

# Urban Ecosystems: Bachelor of Horticulture Science Major

<b>Faculty of Science and Horticulture</b>	kpu.ca/science
<b>School of Horticulture</b>	kpu.ca/hort
<b>Implementation Date</b>	01-Sep-2011
<b>Start Date(s)</b>	September January
<b>Admission Type</b>	Selective entry
<b>Enrolment Type</b>	Open enrolment
<b>Program Type</b>	Undergraduate
<b>Credential Granted</b>	Baccalaureate Degree
<b>Offered At</b>	Langley
<b>Format</b>	Full-time Part-time
<b>How to Apply</b>	www.kpu.ca/admission

## DESCRIPTION

This Bachelor of Horticulture Science major is an interdisciplinary program that combines horticulture, business, mathematics, biology, chemistry, and student selected general education. Students combine the science and practice of horticulture to resolve community, industry, and research related problems. Innovation and creative thinking are important essential skills that students gain through research and enterprise projects. A major program theme is the relationship between horticulture, our communities, and our environment.

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 the first two years

Urban Ecosystems students study the impacts of horticultural activities in the urban environment. Students will learn how to assess the characteristics of urban ecosystems as they relate to landscape function and health. Outcomes include the ability to monitor and analyze the impact of horticultural activities on the local environment, correct inefficient or ineffective landscapes, and install landscape features that contribute positively to a sustainable community. Of particular interest is the study of the functional urban greenspaces at the edges of residential, industrial, agricultural, and natural habitats.

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 our greenspace. Students interested in the effects of varied societal perspectives on public policy development and the implementation of sustainable practices in urban greenspaces will find this program of value.

## CAREER OPPORTUNITIES

Upon completing this Bachelor of Horticulture Science Major, graduates will be qualified to compete for:

- 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 (subject to specific graduate school admission requirements)

## PROGRAM ADMISSION REQUIREMENTS

In addition to KPU's General university admission requirements, including the undergraduate-level English Proficiency Requirement, the following program admission requirements apply:

- English 12 with a B grade (or equivalent)
- Principles of Math 11 with a C grade (or equivalent)
- Chemistry 11 with a C+ grade (or equivalent)

Students who have not completed Principles of Math 12 or Precalculus 12 (or equivalent) with C+ or better will need to take MATH 1117 as part of the Bachelor of Horticulture Science Major in Urban Ecosystems program.

Note: KPU Horticulture Technology Diploma students may apply completed equivalent coursework towards the program requirements that are outlined below.

## PROGRAM REQUIREMENTS

The Bachelor of Horticulture Science, Major in Urban Ecosystems consists of 122 credits of course work including a minimum of 33 HORT 3000 or 4000 credits.

### 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
HORT 2302	Horticulture Work Experience	1 credit

**Plus:**

9 credits of HORT electives at 1000 or 2000 level, see list below 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 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 1000 or 2000 level, see list below 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 2000 level or higher, see list below 9 credits

**Plus:**

6 credits of Breadth electives 6 credits

**YEAR 4**

**All of:**

HORT 4231	Riparian Management	4 credits
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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
PHIL 3033	Business Ethics	3 credits

**Plus:**

6 credits of Breadth electives 6 credits

**HORT Electives**

HORT electives 1100 or higher must equal a total of 30 credits, 9 credits of which are at the 2000 level or higher. These courses can be selected from the HORT list of courses below.

HORT 1118	Basic Machinery Operation and Maintenance	3 credits
HORT 1124	Landscape Gardening Methods	3 credits
HORT 1132	Turf Maintenance Operations	3 credits
HORT 1172	Forest Seedling Production	2 credits
HORT 1193	Crop Production Practices	3 credits
HORT 1224	Landscape Drafting	3 credits
HORT 1230	Sustainable Turf Management	3 credits
HORT 1232	Sports Turf Management Practices	3 credits
HORT 1240	Arboriculture I	3 credits
HORT 1246	Plant ID for Production	1.5 credits
HORT 1255	Plant Identification 2	1.5 credits
HORT 1261	Plant Propagation	3 credits
HORT 1293	Crop Production Operations	3 credits
HORT 2327	Sustainable Landscape Design I	3 credits
HORT 2330	Turfgrass and Environmental Stress	3 credits
HORT 2334	Irrigation, Drainage and Lighting	3 credits
HORT 2355	Plant Identification 3	3 credits
HORT 2375	Production Facilities and Equipment	3 credits
HORT 2393	Crop Production Performance	3 credits
HORT 2412	Landscape Estimating and Contract Administration	3 credits
HORT 2426	Landscape Construction	3 credits
HORT 2427	Sustainable Landscape Design II	3 credits
HORT 2432	Grounds Machinery Maintenance	3 credits

HORT 2436	Golf Course Management	3 credits
HORT 2437	Golf Course Irrigation Systems, Designs, and Operations	3 credits
HORT 2442	Arboriculture II	3 credits
HORT 2463	Nursery Production	3 credits
HORT 2473	Greenhouse Environment and its Control	3 credits
HORT 2477	Production Management	3 credits
HORT 2479	Spring Floriculture	3 credits
HORT 2490	Organic Greenhouse Crop Production	3 credits
HORT 2493	Crop Production Development	3 credits

## Breadth Electives

Breadth electives (12 credits) may come from fields or courses not regarded as horticulture courses. CMNS 1140 can be used as a breadth course.

## CREDENTIAL AWARDED

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