

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."

LANG Requirement	LANG Course Name	UNBC Equivalence ¹	
Applicable to Chemistry			
<i>All of:</i>			
CHEM 1120	General Chemistry I	} CHEM 100-3, CHEM 101-3, CHEM 120-3 CHEM 121-3	
CHEM 1220	General Chemistry II		
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	
<i>One of:</i>			
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	
<i>One of:</i>			
ENGL 1129	Modern Novel, Poetry, and Drama	ENGL 100-3	
ENGL 1130	Modern Novel, Poetry, and Film	ENGL 1XX-3	
<i>One of:</i>			
MATH 1153 & MATH 1253 & MATH 1271	Introduction to Calculus I (Part I) Introduction to Calculus I (Part II) Calculus II	} MATH 1XX-3 MATH 1XX-3 MATH 101-3 ²	
<i>or</i>			
MATH 1171 & MATH 1271	Calculus Calculus II		} MATH 100-3 ² MATH 101-3 ²
<i>or</i>			
MATH 1173 & MATH 1183 & MATH 1273 & MATH 1283	Calculus I with Computer Explorations Computer Explorations for Calculus I Calculus II with Computer Explorations Computer Explorations for Calculus II	} MATH 100-3 ² MATH 101-3 ²	
<i>One of:</i>			
PHYS 1101	Physics I for Life Sciences		PHYS 1XX-4
PHYS 1125	Physics I with Calculus		PHYS 110-4

Other 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;	* 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
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);	
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)	
<p>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.</p>		

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 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

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 UNBC⁵:

UNBC Calendar Information	LANG Equivalence		
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

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

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 317-3 Psychobiology
 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.

To be completed at UNBC

* 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.

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

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