Urban Ecosystems: Bachelor of Horticulture Science Major

<table>
<thead>
<tr>
<th>Faculty of Science and Horticulture</th>
<th>kpu.ca/science</th>
</tr>
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<tbody>
<tr>
<td>Horticulture</td>
<td>kpu.ca/hort</td>
</tr>
<tr>
<td>Program Type</td>
<td>Undergraduate</td>
</tr>
<tr>
<td>Credential Granted</td>
<td>Baccalaureate Degree</td>
</tr>
<tr>
<td>Offered At</td>
<td>Langley</td>
</tr>
<tr>
<td>Start Date(s)</td>
<td>September, January, May</td>
</tr>
<tr>
<td>Intake Type</td>
<td>Open intake</td>
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<tr>
<td>Format</td>
<td>Full-time, Part-time</td>
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<tr>
<td>Instructional Cycle</td>
<td>Semester-based</td>
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<td>Curriculum Effective Date</td>
<td>01-Sep-2016</td>
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<td>How to Apply</td>
<td><a href="http://www.kpu.ca/admission">www.kpu.ca/admission</a></td>
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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.

The Urban Ecosystems program puts theory into practice through student-led projects. We are testing and adapting ideas about urban ecosystems in real time, on the KPU Langley Campus through protection, design, and management of a living landscape. We have a 550 m² dedicated Roof Ecosystem Research Lab where we test plants, grow food, and manage a permanent grassland habitat. On the ground, we have a 65-metre rain garden and a vertical living wall rain garden. We are actively repairing, re-indigenizing and managing 1.5 hectares of floodplain habitat alongside Logan Creek, which flows through the campus.

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.

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 121 credits from courses at the 1100 level or higher, including:

- A minimum of 39 credits from courses at the 3000 level or higher, including 6 credits from research courses at the 4000 level
- A minimum of 15 credits of Breadth electives chosen from fields or courses that are neither HORT nor prescribed within the Bachelor of Horticulture Science Urban Ecosystem Major, including at least 3 credits from courses at the 3000 or 4000 level

Urban Ecosystems Major

YEAR 1

All of:

- 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 Materials 3 credits
- HORT 1217 Foundations of Plant Health 3 credits

Plus one of:

- CBSY 1105 Introductory Computer Applications 3 credits
- CBSY 1110 Business Problem Solving with Spreadsheets 3 credits

Plus:

- 9 credits of HORT electives at the 1100 or 2000 level 9 credits

YEAR 2

All of:

- BIOL 1110 Introductory Biology I 4 credits
### YEAR 1

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENVI 1106</td>
<td>Environmental Chemistry I</td>
<td>4</td>
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<tr>
<td>HORT 2302</td>
<td>Horticulture Work Experience</td>
<td>1</td>
</tr>
<tr>
<td>HORT 2306</td>
<td>Work Experience Report</td>
<td>1</td>
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**Plus one of:**
- BUSI 1205  | Supervisory Skills                   | 3       |
- BUSI 1215  | Organizational Behaviour             | 3       |
- BUSI 1250  | Human Resources Management I         | 3       |

**Plus one of:**
- ACCT 1110  | Introductory Financial Accounting I  | 3       |
- BUSI 1209  | Business Management in Horticulture  | 3       |
- BUSI 1210  | Essentials of Management             | 3       |

**Plus one of:**
- HORT 2308  | Landscape Pest Management            | 3       |
- HORT 2333  | Turfgrass Pest Management            | 3       |
- HORT 2378  | Production Horticulture Pests         | 3       |

**Plus:**
- 12 credits of HORT electives at the 1100 or 2000 level | 12 credits

### YEAR 3

**All of:**
- HORT 3210  | Applied Urban Ecosystems             | 3       |
- HORT 3230  | Urban Watershed Planning             | 3       |
- HORT 3250  | Monitoring, Inventory, and Assessment of Plant Communities | 3 credits |
- HORT 3251  | Landscape and Environment I          | 3       |
- HORT 3270  | Urban Agriculture                    | 3       |

**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                  | 3       |
- HORT 4252  | Landscape and the Environment: Applications | 3 credits |
- HORT 4253  | Urban Ecology                        | 3       |
- HORT 4440  | Vegetation Management                | 3       |
- HORT 4480  | Society and Horticulture             | 3       |

**Plus:**
- 9 credits of Breadth electives, including at least 3 credits at the 3000 level or higher * | 9 credits

**Note:** * CMNS 1140 may be used as a Breadth elective.

**CREDENTIAL AWARDED**

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