Conservation Biology

trentu.ca/biology/programs/conservation-biology-bsc

Program Coordinator

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Professors

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

Conservation biology is the branch of the biological sciences that deals with the causes, the consequences, and the ways to stem biodiversity loss. Biodiversity is the rich mix of species on Earth that underpins the resilience of ecosystems which, ultimately, support our lives and livelihoods. Many scientists propose that modern society has entered the Anthropocene—a new epoch where human influences on the Earth's natural systems are pervasive and permanent. In this epoch, we will need skilled practitioners who can inform planning and economic activities through the lens of strong scientific understanding in conservation biology. These practitioners will be knowledgeable in ecology, animal and plant diversity, evolution, organismal biology and behaviour, and population genetics. They will ably convey their knowledge to non-specialists. The Conservation Biology program draws from such courses in the Department of Biology, supplemented with those from Chemistry, Mathematics, Physics & Astronomy, and the School of the Environment. This suite of courses provides students with the practical and conceptual foundations of the science of biological conservation.

Two versions of the degree are available: The Bachelor of Science Honours program, which includes a fourth-year placement, and the Bachelor of Science Honours Co-op program.

Notes

- As Conservation Biology is a limited enrolment program, fulfillment of the minimum requirements does not necessarily guarantee admission. Entrance is competitive, particularly for the co-op stream.
- For information on individual courses see Calendar entries under the appropriate discipline.
- There is no joint-major program, General program, or minor in Conservation Biology.

Bachelor of Science Program in Conservation Biology

- In addition to the program requirements listed below, students must satisfy the University degree requirements (see p. 14).
- Conservation Biology (placement) is a direct-entry program with a limited number of student places. A secondary diploma and six Ontario 4U or 4M courses with a minimum 75% overall final average are required. These include ENG4U (Grade 12 English), SCH4U (Grade 12 Chemistry), SBI4U (Grade 12 Biology), and MHF4U (Advanced Functions) or MCV4U (Calculus and Vectors). SPH4U (Grade 12 Physics) is recommended. The admission average is calculated using the four required courses and the next two highest 4U/M-level courses.
- For 2019–2020, students may apply to enter the Conservation Biology program (placement) after first year if they have successfully completed the following courses with a minimum cumulative average of 75%: BIOL 1020H, BIOL 1030H, BIOL-PHYS 1060H, CHEM 1000H, CHEM 1010H, ERSC 1010H, ERSC 1020H, and either MATH 1051H and 1052H or MATH 1005H and 1550H.
- To remain in the program, students must maintain a minimum average of 75% in all BIOL courses completed. 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.
- BIOL 4400Y: Placement in Conservation Biology. Students must inform the Biology Department of their intention to enrol in the course in the preceding academic year.

The single-major Honours program. 20.0 credits including the following 15.5 credits:

- 1.0 BIOC credit consisting of BIOC 2010H and 3010H
- 7.0 BIOL credits consisting of BIOL 1020H, 1030H, 2000H, 2050H, 2260H, 2600H, 3170H, 3380H, 3600H, 4390H, 4400Y, 4500H, and 4510H
- 1.0 CHEM credit consisting of CHEM 1000H and 1010H
- 1.0 ERSC credit consisting of ERSC 1010H and 1020H
- 0.5 ERST credit consisting of ERST 3250H
- 0.5 GEOG credit consisting of GEOG-BIOL-ERSC 2080H
- 1.0 MATH credit from MATH 1051H and 1052H or from MATH 1005H and 1550H
- 0.5 PHYS credit from PHYS 1001H or PHYS-BIOL 1060H
- At least 3.0 credits from the following:

BIOC 4100H	BIOL-PSYC 3360H	BIOL 4520H
BIOC 4200H	BIOL 3840H	BIOL 4610H
BIOL 3050H	BIOL 4010Y/4020D	ERSC 3510H
BIOL 3051H	BIOL-ERSC 4030H	ERSC-BIOL 4240H
BIOL 3080H	BIOL 4110H	ERST-POST 2100H
BIOL 3090H	BIOL 4140H	ERST-CAST-POST 3120H
BIOL 3140H	BIOL 4150H	ERST-PHIL 3301H
BIOL 3180H	BIOL 4180H	
BIOL 3190H	BIOL-ERSC 4330H	
BIOL 3340H	BIOL 4340H	

