Urban Ecosystems: Bachelor of Horticulture Science Major

Faculty of Science and Horticulture	kpu.ca/science
School of Horticulture	kpu.ca/hort
Implementation Date	01-Sep-2015
Start Date(s)	September January May
Intake Type	Open intake
Instructional Cycle	Semester-based
Program Type	Undergraduate
Credential Granted	Baccalaureate Degree
Offered At	Langley
Format	Full-time Part-time
How to Apply	www.kpu.ca/admission

DESCRIPTION

The Bachelor of Horticulture Science Urban Ecosystems Major is the only undergraduate degree in North America dedicated to the study of urban ecosystems. At KPU, the Urban Ecosystems Major is an interdisciplinary program that combines horticulture, ecology, design, biology, chemistry, mathematics, business, and student-selected electives from the breadth of courses offered throughout KPU. Students synthesize the science and practice of horticulture to resolve community, industry, and research-related problems in urban environments. Innovation and creative critical thinking are important essential skills that students gain through applied research projects.

Our program recognizes the significant role of plants in promoting human health and well-being in the urban environment. The program is built around the concept of "learning from experience". Students will be undertaking projects that cover a range of interdisciplinary topics such as ecosystem inventory, assessment and monitoring, urban agriculture, urban forests and climate change adaptation, watershed, riparian and natural areas policy, planning and management, as well as small scale landscape interventions such as designing biodiverse roof ecosystems and walls, and creating, restoring, and managing wildlife and pollinator habitat.

The Bachelor of Horticulture Science program has the following strengths:

- Customized education through the selection of electives that support learner educational goals
- Emphasis on the economic, environmental, and social components of sustainability
- Strong connections with horticulture industry and community groups
- Development of essential skills such as teamwork, creative thinking, problem solving, and communication
- Capstone research courses which include business planning and the application of new skills to a community based issue
- Required work experience in horticulture

Students may have the opportunity to engage in international studies.

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

Our graduates develop skills necessary for employment in the following areas:

- Technical positions in the Environmental Sector of the Economy
- Landscape and Grounds Maintenance Contractors
- Urban Horticulturists
- Technical Representatives for Horticulture or Agriculture Supply Companies
- Parks Managers
- Specialized Horticulture Enterprises (i.e. Green Roof Installation and Maintenance)
- Landscape Architecture (B. Sc. Hort. as a potential qualifying program)
- Graduate studies in Horticulture or related fields such as Landscape Architecture, Urban Forestry, and Community & Regional Planning (subject to specific graduate school admission requirements)

And will also be qualified to compete for *future* employment in fields such as:

- Urban horticulture in the private and public sectors
- Environmental consulting
- Parks and natural area management (municipal and NGO lands)
- Landscape and Grounds Maintenance Contractors
- Specialized Horticulture Enterprises such as design, installation, and maintenance of rain gardens, living roof and wall ecosystems and other types of green infrastructure
- Managing urban agriculture programs

ADMISSION REQUIREMENTS

Students pursuing a Major in Urban Ecosystems must be admitted to the Faculty of Science & Horticulture.

DECLARATION REQUIREMENTS

Students intending to graduate with this Faculty of Science and Horticulture degree must declare the credential by the time they complete 60 credits of undergraduate coursework. At the time of declaration, the student must satisfy all of the following requirements:

- In good academic standing with the University
- Completion of a minimum of 24 credits of undergraduate coursework, including the following:
  - 3 credits of ENGL at the 1100 level or higher

CURRICULAR REQUIREMENTS

A minimum of 122 credits at the 1100-level or higher, including:

- A minimum of 39 credits at the 3000-level or higher, including 6 credits of research courses at the 4000-level
- A minimum of 15 credits of Breadth electives chosen from subject areas other than HORT, including at least 3 credits at the 3000-level or above

Urban Ecosystems Major

YEAR 1

All of:

CBSY 1105	Introductory Computer Applications	3 credits
ENGL 1100	Introduction to University Writing	3 credits
HORT 1102	Botany for Horticulture	3 credits
HORT 1104	Soils and Growing Media	3 credits
HORT 1110	Introduction to Sustainable Horticulture	3 credits
HORT 1155	Introduction to Plant Identification	3 credits
HORT 1217	Foundations of Plant Health	3 credits

Plus:

9 credits of HORT electives at the 1000- or 2000-level	9 credits

YEAR 2

All of:

BIOL 1110	Introductory Biology I	4 credits
BUSI 1205	Supervisory Skills	3 credits
BUSI 1209	Business Management in Horticulture	3 credits
ENVI 1106	Environmental Chemistry I	4 credits
HORT 2302	Horticulture Work Experience	1 credit
HORT 2306	Work Experience Report	1 credit

Plus one of:

HORT 2308	Landscape Pest Management	3 credits
HORT 2333	Turfgrass Pest Management	3 credits
HORT 2378	Production Horticulture Pests	3 credits

Plus:

12 credits of HORT electives at the 1000- or 2000-level	12 credits

YEAR 3

All of:

HORT 3210	Applied Urban Ecosystems	3 credits
HORT 3230	Urban Watershed Planning	3 credits
HORT 3250	Monitoring, Inventory, and Assessment of Plant Communities	3 credits
HORT 3251	Landscape and Environment 1	3 credits
HORT 3270	Urban Agriculture	3 credits

Plus:

9 credits of HORT electives at the 2000-level or higher	9 credits

Plus:

6 credits of Breadth electives	6 credits

YEAR 4

All of:

HORT 4231	Riparian Management	4 credits
HORT 4252	Landscape and the Environment: Applications	3 credits
HORT 4253	Urban Ecology	3 credits
HORT 4440	Vegetation Management	3 credits
HORT 4480	Society and Horticulture	3 credits
HORT 4810	Applied Research Project 1	3 credits
HORT 4820	Applied Research Project 2	3 credits

Plus:

9 credits of Breadth electives, with at least 3 credits at the 3000-level or above	9 credits

CREDENTIAL AWARDED

Upon successful completion of this program, students are eligible to receive a **Bachelor of Horticulture Science, Major in Urban Ecosystems**.