



Bachelor of Science (CHEMICAL BIOLOGY MAJOR) Checklist

HIGH SCHOOL PREREQUISITES

ENGLISH		
IF YOU TOOK	YOUR GRADE	CHOOSE
English Studies 12 or English First Peoples 12 or	73% or higher	<div> <div></div> <div>ENGL 1100 (recommended) or ENGL 1110 or ENGL 1120 or ENGL 1140 or 1150 or ENGL 1210</div> </div>
ESAL 0570 and 0580 or	65% or higher	
ENGL 0600 or ENGL 0620	65% or higher	
English Studies 12 or English First Peoples 12	Below 73%	<div> <div></div> <div>ACCUPLACER Assessment or ENGL 0600 or 0620</div> </div>
BIOLOGY		
IF YOU TOOK	YOUR GRADE	CHOOSE
Life Sciences 11 or Biology 11 or Anatomy & Physiology 12 or Biology 12 AND Chemistry 11	67% or higher	<div> <div></div> <div>BIOL 1110 AND 1210</div> </div>
Life Sciences 11 or Biology 11	Below 67%	<div> <div></div> <div>BIOL 0500</div> </div>
IF YOU NEED		
Life Sciences 11 or Biology 11		<div> <div></div> <div>BIOL 0500</div> </div>
Chemistry 11		<div> <div></div> <div>CHEM 0500</div> </div>
CHEMISTRY		
IF YOU TOOK	YOUR GRADE	CHOOSE
Chemistry 11 AND Pre-Calculus 12	67% or higher (recommended)	<div> <div></div> <div>CHEM 1500 AND 1510</div> </div>
Chemistry 12 AND Pre-Calculus 12	73% or higher (recommended)	<div> <div></div> <div>CHEM 1500 AND 1520</div> </div>
IF YOU NEED		
Chemistry 11		<div> <div></div> <div>CHEM 0500</div> </div>
Chemistry 12		<div> <div></div> <div>CHEM 0600</div> </div>
Pre-Calculus 12		<div> <div></div> <div>SEE MATH SECTION BELOW</div> </div>
PHYSICS		
IF YOU TOOK	YOUR GRADE	CHOOSE
Physics 11 AND Pre-Calculus 12	67% or higher	<div> <div></div> <div>PHYS 1100 AND 1200</div> </div>
Physics 12 AND Pre-Calculus 12	67% or higher	<div> <div></div> <div>PHYS 1150 AND 1250</div> </div>
Physics 11	Below 67%	<div> <div></div> <div>PHYS 0500</div> </div>
IF YOU NEED		
Physics 11		<div> <div></div> <div>PHYS 0500</div> </div>
Physics 12		<div> <div></div> <div>PHYS 0600</div> </div>
Pre-Calculus 12		<div> <div></div> <div>SEE MATH SECTION BELOW</div> </div>

MATH – EVERY SCIENCE MAJOR REQUIRES 6 CREDITS OF FIRST-YEAR CALCULUS

IF YOU TOOK	YOUR GRADE		CHOOSE
Pre-Calculus 12	67% or higher (within the last 2 years)	➡	One of the following streams: MATH 1140 AND 1240 MATH 1150 AND 1250
Pre-Calculus 12	Below 67% (within the last 2 years)	➡	MATH 1000 or 0630 or 0600 + 0610
Foundations 12	All grades	➡	MATH 0510 + MATH 0600 + MATH 0610

MATH 1140/1240 is recommended for all Science Majors
MATH 1150/1250 is recommended for all Biology Majors

PLEASE NOTE: For all high school courses with no required grade listed, 67% or higher is highly recommended.

For best chances of academic success, completion of the grade 12 level of the subject area of your intended major is recommended. (e.g. for a Physics major, you should have Grade 12 Physics). High school equivalent courses can be taken or repeated at TRU.

SUGGESTED FIRST- AND SECOND-YEAR PLAN

YEAR 1

FALL SEMESTER	WINTER SEMESTER
ENGL 1100 or 1110	ENGL 1100 or 1110 or 1120 or 1140 or 1210
BIOL 1210	BIOL 1110
CHEM 1500	CHEM 1510 or 1520
MATH 1140	MATH 1240
PHYS 1100 or 1150	PHYS 1200 or 1250

YEAR 2

FALL SEMESTER	WINTER SEMESTER
CHEM 2120	CHEM 2220
CHEM 2100	BIOL 2130
CHEM 2160	BIOL 2340
BIOL 2160	CHEM 2250
Non-Science Elective (or COMP 3 credits – see note #4 next page)	CMNS 2300 or 2290

COURSE OFFERINGS – 1000/2000 level

Note: Many science and math courses are offered in Fall **or** Winter semester only.

FALL SEMESTER ONLY	WINTER SEMESTER ONLY
CHEM 1500	CHEM 1510 or 1520
CHEM 2100	CHEM 2220
CHEM 2160	CHEM 2250
CHEM 2120	CMNS 2300
PHYS 1150	PHYS 1250
BIOL 1210	BIOL 1110
BIOL 2160	BIOL 2130
	BIOL 2340

Bachelor Of Science Degree – CHEMICAL BIOLOGY MAJOR Checklist (120 credits)

