

Mathematics

The Department of Mathematics and Statistics offers a number of first-year courses. Your choice of course depends on your background, interests, and what subject you may wish to study in upper years.

MATH 11#-Series: Linear Algebra

- MATH 110/6.0

MATH 110/6.0 is an advanced course in linear algebra, primarily designed for those students who might take Mathematics, Physics, or Statistics courses in second year.

Recommended prerequisite: At least one 4U mathematics course.

- MATH 111/6.0

MATH 111/6.0 is a course in linear algebra, primarily designed for students who intend to pursue something other than mathematics or statistics. Students intending to pursue studies in Chemistry may wish to consider this course in lieu of MATH 112/3.0. Students who are undecided as to what Plan they will pursue in upper years at this time should choose this course.

Recommended prerequisite: At least one 4U mathematics course.

- MATH 112/3.0

MATH 112/3.0 is an introductory course in linear algebra. Students intending to pursue a Plan in Chemistry or Computing can take this course. It may also be of particular interest to students in Economics, Geography, Political Studies, Psychology, or Sociology, as it can help prepare students for the second-year courses in statistics required in these Plans.

Recommended prerequisite: At least one 4U mathematics course.

MATH 12#-Series: Calculus

- MATH 120/6.0

MATH 120/6.0 is an advanced course in calculus, primarily designed for those students who might take mathematics or statistics courses in second year.

Recommended prerequisite: MHF4U and MCV4U or 4U AFIC, or permission of the Department

- MATH 121/6.0

MATH 121/6.0 is a course in calculus, primarily designed for students who intend to pursue a Plan in Computing, Biochemistry, Biology, Life Sciences, Chemistry, Geology or Environmental Science. Students who are planning to pursue a Plan in Physics in upper years can take either this course or MATH 120/6.0. Students intending to pursue a Plan in Economics may wish to consider this course instead of MATH 126/6.0 if they have taken calculus at the Grade 12 level.

Recommended prerequisite: MHF4U and MCV4U or 4U AFIC.

- MATH 126/6.0

MATH 126/6.0 is an introductory course in calculus, primarily designed for students in Arts who have not previously taken calculus at the Grade 12 level. Science students should not register in this course. Students who are planning to pursue a Plan in Economics can take this course. It may also be of particular interest to students in Geography, Political Studies, Psychology, or Sociology, as it can help prepare students for the second-year courses in statistics required in these Plans.

NOTE Primarily intended for students in the BAH program. Students in the BSCH, BCMPH and BCOM programs should not enrol in this course.

Physics

The Department of Physics offers a number of first-year courses. Your choice of course depends on your background, interests, and what subject you may wish to study in upper years.

PHYS 1## Series

- PHYS 104/6.0

PHYS 104/6.0 is an advanced course in fundamental physics, primarily designed for those students who intend to pursue a Physics or Astrophysics Plan. Even if they are not intending to study Physics at an upper-year level, students with a strong interest or background in physics (particularly those planning to study Mathematics and Statistics, Chemistry, Geology or Computing) are encouraged to consider this course.

Prerequisite: 4U Physics is required.

- PHYS 106/6.0

PHYS 106/6.0 is a course in fundamental physics. Students who intend to pursue a Plan in Mathematics, Statistics, Chemistry, Computing, or Geology in upper-years should take this course along with MATH 120/6.0 or MATH 121/6.0. Students who are intending to study any of Biology, Biochemistry, Life Sciences, or Environmental Science and have a Grade 12 Physics and Math background, are encouraged to consider this course instead of PHYS 117/6.0, however it is not required. Students who are undecided as to what Plan they will pursue in upper years at this time should choose this course. Please note that Grade 12 Math and Physics are pre-requisites for this course.

Prerequisite: 4U Physics is required.

- PHYS 115/3.0 and PHYS 116/3.0

PHYS 115/3.0 and 116/3.0 are introductory courses in physics. Students who intend to pursue a Plan in Biology, Biochemistry, Life Sciences or Environmental Science in upper-years should take these courses.

Prerequisite: 4U Physics is recommended.

Computing

The School of Computing offers a number of first-year courses. Your choice of course depends on your background, interests, and what subject you may wish to study in upper years. Note: All courses may not be offered each year.

- CISC 101/3.0 and CISC 110/3.0

CISC 101/3.0 introduces students to the elements of computer science. Any student who has been admitted to a Bachelor of Computing Program, or who may wish to pursue upper-year courses in computing at a later date, but who does not have any previous programming experience, should take this course. It is also a good elective choice for any student in Arts and Science. Also see CISC 121/3.0 and CISC 124/3.0.

- CISC 102/3.0

This course is required for all degree Plans in the School of Computing except for Computing and Mathematics (COMA). It provides an introduction to mathematical discourse and proof methods. Students will also study sets, functions, sequences, and relations in addition to properties of the integers, equivalence relations, linear and partial orderings. This course meets the first half of the Linear Algebra requirements. Students are to take MATH 112/3.0 to complete the second and final half of the requirement. An alternative to MATH 112/3.0 is MATH 111/6.0 which will satisfy the requirement and provide 3.0 elective units. Students need to have taken or be registered in CISC 121/3.0 to be enrolled in this course.

- CISC 121/3.0 and CISC 124/3.0

CISC 121/3.0 and CISC 124/3.0 are the first-year courses that introduce students to the study of Computing at the University level. Some previous programming experience is assumed in CISC 121/3.0, which is the prerequisite for CISC 124/3.0. They are also suitable electives for any Arts or Science student. Students who have no previous programming experience but who have been admitted to Computing or who would like take further courses in Computing at an upper-year level should take CISC 101/3.0 or CISC 110/3.0 in the Fall Term, then take CISC 121/3.0 in the Winter term and CISC 124/3.0 the following Fall term. See recommended pre-requisite on page 22.

REGISTRATION: CISC 121/3.0 assumes some programming experience (such as high-school level programming or CISC 101/3.0 or CISC 110/3.0). Note that CISC 121/3.0 is offered in both the Fall, Winter and Summer Terms, and is a prerequisite for CISC 124/3.0.

NOTE: CISC 121 must be taken by the end of first year (Winter 2023) to access Computing as a plan.

- CISC 151/3.0

This course is required for first year Life Science and Biochemistry students. It is similar to CISC 101 and CISC 110.