

trentu.ca/biomedical

Program Coordinator

L. Kerr, BSc, MSc (Carleton), PhD (British Columbia)

Professors

See faculty listings in Biology, Chemistry, Mathematics, Philosophy, Physics & Astronomy, and Psychology

We are entering a time during which our understanding of the biology of life is expected to undergo profound transformation due to the development of advanced analytical techniques. Genetic and molecular techniques, for example, have revealed a dynamic new understanding of the interactions among molecules, cells, organisms, and their communities and environments, and how these interactions affect health and disease—bringing together science disciplines in a way that has not yet been conceived. Knowledge of basic biology is now the foundation for the development of novel approaches in the maintenance of a healthy functioning body and for new treatments for disease. Students who complete the Biomedical Science degree will appreciate that the many approaches to health and medicine are complementary, and will be able to apply the principles they have learned to assess and solve problems as they relate to real-world health issues. The program gives students training in both practical and theoretical aspects of a diversity of medically-related topics. A distinctive feature of the program is the requirement that students intern with a collaborating agency or individual sponsor in a health or medical science setting.

Notes

- Biomedical Science is a direct entry program with a limited number of student places. A secondary school diploma and six Ontario 4U or 4M courses with a minimum 70% overall final average is required for admission. These include ENG4U (Grade 12 English); MHF4U (Advanced Functions) or MCV4U (Calculus and Vectors); SCH4U (Grade 12 Chemistry); SBI4U (Grade 12 Biology); and SPH4U (Grade 12 Physics) or SES4U (Earth and Space Science). As this is a limited enrolment program, fulfillment of the minimum requirements does not necessarily guarantee admission.
- For 2018–2019, students may apply on a competitive basis to enter the Biomedical Science program after first year if a minimum cumulative average of 75% over the following courses has been achieved: BIOL 1030H; one of BIOL 1050H, BIOL 1051H, MATH 1550H, PHYS 1001H (highly recommended), PHYS 1060H, PSYC 1020H, or PSYC 1030H; and at least two of CHEM 1000H, CHEM 1010H, MATH 1110H, and MATH 1120H. Contact the program coordinator for details.
- To remain in the program, students must maintain a minimum cumulative average of 75%. Students who are unable to achieve these grades may switch to the Honours program in Biology, transfer to a BSc or BA program in another discipline and make up any degree requirements for a major, or repeat courses (subject to Trent University's policy on repeating courses) until they achieve the required grades to apply for readmission to the program.
- For information on individual courses see Calendar entries under the appropriate discipline.
- Students intending to pursue graduate studies or work in research laboratories are recommended to complete an Honours research thesis (BIOL 4020D).
- Students intending to pursue studies in professional schools (medical, dental, pharmacy, etc.) should consult the most recent academic requirements of the schools they are interested in applying to.
- There is no joint-major program, General program, or minor in Biomedical Science.

Bachelor of Science Program in Biomedical Science

- In addition to the program requirements listed below, students must satisfy the University degree requirements (see [p. 15](#)).

The single-major Honours program. 20.0 credits including the following 14.0 credits:

- 0.5 BIOM credit consisting of BIOM 1000H
- 3.5 BIOL credits consisting of BIOL 1050H, 1051H, 2050H, 2070H, 2600H, 3040H, and 3080H
- 1.5 CHEM credits consisting of CHEM 1000H, 1010H, and 2100H
- 1.5 MATH credits consisting of MATH 1110H, 1120H, and 1550H
- 0.5 PHIL credit consisting of PHIL 2390H
- 1.0 PSYC credit consisting of PSYC 1020H and 1030H
- 0.5 BIOL credit from BIOL 3830H or 3840H
- 0.5 CHEM credit from CHEM 2110H or 2300H
- 0.5 PHYS credit from PHYS 1001H or 1060H
- 0.5 credit from BIOL 2000H, MATH 2560H, or PSYC 2018H
- 1.0 BIOL credit from BIOL 4450Y and 2.5 credits from the following; or 0.5 BIOL credit from BIOL 4460H and 3.0 credits from the following:

BIOL-PSYC 3210H	BIOL 4355H
BIOL 3250H	BIOL 4370H
BIOL 3640H	BIOL 4380H
BIOL 3830H (if not taken as a required course)	BIOL 4620H
BIOL 3840H (if not taken as a required course)	BIOL 4630H
BIOL 4130H	BIOL-PSYC 4840H
BIOL 4160H	CHEM 2110H (if not taken as a required course)
BIOL 4190H	CHEM-BIOL 2300H (if not taken as a required course)
BIOL 4260H	CHEM-BIOL 3310H
BIOL 4320H	CHEM-BIOL 3320H
- 14.0 science credits are required for the Honours degree

Please consult the academic timetable for information on courses that will be offered in 2018–2019, including when they will be scheduled.

» **BIOM 1000H: Introduction to Biomedical Science (Sc)**

Examines mechanisms and determinants of health and disease by focusing on molecular and cellular processes. Students are introduced to theories and research techniques in cellular and molecular biology, genetics, microbiology, biochemistry, physiology, and psychology. Open only to students in the Biomedical Science program. Excludes BIOL 1030H.

» **BIOM-BIOL 4450Y: Placement in Health Sciences (Sc)**

A placement in a medically related setting for the equivalent of six hours a week for 24 weeks. Students are required to write a report on their placement. Open only to students in the Biomedical Science program or the Specialization in Health Sciences. Prerequisite: 13.5 university credits; a minimum cumulative average of 75%; and BIOL 2050H, BIOL 2070H, BIOL 3080H, CHEM 1000H, and CHEM 1010H; or permission of instructor. Co-requisite: BIOL 3830H or 3840H. Enrolment is limited and competitive. Students must apply in the year before anticipated enrolment in the course. Application forms can be obtained from the Biology Office and must be submitted to the course coordinator before April 15. Students may not apply retroactively. Excludes BIOM-BIOL 4460H.

» **BIOM-BIOL 4460H: Internship in Medical Sciences (Sc)**

A placement in a hospital setting for the equivalent of three hours a week for 12 weeks. Students are also assigned practical readings and background theory every week from their preceptor. Open only to students in the Biomedical Science program or the Specialization in Health Sciences. Prerequisite: 13.5 university credits; a minimum cumulative average of 80%; and BIOL 3830H or 3840H. Co-requisite: BIOL 4160H and 4320H. Enrolment is limited and competitive. Students must apply in the year before anticipated enrolment in the course. Application forms can be obtained from the Biology Office and must be submitted before April 15. Students may not apply retroactively. Excludes BIOM-BIOL 4450Y.