NAME/ID#: _____

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GUIDELINES FOR BACHELOR OF SCIENCE CHEMICAL BIOLOGY MAJOR

HIGH SCHOOL PREREQUISITES

ENGLISH

IF YOU TOOK	YOUR GRADE		CHOOSE
English Studies 12 **or** English First Peoples 12 **or**	73% or higher	→	ENGL 1100 (recommended) **or** ENGL 1110 **or** ENGL 1120 **or** ENGL 1140 **or** 1150 **or** ENGL 1210
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%	→	ACCUPLACER Assessment **or** ENGL 0600 **or** 0620

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	→	BIOL 1110 **AND** 1210
Life Sciences 11 **or** Biology 11	Below 67%	→	BIOL 0500
IF YOU NEED			
Life Sciences 11 **or** Biology 11		→	BIOL 0500
Chemistry 11		→	CHEM 0500

CHEMISTRY

IF YOU TOOK	YOUR GRADE		CHOOSE
Chemistry 11 **AND** Pre-Calculus 12	67% or higher (recommended)	→	CHEM 1500 **AND** 1510
Chemistry 12 **AND** Pre-Calculus 12	73% or higher (recommended)	→	CHEM 1500 **AND** 1520
IF YOU NEED			
Chemistry 11		→	CHEM 0500
Chemistry 12		→	CHEM 0600
Pre-Calculus 12		→	SEE MATH SECTION BELOW

PHYSICS

IF YOU TOOK	YOUR GRADE		CHOOSE
Physics 11 **AND** Pre-Calculus 12	67% or higher	→	PHYS 1100 **AND** 1200
Physics 12 **AND** Pre-Calculus 12	67% or higher	→	PHYS 1150 **AND** 1250
Physics 11	Below 67%	→	PHYS 0500
IF YOU NEED			
Physics 11		→	PHYS 0500
Physics 12		→	PHYS 0600
Pre-Calculus 12		→	SEE MATH SECTION BELOW

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 Checksheet (120 credits)

1000-Level CORE courses (30-33 credits)

COURSE		GRADE
ENGL 1100 or 1110 [1, 2]		
ENGL 1100, 1110, 1120, 1140 or 1210 [1, 2]		
BIOL 1110 - Principles of Biology 1		
BIOL 1210 - Principles of Biology 2		
CHEM 1500 - Chemical Bonding/Organic Chem		
CHEM 1510 or1520		
MATH 1140 (or 1150) -Calculus 1		
MATH 1240 (or 1250) -Calculus 2		
PHYS 1100 or 1150		
PHYS 1200 or 1250		
COMP 3 credits [1, 4]		

Notes:

1. Must be taken prior to 3rd 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 OR COMP 1110 OR 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.

2000-Level CORE courses (27 credits)

COURSE		GRADE
BIOL 2130 - Cell Biology		
BIOL 2340 - Introduction to Genetics		
BIOL 2160 - Introductory Microbiology		
CHEM 2100 - Introductory Analytical Chem		
CHEM 2120 - Organic Chemistry 1		
CHEM 2220 - Organic Chemistry 2		
CHEM 2160 Structure, Bonding & Spectroscopy		
CHEM 2250 - Fundamentals of Physical Chemistry		
CMNS 2290 or 2300		

Electives (21-24 credits)

	COURSE	GRADE
Non-Science elective [3]		
Non-Science elective [3]		
Non-Science elective [3]		
Elective in lieu of 2nd ENGL [2]		
General elective (1000-4000 level)		
Upper-level elective		
Upper-level elective		
Upper-level elective		

Electives:

Institutional Learning Outcomes (ILOs) may be required to graduate. Refer to the Degree Works website for more information.

3000/4000-Level courses (39-41 credits)

COURSE		GRADE
CHEM 3100 - Instrumental Analysis		
CHEM 3170 - Instrumental Analysis Lab (1 credit)		
CHEM 3220 - Advanced Organic Chemistry		
CHEM 3230 – Organic Spectroscopy		
CHEM 3240 - Organic Chemistry Lab (1 credit)		
CHEM 4450 - Advanced Chemical Biology		
BIOL 3000 - Biometrics		
BIOL 3130 - Introduction to Biochemistry		
BIOL 3230 - Biochemistry		
BIOL 3350 - Molecular Genetics		
BIOL 3520 - Cell Physiology		
BIOL 4150 - Biochemical Techniques 1		
BIOL 4250 - Biochemical Techniques 2		
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		
CHEM BIOL elective		
CHEM BIOL elective		
CHEM BIOL elective		

Honours 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.

KEEP IN MIND

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 (SOCI)	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			