHEM 120-3
CHEM 1220	General Chemistry II	CHEM 121-3
CHEM 2222	Analytical Chemistry	CHEM 210-3
CHEM 2208	Coordination Chemistry	CHEM 202-3
CHEM 2316	Organic Chemistry I	CHEM 201-3, CHEM 250-1
CHEM 2416	Organic Chemistry II	CHEM 203-3, CHEM 251-1
MATH 2371	Calculus III	MATH 2XX-3
MATH 2362	Linear Algebra	MATH 220-3[2]
PHYS 1225	Physics II with Calculus	PHYS 111-4
One of:		
ENGL 1127	Essay Writing & Short Prose Selections	ENGL 170-3 or ENGL 1XX-3
ENGL 1128	Short Prose Selections and Composition	ENGL 170-3 or ENGL 1XX-3
One of:		
ENGL 1129	Modern Novel, Poetry, and Drama	ENGL 100-3
ENGL 1130	Modern Novel, Poetry, and Film	ENGL 1XX-3
One of:		
MATH 1153 &	Introduction to Calculus I (Part I)	MATH 1XX-3
MATH 1253 &	Introduction to Calculus I (Part II)	MATH 1XX-3
MATH 1271	Calculus II	MATH 101-3[2]
or		
MATH 1171 &	Calculus	MATH 100-3[2]
MATH 1271	Calculus II	MATH 101-3[2]
or		
MATH 1173 &	Calculus I with Computer Explorations	MATH 100-3[2]
MATH 1183 &	Computer Explorations for Calculus I	MATH 101-3[2]
MATH 1273 &	Calculus II with Computer Explorations	
MATH 1283	Computer Explorations for Calculus II	
One of:		
PHYS 1101	Physics I for Life Sciences	PHYS 1XX-4
PHYS 1125	Physics I with Calculus	PHYS 110-4

Date of last update: **January 2019**

Associate of Science required LANG credit	Specifics	UNBC Equivalence[3] 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;	* 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. [4]
6 credits	First or second year arts other than ENGL (excluding MATH and laboratory-based science courses);	
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] Must achieved a C- (60% at UNBC) or better for all Math transfer credit to use as a prerequisite for UNBC coursework

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

[4] 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 the Langara 2018/19 Academic Calendar.

Recommended Courses to take:

LANG Courses	Specifics	UNBC Equivalence[1] Used towards this BSc Requirement
BIOL 1115	General Biology I	BIOL 103-3 & BIOL 123-1
BIOL 1215	General Biology II	BIOL 104-3 & BIOL 124-1
BIOL 2370	Microbiology	BIOL 203-3
BIOL 2330	Genetics	BIOL 210-3
BIOL 2315	Biochemistry	CHEM 204-3 & BCMB 2XX-1[2]
BIOL 2415	Cell Biology	BIOL 311-3[2]
MATH 1171	Calculus	MATH 100-3[3]
MATH 1271	Calculus	MATH 101-3[3]
PHYS 1125	Physics I with Calculus	PHYS 110-4

[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.

[2] Students must take both LANG BIOL 2315 & LANG BIOL 2415 to received credit for UNBC CHEM 204-3, UNBC BCMB 2XX-1 and UNBC BIOL 311-3. If students only take LANG BIOL 2315, they can receive credit for UNBC CHEM 204-3 & UNBC BCMB 2XX-1

[3] 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 Biochemistry and Molecular Biology major and how Langara Associate of Science Degree in Chemistry coursework *may be* used towards completion of the degree at UNBC[5]:

UNBC Calendar Information		Langara Equivalence
The major in Chemistry requires students to take at least 64 credit hours of Chemistry, 36 credit hours of which must be upper-division (i.e., 300 or 400) level.		
The minimum requirement for completion of a Bachelor of Science with a major in Chemistry is 128 credit hours.		
Program Requirements Lower-Division Requirements		
100 Level		
BIOL 103-3	Introductory Biology I	* Can be completed at LANG, BIOL 1115 & LANG, BIOL 1215
BIOL 104-3	Introductory Biology II	
BIOL 123-1	Introductory Biology I Laboratory	
BIOL 124-1	Introductory Biology II Laboratory	
CHEM 100-3	General Chemistry I	✓Completed at LANG, CHEM 1120 & LANG, CHEM 1220
CHEM 101-3	General Chemistry II	
CHEM 120-1	General Chemistry Lab I	
CHEM 121-1	General Chemistry Lab I	
CPSC 100-4	Computer Programming I	□ To be completed at UNBC
or CPSC 110-3	Introduction to Computer Systems and Programming	
MATH 100-3	Calculus I	* Can be completed at LANG, MATH 1171
MATH 101-3	Calculus II	* Can be completed at LANG, MATH 1271
PHYS 100-4	Introduction to Physics I	
or PHYS 110-4	Introductory Physics I: Mechanics	* Can be completed at LANG, PHYS 1125
PHYS 101-4	Introduction to Physics I	✓Completed at LANG, PHYS 1225
or PHYS 111-4	Introductory Physics II: Waves & Electricity	
PHYS 110-4 and PHYS 111-4 are strongly recommended.		
200 Level		
CHEM 200-3	Physical Chemistry I	□ To be completed at UNBC
CHEM 201-3	Organic Chemistry I	✓Completed at LANG, CHEM 2316
CHEM 202-3	Inorganic Chemistry I	□ To be completed at UNBC
CHEM 203-3	Organic Chemistry II	✓Completed at LANG, CHEM 2416
CHEM 204-3	Introductory Biochemistry	* Can be completed at LANG, BIOL 2315
CHEM 210-3	Analytical Chemistry I	□ To be completed at UNBC
CHEM 250-1	Organic Chemistry Lab I	✓Completed at LANG, CHEM 2316
CHEM 251-1	Organic Chemistry Lab II	✓Completed at LANG, CHEM 2316
One of:		
MATH 200-3	Calculus II	✓Completed at LANG, STAT 1123
or STAT 371-3	Probability and Statistics for Scientists and Engineers	

UNBC Chemistry major Calendar requirements continued:

Upper-Division Requirements

300 Level

CHEM 300-3	Physical Chemistry II
Or CHEM 305-3	Physical Chemistry III
CHEM 310-3	Analytical Chemistry II
CHEM 315-3	Physical Chemistry Lab
CHEM 320-3	Inorganic Chemistry II
Or CHEM 321-3	Inorganic Chemistry III
CHEM 322-3	Inorganic Chemistry Lab

400 Level

CHEM 401-3	Chemistry Seminar
CHEM 406-3	Advanced Laboratory I
CHEM 407-3	Advanced Laboratory II

Nine credit hours of 300 or 400 level Chemistry.*
Three credit hours of 400 level Chemistry.*

*Up to 6 credit hours from BCMB 306-3, BCMB 307-3, BCMB 308-3, BCMB 330-3, BCMB 340-3, BCMB 401-3, BCMB 402-3, BCMB 403-3, BCMB 405-3 or BCMB 409-3 may be used to satisfy these requirements.

□ To be completed at UNBC

Elective and Academic Breadth Requirement

Elective credit hours as necessary to ensure completion of a minimum of 128 credit hours including any additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). A maximum of three credit hours from Continuing Studies may be used towards the elective credits. A total of 54 credit hours of upper-division study (300- and 400-level courses) must be successfully complete to meet degree requirements.

* 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.