Bachelor of Science Program in Conservation Biology – Co-op

- In addition to the program requirements listed below, students must satisfy the University degree requirements (see p. 14).
- Conservation Biology Co-op is a direct-entry program with a limited number of student places. A secondary diploma and six Ontario 4U or 4M courses with a minimum 80% overall final average are required. These include ENG4U (Grade 12 English), SCH4U (Grade 12 Chemistry), SBI4U (Grade 12 Biology), and MHF4U (Advanced Functions) or MCV4U (Calculus and Vectors). SPH4U (Grade 12 Physics) is recommended. The admission average is calculated using the four required courses and the next two highest 4U/M-level courses.
- For 2019–2020, students may apply on a competitive basis to enter the Conservation Biology Co-op program after first year if they have successfully completed the following courses with a minimum cumulative average of 80%: BIOL 1020H, BIOL 1030H, BIOL-PHYS 1060H, CHEM 1000H, CHEM 1010H, ERSC 1010H, ERSC 1020H, and either MATH 1051H and 1052H or MATH 1005H and 1550H.
- To remain in the co-op program, students must maintain a minimum average of 80% in all BIOL courses completed. Students who are unable to achieve these grades may switch to the Honours program in Conservation Biology (placement) or 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.
- Students will be required to pay a co-op fee.
- Three co-op work terms are required for the BSc program in Conservation Biology – Co-op. Work terms will normally occur in the Summer term following the second year, the Winter term of the third year, and the Fall term of the fourth year. At the end of each co-op work term a report will be required.

The single-major Honours program. 20.0 credits including the following 15.5 credits:

- 2.0 BIOC credits consisting of BIOC 2010H, 3010H, 4100H, and 4200H
- 6.0 BIOL credits consisting of BIOL 1020H, 1030H, 2000H, 2050H, 2260H, 2600H, 3190H, 3380H, 3600H, 4390H, 4500H, and 4510H
- 1.0 CHEM credit consisting of CHEM 1000H and 1010H
- 1.0 ERSC credit consisting of ERSC 1010H and 1020H
- 0.5 ERST credit consisting of ERST 3250H
- 0.5 GEOG credit consisting of GEOG-BIOL-ERSC 2080H
- 1.0 MATH credit from MATH 1051H and 1052H or from MATH 1005H and 1550H
- 0.5 PHYS credit from PHYS 1001H or PHYS-BIOL 1060H
- At least 3.0 credits from the following:

BIOL 3050H	BIOL 3830H	BIOL 4340H
BIOL 3051H	BIOL 3840H	BIOL 4520H
BIOL 3080H	BIOL 4010Y/4020D	BIOL 4610H
BIOL 3090H	BIOL-ERSC 4030H	ERSC 3510H
BIOL 3140H	BIOL 4110H	ERSC-BIOL 4240H
BIOL 3170H	BIOL 4140H	ERST-POST 2100H
BIOL 3180H	BIOL 4150H	ERST-CAST-POST 3120H
BIOL 3340H	BIOL 4180H	ERST-PHIL 3301H
BIOL-PSYC 3360H	BIOL-ERSC 4330H	

Please consult the academic timetable for information on courses that will be offered in 2019–2020, including when they will be scheduled.

» **BIOC 2010H: Communicating Conservation Biology I**
Conservation is only as effective as it is communicated. In this course, students are introduced to storytelling to convey scientific knowledge. With emphasis on writing, students learn to express themselves with clarity and economy, and practise the skills of explaining and synthesizing peer-reviewed science to specialist and non-specialist audiences. Prerequisite: BIOL 1020H and 1030H.

» **BIOC 3010H: Communicating Conservation Biology II**
Conservation relies on communicating the peer-reviewed literature. In this course, students hone their skills at conveying peer-reviewed science in oral form. Students learn to create and deliver compelling presentations, including designing effective slides, improving their style and pace of delivery, mastering non-verbal communication, and responding to questions. Prerequisite: BIOL 2010H.

» **BIOC 4100H: Advanced Communicating Conservation Biology I**
Science is the foundation of conservation knowledge; storytelling is the impetus for conservation action. In this advanced course, students broaden their communication repertoire through film, photography, social media, and new technologies. Emphasis is on the solutions to abate the decline of biodiversity, so that citizens, politicians, and planners can act. Prerequisite: BIOC 2010H and 3010H.

» **BIOC 4200H: Advanced Communicating Conservation Biology II**
The users of the knowledge of conservation biology are diverse: government practitioners, NGOs, policy-makers, Indigenous groups, media, and the public. In this advanced course, students develop skills for speaking to the media and politicians, giving expert testimony, crafting op-eds and press releases, and engaging in other forms of public outreach. Prerequisite: BIOC 2010H and 3010H.