1000-Level CORE courses (30-33 credits)			2000-Level CORE courses (27 credits)			3000/4000-Level courses (39-41 credits)		
COURSE		GRADE	COURSE		GRADE	COURSE		GRADE
ENGL 1100 or 1110 ^{1,2}			BIOL 2130 - Cell Biology			CHEM 3100 - Instrumental Analysis		
ENGL 1100, 1110, 1120, 1140 or 1210 ^{1,2}			BIOL 2340 - Introduction to Genetics			CHEM 3170 - Instrumental Analysis Lab (1 credit)		
			BIOL 2160 - Introductory Microbiology			CHEM 3220 - Advanced Organic Chemistry		
BIOL 1110 - Principles of Biology 1			CHEM 2100 - Introductory Analytical Chem			CHEM 3230 – Organic Spectroscopy		
BIOL 1210 - Principles of Biology 2			CHEM 2120 - Organic Chemistry 1			CHEM 3240 - Organic Chemistry Lab (1 credit)		
CHEM 1500 - Chemical Bonding/Organic Chem			CHEM 2220 - Organic Chemistry 2			CHEM 4450 - Advanced Chemical Biology		
CHEM 1510 or1520			CHEM 2160 Structure, Bonding & Spectroscopy			BIOL 3000 - Biometrics		
MATH 1140 (or 1150) -Calculus 1			CHEM 2250 - Fundamentals of Physical Chemistry			BIOL 3130 - Introduction to Biochemistry		
MATH 1240 (or 1250) -Calculus 2			CMNS 2290 or 2300			BIOL 3230 - Biochemistry		
PHYS 1100 or 1150			Electives (21-24 credits)			BIOL 3350 - Molecular Genetics		
PHYS 1200 or 1250				COURSE	GRADE	BIOL 3520 - Cell Physiology		
COMP 3 credits ^{1,4}			Non-Science elective ³			BIOL 4150 - Biochemical Techniques 1		
Notes: 1. Must be taken prior to 3 rd year 2. Students with a B or better in ENGL 1100 (or 1110) may proceed to either of the required CMNS courses (CMNS 2290 or 2300) in their second-year; students with less than a B in first-year English courses must take another 3 credits of first-year English (ENGL 1120, 1140 or 1210) before their second-year English requirement. 3. Non-Science electives must be in at least two different subject areas (other than English). 4. The 3 credits of COMP may be COMP 1020/1030/and one other 1-credit COMP <u>OR</u> COMP 1110 <u>OR</u> COMP 1130. 5. The Chemical Biology Honours program requires the completion of 126 credits, including the 117 credits required, as well as CHBI 3980-1 (Introduction to Research), CHBI 4980-2 (Honours Seminar) and CHBI 4990-6 (Honours Thesis). Students must apply for admission to the Honours program at the end of their third year.	Non-Science elective ³				BIOL 4250 - Biochemical Techniques 2			
	Non-Science elective ³				Chemical Biology Electives: (4 - 6 credits) from: CHEM 3060, CHEM 3140, CHEM 3310, CHEM 3330, CHEM 4220, CHEM 4320, CHEM 4400, CHEM 4420L, CHEM 4480, CHEM 4600, BIOL 3010, BIOL 3200, BIOL 3510, BIOL 3540, BIOL 3550, BIOL 4350, BIOL 4480, BIOL 4490, PHIL 4330, PHIL 4350			
	Elective in lieu of 2 nd ENGL ²							
	General elective (1000-4000 level)							
	Upper-level elective							
	Upper-level elective					CHEM BIOL elective		
	Upper-level elective					CHEM BIOL elective		
	Upper-level elective					CHEM BIOL elective		
	Electives:			Institutional Learning Outcomes (ILOs) may be required to graduate. Refer to the Degree Works website for more information.			Honours Program Courses	
	CHBI 3980 – Introduction to Research							
	CHBI 4980 – Honours Seminar							
	CHBI 4990 – Honours Thesis							
*NEW Institutional Learning Outcomes (ILO) Requirements – your Degree Works Program Plan is available through myTRU								

KEEP IN MIND

This form is meant to be used as a guideline in conjunction with the [TRU Academic Calendar](#) and [Course Schedule](#). Please see these resources for more about course prerequisites and co-requisites

Institutional Learning Outcomes (ILOs):

May be required for your program. Using the **Degree Works** planning tool will help you identify which courses apply.

Degree Works Planning Tool:

More information is available through the Degree Works website at: tru.ca/current/academic-supports/degreeworks

BACHELOR OF SCIENCE – FIRST- AND SECOND-YEAR NON-SCIENCE ELECTIVES

Anthropology (ANTH)	All	Linguistics (LING)	All
Archaeology (ARCH)	All	Management (MNGT)	1710
Accounting (ACCT)	2210, 2250	Marketing (MKTG)	2430
Business Law (BLAW)	2910	Modern Languages (MLAN)	All
Chinese (CHIN)	1110, 1210	Music (MUSI)	All
Communications (CMNS)	All	Organizational Behaviour (ORGB)	2810
Creative Writing (CRWR)	All	Philosophy (PHIL)	All
Economics (ECON)	All	Physical Education (PHED) non-Activity	1000, 1230, 2110, 2130, 2140, 2210
French (FRAN)	All	Political Studies (POLI)	All
Film (FILM)	All	Psychology (PSYC)	All
Finance (FNCE)	2120	Service & Community Learning (SRCL)	1000
First Nation Language (FNLG)	All	Sociology (SOCL)	All
Geography (GEOG) (non-physical)	1010, 1100, 1110, 2110, 2120, 2220, 2230 (excluded: GEOG 1000, 2020)	Spanish (SPAN)	All
German (GERM)	All	Speech (SPEE)	1500, 2500
History (HIST)	All 1000 level & 2000 level	Student Success (STSS)	1010, 1020
Human Resource Management (HRMN)	2820	Theatre (THTR)	All
Indigenous Studies (INDG)	2100	Visual Arts (VISA) (Theory)	All
Japanese (JAPA)	All	Visual Arts (VISA) (Studio)	All
Journalism (JOUR)	2010		