



**GUIDELINES FOR
BACHELOR OF SCIENCE
MATH & ECONOMICS MAJOR**

HIGH SCHOOL PREREQUISITES

| ENGLISH | | |
|---|-----------------------------|--|
| IF YOU TOOK | YOUR GRADE | CHOOSE |
| English Studies 12 or English First Peoples 12 or ESAL 0570 and 0580 or ENGL 0600 or ENGL 0620 | 73% or higher | ENGL 1100 (recommended) or ENGL 1110 or ENGL 1120 or ENGL 1140 or 1150 or ENGL 1210 |
| 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 |
| MATH 1140 | MATH 1240 |
| CHEM 1500 | MATH 1700 (or 1220) |
| ECON 1900 | ECON 1950 |
| PHYS 1100 or 1150 | BIOL 1110 or GEOL 1110 (see important note below) |

YEAR 2

| FALL SEMESTER | WINTER SEMESTER |
|------------------------|---------------------------------|
| MATH 2110 | ECON 2950 |
| MATH 2120 | MATH 2700 |
| MATH 2240 | COMP 1130 |
| STAT 2000 or ECON 2320 | CMNS 2300 or 2290 |
| ECON 2900 | Non-Science Elective (not ECON) |

IMPORTANT NOTE

❖ 3 credits must be taken from the following: BIOL 1110 or BIOL 1210 or GEOL 1110 or GEOL 2050

COURSE OFFERINGS – 1000/2000 level

| FALL SEMESTER ONLY | WINTER SEMESTER ONLY |
|--------------------|----------------------|
| CHEM 1500 | BIOL 1110 |
| PHYS 1150 | CMNS 2300 |
| BIOL 1210 | ECON 2950 |
| MATH 2110 | MATH 2700 |
| MATH 2240 | |
| ECON 2900 | |

Bachelor Of Science MATHEMATICS & ECONOMICS MAJOR Checksheet (120 credits)

| 1000-Level CORE courses (30-33 credits) | | | 2000-Level CORE courses (24 credits) | | | 3000/4000-Level (30 credits) | | | | | |
|---|--|-------|---|--|-------|---|--|-------|---|--|-------|
| COURSE | | GRADE | COURSE | | GRADE | COURSE | | GRADE | | | |
| ENGL 1100 or 1110 ¹ | | _____ | MATH 2110 - Calculus 3 | | _____ | ECON 3200 - Introduction to Mathematical Econ | | _____ | | | |
| ENGL 1110, 1120, 1140 or 1210 ¹ | | _____ | MATH 2120 - Linear Algebra 1 | | _____ | ECON 3900 - Intermediate Microeconomics 2 | | _____ | | | |
| CHEM 1500 - Chem Bonding/Organic Chem | | _____ | MATH 2240 - Differential Equations 1 | | _____ | ECON 3950 - Intermediate Macroeconomics 2 | | _____ | | | |
| PHYS 1100 or 1150 | | _____ | MATH 2700 - Discrete Mathematics 2 | | _____ | ECON 4320 - Econometrics | | _____ | | | |
| ECON 1900 – Principles of Microeconomics | | _____ | ECON 2320 or STAT 2000 | | _____ | ECON 4330 - Forecasting in Business & Economics | | _____ | | | |
| ECON 1950 – Principles of Macroeconomics | | _____ | ECON 2900 - Intermediate Microeconomics 1 | | _____ | Choose ONE of 3 STREAMS (15 credits) | | | | | |
| MATH 1140 - Calculus 1 | | _____ | ECON 2950 - Intermediate Macroeconomics 1 | | _____ | MATHEMATICS STREAM | | | | | |
| MATH 1240 - Calculus 2 | | _____ | CMNS 2290 or 2300 ¹ | | _____ | STAT 3060 - Applied Regression Analysis | | _____ | | | |
| MATH 1700 or 1220 | | _____ | ELECTIVES (33-36 credits) | | | MATH 3160 - Differential Equations 2 | | _____ | | | |
| 1 of BIOL 1110, 1210, GEOL 1110 or 2050 | | _____ | COURSE | | GRADE | MATH 3400 - Introduction to Linear Programming | | _____ | | | |
| | | | Non-science elective (not ECON) | | _____ | MATH 4410 - Modelling of Discrete Optimization | | _____ | | | |
| COMP 1130 - Computer Programming 1 | | _____ | Elective in lieu of 2 nd ENGL ¹ | | _____ | 3000/4000 Level MATH Elective | | _____ | | | |
| Notes: 1. Students with a B or higher in ENGL 1100 or 1110 may proceed into CMNS 2290 or 2300 in their second year; students with less than a B in first-year English must take another 3 credits of 1000-level English before their second year CMNS requirement. 2. At least 24 credits of electives must be science courses (BIOL, CHEM, GEOL, COMP SCI, MATH or PHYS) and 18 credits must be Upper Level. Remaining electives can be from any academic area. At least two disciplines outside of science must be represented (can include the non-science elective.) | | _____ | Elective ² | | _____ | OR STATISTICS STREAM | | | | | |
| | | | Elective ² | | _____ | MATH 3020 - Introduction to Probability | | _____ | | | |
| | | | Elective ² | | _____ | STAT 3060 - Applied Regression Analysis | | _____ | | | |
| | | | Elective ² | | _____ | 3000/4000 level elective ² | | _____ | MATH 3030 & 6 cr. of 3000/4000 level STAT or 9 cr. of 3000/4000 level STAT | | _____ |
| | | | 3000/4000 level elective ² | | _____ | | | | | | _____ |
| | | | 3000/4000 level elective ² | | _____ | 3000/4000 level elective ² | | _____ | OR GENERAL STREAM | | |
| | | | 3000/4000 level elective ² | | _____ | 3000/4000 level elective ² | | _____ | STAT 3060 - Applied Regression Analysis | | _____ |
| | | | 3000/4000 level elective ² | | _____ | 3000/4000 level elective ² | | _____ | 4 of MATH 3020, 3030, 3160, 3400, 4410, STAT 3050 or 4040 or other 3000/4000 level MATH | | _____ |
| | | | 3000/4000 level elective ² | | _____ | 3000/4000 level elective ² | | _____ | | | _____ |
| | | | 3000/4000 level elective ² | | _____ | 3000/4000 level elective ² | | _____ | | | _____ |
| | | | General Electives: Institutional Learning Outcomes (ILOs) may be required to graduate. Refer to the Degree Works website for more information. | | | | | | | | |

***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.

Course Load: Transitioning to university can be challenging and many students choose to take a lighter course load. Please speak with Academic Advising to discuss sequencing, workload, future career, and educational goals and more.

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 (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 | | |