From: **Langara College (LANG)** Associate of Science Degree, Chemistry	To: **University of Northern BC (UNBC)** Bachelor of Science (BSc Degree, Biochemistry and Molecular Biology 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 Biochemistry and Molecular 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."*

Associate of Science Degree

Within the minimum 60 credits, students must complete:

1. 6 credits of MATH which shall include at least one course (3 credits) in Calculus:
2. a minimum of 36 credits of science, which shall include at least:
    a. 3 credits in laboratory science;
    b. A minimum of 18 credits in science at the second-year level taken in two or more subject areas;
3. 6 credits of first-year ENGL;
4. 6 credits of first or second year arts other than ENGL (excluding MATH and laboratory-based science courses);
5. a minimum of 6 credits of 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); and
6. a minimum cumulative GPA of 2.0.

No course may be used to meet more than one of the specific requirements.

Applicable to Chemistry	LANG Course Name		UNBC Equivalence[1]
Within the framework of the general requirements for the Associate of Science Degree (above), students must complete a minimum of 60 credits including:			
All of	CHEM 1120	General Chemistry I	CHEM 100-3, CHEM 101-3,
	CHEM 1220	General Chemistry II	CHEM 120-3, 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 1123	Introduction to Academic Writing	ENGL 170-3
	ENGL 1127	Essay Writing and Short Prose Sections	ENGL 170-3 or ENGL 1XX-3
	ENGL 1128	Short Prose Sections 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]

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Cont'd:

or			
	MATH 1173 &	Calculus I with Computer Explorations	MATH 100-3[2]
	MATH 1183 &	Computer Explorations for Calculus I	
	MATH 1273 &	Calculus II with Computer Explorations	MATH 101-3[2]
	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

[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

Note: Above based on the Langara 2020 website.

Recommended Courses to take:

LANG Courses	LANG Course Name	UNBC Equivalence[1]
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, Course Number & Course Name		**LANG Equivalence[1]**
The major in Biochemistry and Molecular Biology requires students To take at least 74 credit hours of Biochemistry and Molecular Biology oriented courses, of which 33 credit hours must be upper Division (i.e., 300 or 400 level). The minimum requirement for completion of a Bachelor of Science with a major in Biochemistry and Molecular Biology is 127 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	
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	
200 Level		
BCMB 255-2	Biochemistry Lab I	□ To be completed at UNBC
BIOL 203-3	Microbiology	- Can be completed at LANG, BIOL 2370
BIOL 210-3	Genetics	- Can be completed at LANG, BIOL 2330
CHEM 201-3	Organic Chemistry I	✓Completed at LANG, CHEM 2316
CHEM 203-3	Organic Chemistry II	✓Completed at LANG, CHEM 2416
CHEM 204-3	Introductory Biochemistry	- Can be completed at LANG, BIOL 2315 & LANG. BIOL 2415
CHEM 250-1	Organic Chemistry Lab I	✓Completed at LANG, CHEM 2316
CHEM 251-1	Organic Chemistry Lab II	✓Completed at LANG, CHEM 2316
STAT 240-3	Basic Statistics	✓Completed at LANG, STAT 1123
Or STAT 371-3	Probability and Statistics for Scientists and Engineers	
Upper-Division Requirements		
300 Level		
BCMB 306-3	Intermediary Metabolism	□ To be completed at UNBC
BCMB 308-3	Biochemistry Lab II	
BCMB 340-3	Physical Biochemistry	
BIOL 311-3	Cell and Molecular Biology	- Can be completed at LANG, BIOL 2315 & LANG, BIOL 2415

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UNBC Chemistry major Calendar requirements continued:

400 Level

BCMB 404-3 Proteins and Enzymology

Four of the following:

BCMB 401-3	Basic Science of Oncology
BCMB 402-3	Macromolecular Structure
BCMB 403-3	Advanced Nucleic Acids
BCMB 405-3	Special Topics in Biochemistry
BIOL 312-3	Molecular Cell Physiology
BIOL 323-3	Evolutionary Biology
BIOL 423-3	Molecular Evolution and Ecology
BIOL 425-3	Applied Genetics and Biotechnology

□ To be completed at UNBC

Subject Requirements

Twelve additional credit hours chosen from the following, of which at least 6 credit hours must be at the 300 or 400 level:

Any 200-level or above BCMB, BIOL or CHEM courses

CPSC 450-3	Bioinformatics
HHSC 305-3	Human Physiology I
HHSC 306-3	Human Physiology II
PSYC 318-3	Sensation and Perception
PSYC 419-3	Neuropsychology

Note: NRES 430-6 can count towards this requirement with permission of the Program Chair.

Elective Requirement

Elective credit hours as necessary to ensure complete of 127 credit hours including any additional credit hours necessary to meet the Academic Breath requirement of the University (see Academic Regulation 15). Note: no more than 3 credits hours of Continuing education courses can be used the BCMB major.

* 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 2020/21 UNBC Academic Calendar year.

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