

Urban Ecosystems

WHAT ARE URBAN ECOSYSTEMS?

Urban ecosystems are human-influenced ecosystems that evolved from the natural ecosystems that existed prior to human settlement on a landscape. 80% of Canadians have moved into urban areas, and 68% of the global population is projected by the United Nations to become urban by 2050. Population growth and density combined with climate change challenges us to look after human health and well-being by making cities resilient and thriving for future generations. Historically, this has happened organically in response to human needs and population growth. In contemporary times, urban environments are planned, designed, and managed through public policy that recognizes the need to design the built environment while respecting, protecting, and enhancing natural ecosystems within cities.

An urban ecosystem includes three basic components:

- The biodiversity of the natural or semi-natural environment provides essential ecosystem goods and services that sustains all urban life such as fresh water, clean air, carbon storage, food, shade, and habitat.
- The built environment includes all the spaces and places created or modified by people in order to live, work, and play. Built elements are buildings, transportation and grey infrastructure such as water and waste management, and open spaces such as parks, gardens, and play spaces. Increasingly, the built environment includes green infrastructure, which is a sustainable approach to water management that protects, repairs, or mimics the natural water cycle by planting trees and repairing wetlands and other natural areas that can absorb and store storm water runoff. Green roof ecosystems, living walls and rain gardens are increasingly integrated into urban green infrastructure plans in order to maximise the green benefits and avoid building costly grey infrastructure such as water treatment facilities.
- The socio-economic environment is concerned with sustaining livelihoods by providing health services, access to healthy food through urban agriculture and community gardens, connections to cultural traditions and practices, outdoor recreational activities, and improving health by providing public transportation and safe routes for walking and cycling.

IN THIS SECTION

- Home: Urban Ecosystems
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- Bachelor of Horticulture Science Major

STUDENT PROFILE

Individuals interested in improving the quality of our urban environment are encouraged to apply. This program will appeal to students who are interested in an applied science program where they will analyze problems and implement solutions to enhance and protect the urban environments in which over 80% of the Canadian population lives. Students interested in the implementation of sustainable practices in urban environments will find this program of value.

CAREER OPPORTUNITIES

- Green infrastructure specialists with local government and/or institutions
- Parks and natural areas management (local governments and NGOs)
- Food security programs in urban agriculture and community gardens
- Urban horticulture enterprise including design, installation, and maintenance of rain gardens, and living roof and wall ecosystems
- Horticulture specialists on multi-disciplinary urban landscape design teams
- Landscape and Grounds Maintenance Contractors
- Environmental consulting
- Graduate studies in Horticulture or related fields such as Landscape Architecture, Urban Forestry, Community & Regional Planning, Public Policy, and Environmental Education (subject to specific graduate school admission requirements)