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-2011
Start Date(s)	September January
Admission Type	Selective entry
Enrolment Type	Open enrolment
Program Type	Undergraduate
Credential Granted	Baccalaureate Degree
Offered At	Langley
Format	Full-time Part-time Co-op
How to Apply	www.kpu.ca/admission

DESCRIPTION

The new Bachelor of Horticulture Science program is an interdisciplinary program that combines horticulture, business, mathematics, biology, chemistry, and student selected general education. Students will combine the science and practice of horticulture to resolve community, industry, or 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
- Laddering within the School of Horticulture programs and articulation with other horticulture programs in BC to support lifelong learning
- Emphasis on the economic, environmental, and social components of sustainability
- Strong connections with the horticulture industry and community groups
- Development of essential skills such as teamwork, creative thinking, problem solving, and communication
- Capstone research courses which include a business plan and the application of new skills to a community based issue
- Required work experience in the first two years and in the community based project during the 4th year

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, remediate inefficient or ineffective gardens or landscapes, and install landscape features that make a positive contribution to the goal of a sustainable community. Of particular interest is the functioning of urban greenspaces at the edges of residential, industrial, agricultural, and natural habitats.

Students may have the opportunity to engage in international studies. Recently students participated in a three month exchange to Cuba where they worked on a range of plant health related research.

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 that enhance and protect our greenspace. Students with an interest 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.

Students interested in the specific horticulture industry sectors of greenhouse and nursery production, landscape design and installation, or turf management will be able to complete a Diploma in Horticulture Technology as a foundation to completing the Bachelor of Horticulture Science.

CAREER OPPORTUNITIES

Upon completing the Bachelor of Horticulture Science graduates will be qualified to compete for:

- Technical positions in the Environmental Sector of the Economy
- Landscape and Grounds Maintenance Contractors
- Urban Horticulturists
- Growers in Production Horticulture Operations
- Crop Consultants
- Golf Course Superintendents
- 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:

Year One Admission:

- 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)

Year Three Admission:

- Horticulture Technology diploma or equivalent with a Program Grade Point Average of 2.5
- English 12 with a B or equivalent (writing the Kwantlen Polytechnic University English Placement Test is

recommended if a candidate cannot meet the required minimum letter grade)

- Principles of Math 11 with a C or equivalent
- Chemistry 11 with a C+ or equivalent
- General Education 6 credits
- HORT 1110 Introduction to Sustainable Horticulture (3 credits)

PROGRAM REQUIREMENTS

The Bachelor of Horticulture Science, Major in Urban Ecosystems consists of 121 credits of course work.

Horticulture Science Degree Requirements

YEAR 1 AND YEAR 2

All of:

BUSI 1205	Supervisory Skills	3 credits
BUSI 1209	Business Management in Horticulture	3 credits
CBSY 1105	Introductory Computer Applications	3 credits
CMNS 1140	Introduction to Professional Communication	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 2300	Horticultural Work Experience	2 credits

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 six credits:

General Education Elective courses (see below)	6 credits

Plus 24 credits (9 credits at the 2000 level) selected from the following list:

HORT 1116	Introductory Equipment Maintenance	2 credits
HORT 1122	Introduction to Landscape Practices	2 credits
HORT 1134	Turf Maintenance Operations	2 credits
HORT 1171	Production Practices - Fall	2 credits
HORT 1224	Landscape Drafting	3 credits
HORT 1230	Sustainable Turf Management	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 1271	Production Practices - Spring	2 credits
HORT 2304	Grounds Machinery	2 credits
HORT 2320	Landscape Design 1	3 credits
HORT 2330	Turfgrass and Environmental Stress	3 credits
HORT 2334	Irrigation, Drainage and Lighting	3 credits
HORT 2335	Sports Turf Management Practices	2.5 credits
HORT 2355	Plant Identification 3	3 credits
HORT 2371	Fall Floriculture	3 credits
HORT 2372	Greenhouse Vegetable Production	3 credits
HORT 2375	Production Facilities and Equipment	3 credits
HORT 2412	Landscape Estimating and Contract Administration	3 credits
HORT 2420	Landscape Design II	3 credits
HORT 2426	Landscape Construction	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 2472	Forest Crop Production	2 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

YEAR 3 AND YEAR 4

All of:

BIOL 1110	Introductory Biology I	4 credits
ENGL 1100	Introduction to University Writing	3 credits
ENVI 1106	Environmental Chemistry I	4 credits
MATH 1117	Environmental Mathematics	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

And three credits:

General Education Elective courses (see below)		3 credits

And three credits:

Upper level writing intensive electives courses (see below)		3 credits

Urban Ecosystems Major

In addition to the Horticulture Science Degree Requirements (above), students must complete:

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 3270	Urban Agriculture	3 credits
HORT 3251	Landscape and Environment 1	3 credits
HORT 4231	Riparian Management	3 credits
HORT 4252	Landscape and the Environment: Applications	3 credits
HORT 4253	Urban Ecology	3 credits

Electives

General Education Elective courses are courses outside the core academic discipline, in at least three different academic disciplines; and at the 1100 or higher level.

Upper level writing intensive electives courses are courses are ones in which writing instruction and recursive practice and assessment are the main focus of the course and are numbered at the 3000 or 4000 level.

CREDENTIAL AWARDED

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