# HONOURS CHEMISTRY, SINGLE MAJOR

This guide tells you which courses are required for your honours Chemistry major and when you should take such courses. It also provides some advice with options you may have. In first and second year you will find that many of your options are limited owing to the larger number of required courses. By third year, your options become much wider. See the academic calendar for a complete listing of all chemistry and biology courses as well as for university requirements that apply to all degrees. For more information contact [chemistry@trentu.ca](mailto:chemistry@trentu.ca) or visit the [Department of Chemistry](http://www.trentu.ca/chemistry/).

## FIRST YEAR REQUIREMENTS

Chemistry, physics, and mathematics are the core of the first year curriculum for chemistry majors.

1.0 credit in Chemistry

CHEM 1000H

Grade:

CHEM 1010H

Grade:

CHEM 1000H and CHEM 1010H are the required prerequisites to all upper‐year chemistry courses. Minimum 60% required.

1.0 credit in Physics

PHYS 1001H

Grade:

PHYS 1002H

Grade:

1.0 credit in Mathematics

There are two options with respect to mathematics

* Option 1 MATH 1110H and MATH 1120 H, Calculus I and II.

MATH 1110H

Grade:

MATH 1120H

Grade:

* Option 2 MATH 1005H, Applied Calculus, plus another 0.5 credit in mathematics, from either MATH 1350H or MATH 1550H.

MATH 1005H

Grade:

MATH

Grade:

0.5 credit in MATH or COIS

Course:

Grade:

## SECOND YEAR REQUIREMENTS

1.0 credit in Organic Chemistry: CHEM 2100H, and CHEM 2110H

CHEM 2100H

Grade:

CHEM 2110H

Grade:

0.5 credit in Inorganic Chemistry: CHEM 2200H

Grade:

0.5 credit in Biochemistry: CHEM 2300H

Grade:

0.5 credit in Analytical Chemistry: CHEM 2400H

Grade:

0.5 credit in Physical Chemistry: CHEM 2500H

Grade:

## THIRD YEAR REQUIREMENTS

0.5 credit in Inorganic Chemistry: CHEM 3200H

Grade:

0.5 credit in Physical Chemistry: CHEM 3520H

Grade:

0.5 credit in Instrumental Chemistry: CHEM 3400H (Chromatography) or CHEM 3410H (Spectroscopy)

CHEM

Grade:

2.0 Chemistry credits at the 3000 level, taken from the following list (choose 4):

* Organic chemistry: CHEM 3102H; CHEM 3110H
* Computational chemistry: CHEM 3120H
* Biochemistry: CHEM 3310H; CHEM 3320H
* Instrumental chemistry: CHEM 3400H; CHEM 3410H
  + One of these is required, the other can be taken as part of this requirement
* Physical chemistry: CHEM 3500H
* Environmental chemistry: CHEM 3600H; CHEM 3610H

CHEM

Grade:

CHEM

Grade:

CHEM

Grade:

CHEM

Grade:

## FOURTH YEAR REQUIREMENTS

3.0 credit in Chemistry at the 4000 level, taken from the following list:

* Project courses in chemistry or biochemistry. No more than 2 credits may be taken. Requires a supervisor and 75% average in prior chemistry courses.
  + CHEM 4010Y (4011H, 4012H)
  + CHEM 4020D
  + CHEM 4030Y (4031H, 4032H)
  + CHEM 4040D
* CHEM 4110H: Medicine and Chemistry
* CHEM 4140H: Polymeric Materials
* CHEM 4200H: Organometallics
* CHEM 4220H: Inorganic Materials
* CHEM 4300H: Bioinorganic
* CHEM 4310H: Current Topics in Biochemistry
* CHEM 4400H: Mass Spectrometry
* CHEM 4410H: ICP-MS
* CHEM 4430H: NMR
* CHEM 4500H: Photochemistry
* CHEM 4515: Thermodynamics and Kinetics
* CHEM 4520: Principles of Water Science Technology
* CHEM 4710: Molecules of Murder
* Reading Course – requires a supervisor
  + CHEM 4900Y (1.0 credit)
  + CHEM 4901H / 4902H (0.5 credit)

Note: At least 1.5 credits above must be in lecture-based courses.

CHEM

Grade:

CHEM

Grade:

CHEM

Grade:

CHEM

Grade:

CHEM

Grade:

CHEM

Grade:

## THIRD AND FOURTH YEAR REQUIREMENTS

An additional 1.0 credits in Chemistry at the 3000- or 4000-level

Course:

Grade:

Course:

Grade:

or

An additional 1.0 credits in Science at the 4000-level

Course:

Grade:

Course:

Grade:

## University Honours B.Sc. Requirements

Credit total: minimum 20 credits

Science credits: minimum 14 credits

Cumulative average: minimum 65%

3 credits in different disciplines: minimum 60% in each

Number of D grades: maximum 1 credit in CHEM

For more information see the [University Calendar](http://www.trentu.ca/calendar/) or contact the Chemistry & Biochemistry Undergrad Advisor, Steven Rafferty, [srafferty@trentu.ca](mailto:srafferty@trentu.ca).