**Honours BSc Applied Water Science – Faculty of Science - 2016/17**

 **with Co-op Education**

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| **Year One** – 5.0 including: [in this 20.0 credit program, a maximum of 6.0 **Junior** (100-level) credits in total are allowed] |
| 0.5 credit | 1.0 credit | 1.0 credit | 1.0 credit | 0.5 credit | 0.5 credit  | 0.5 credit |
| WASC101 | BI110 (F)BI111 (W) | MA100 (F)MA101 (W) | CH110 (F)CH111 (W) | GG101 | GL102orPC141 ***See Note 1*** | 0.5 elective credit  |

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| **Year Two** – 5.0 credits including: |
| 0.5 credit | 1.0 credit from: | 0.5 credit | 1.0 credit | 1.0 credit | 0.5 credit | 0.5 credit |
| WASC201 |  BI236 BI266  BI256 BI276 | MA241 | CH233CH234 | GG281GG282 | GL102orPC141***See Note 1*** | 0.5 elective credit  |

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| **Year 3A (Fall term)** | **Year 3B (Winter-Spring terms)** |
| WASC302 | WASC303 | BI300 | BI393 |  Co-op #1 – 1st 8-month work term |
|  0.5 credit outside of Science/Geography |  |

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| **Year 4A (Fall term)** | **Year 4B (Winter term)** |
| WASC301 | GG389 |  |  |  | WASC401 | WASC403 | GG381 |
|  1.5 credits of eligible Science/Geography electives – See attached (**Note: Science/Geography Elective may include 4th year Honours Thesis Research**) |  1.0 credit outside of Science/geography |

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| **Year 5A (Spring-Fall terms)** | **Year 5B (Winter term)** |
|  Co-op # 2 – 2nd 8-month work term |  WASC402 |  |  |  |  |
|  |  2.0 credits of eligible Science/Geography electives – See attached |

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| **Program Requirements** |
|  100-level Credits ⁭ (Max 6.0) |  Required BI, CH or GES Credits ⁭  (Min 15.0) | **Department**  **Signature:** |

Notes

1. Both GL102 and PC141 are required to graduate and both should normally be completed by the end of Year 2.
2. Eligible Science/Geography electives – see attached list.
3. For students considering graduate studies, it is recommended that the GG450, CH490 or BI499 thesis be completed in Year 4. Students wishing to complete the thesis course must apply to the department in which they wish to conduct their thesis work in the winter term preceding study.
4. A [GPA](http://legacy.wlu.ca/calendars/glossary.php?cal=1&g=924&y=69) of 5.00 on all required courses and an overall GPA of 5.00 for progression from Year 1 to Year 2, Year 2 to Year 3, and Year 3 to Year 4. For graduation, a GPA of 5.00 in all the required courses in the program and an overall GPA of 5.00.
5. Senior honours students are expected to attend all departmental seminars.

**Graduation Requirements:** 20.0 credits minimum, of which up to 6.0 credits can be at the 100 level; a minimum GPA of 5.00 (C) in all the required courses for the program and a minimum GPA of 5.00 (C) overall are required. .

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| **Not all requirements are reflected in the program outline, it is the responsibility of the student to ensure that all academic program and course requirements have been met. Please refer to required courses and regulations in the on-line Undergraduate Calendar.** |

**List of Recommended Area Electives**

**BIOLOGY:**

BI226 - Genetics

BI236 - Cell and Molecular Biology

BI256 - Life on Earth: Animals

BI266 - Life on Earth: Plants

BI276 - Life on Earth: Microbes

BI301 - Global Ecology and Biogeography

BI302 - Evolution

BI309 - Population Ecology

BI338 - Cells: Form and Function

BI358 - Animal Form and Function

BI368 - Plants: Form and Function

BI374 - Physiological Applications of Microbiology

BI390 - Field Studies – OUPFB

BI400 - Topics in Environmental Toxicology

BI401 - Origin of Life on Earth and Endosymbiotic Theory

BI405 - Community Ecology

BI456 - Physiological Adaptations to Environments: Animals

BI458 - Vertebrate Biodiversity and Conservation

BI459 - Endocrinology

BI463 - Environmental Stress Biology of Plants

BI468 - Plant Biodiversity and Conservation

BI475 - Microbial Ecology

BI476 - Microbial Disease

BI488 - Invertebrate Biodiversity and Conservation

BI499‡ - Thesis

**CHEMISTRY:**

CH202 - Organic Chemistry I: Fundamentals

CH203 - Organic Chemistry II: Structure and Functional Group Chemistry

CH225 - Inorganic Chemistry I

CH226 - Inorganic Chemistry II

CH250 - Bio-organic Chemistry

CH261 - Analytical Chemistry I

CH262 - Analytical Chemistry II

CH303 - Spectroscopic Methods in Organic Structure Elucidation

CH306 - Modern Physical Organic Chemistry

CH327 - Bioinorganic Chemistry

CH350 - Biochemistry I: Bioenergetics and Catabolic Pathways

CH354 - Biochemistry II: Structure and interaction of Proteins and Nucleic Acids

CH355 - Bioanalytical Chemistry

CH360 - Advanced Instrumental Analysis

CH419 - Principles of Biochemical Toxicology

CH490‡ - Honours Thesis Research in Chemistry and Biochemistry

**GEOGRAPHY & ENVIRONMENTAL STUDIES:**

GG258 - Geographical Research Methods

GG336 - Coastal Processes and Landforms

GG361 - Spatial Analysis

GG382 - Fluvial Geomorphology

GG384 - Glacial Processes and Landforms

GG388 - Introductory Physical Climatology

GG481 - Seminar on Cold Regions

GG482 - Hydrology of Cold Regions

GG489 - Paleoclimatology

GG450\* - Thesis