**Honours BA Biology – Faculty of Science - 2016/17**

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| **Year One** – 5.0 credits including: [in this 20.0 credit program, a maximum of 6.0 **Junior** (100 level) credits in total are allowed] |
| 1.0 credit | 0.5 credit: | 3.5 elective credits (100 level) ***See Notes 1 & 4*** |
| BI110BI111 | Philosophy(PP110 or PP111 recommended) |  |  |  |  |
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| **Year Two** – 5.0 credits including: |
| **Both:**BI226 **and** BI236(fulfills HPS category C requirement) ***See Note 8*** | **Either:**HP201 **or** HP202(fulfills HPS category A requirement)  ***See Note 8*** | 2.0 Senior Biology credits: (required courses) | BI256 | 1.5 elective credits (a minimum of 0.5 credit should be at the senior level):   ***See Note 4***  |
| BI266 | BI276 | BI296 |

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| **Year Three** – 5.0 credits including: ***See Note 7* Students must pay attention to course pre-requisites** |
|  0.5 credit from HPS Category B: | 0.5 credit: - any HPS category ***See Note 8*** | 3.0 Senior Biology credits:  ***See Notes 2 & 3***  | 1.0 senior elective credit: ***See Note 4*** |
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|  |  | **If interested in taking BI499‡ (1.5 credits), application has to be in the Biology department by Feb/Mar of Year 3.** |  |

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| **Year Four** – 5.0 credits including:  |
| 4.0 Senior Biology credits: ***See Notes 2 & 3*** | 0.5 credit:any HPS category ***See Note 8*** | 0.5 senior elective credit: ***See Note 4*** |
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| **Program Requirements:** |
| 100-level Credits ⁭ (Max 6.0) |  **Senior** Biology ⁭ Credits (Min. 10.0, Max. 11.0) |  300/400-level ⁪ Biology Credits (Min 2.0)  |  **Senior** Bio Credits ⁭ with labs/field work (Min. 3.0)  |  HPS Credits ⁪ (Min. 3.0)  | Total Credits ⁪ (Min. 20.0) |
|  Electives (FOA) ⁪ (Min. 1.0)  | Total Biology credits ⁭ (Min. 11.0, Max. 12.0) | **Department** **Signature:** |

Notes:

1. [Senior courses](http://www.wlu.ca/calendars/glossary.php?cal=1&g=446&y=44) in Biology may involve statistics, or an understanding of organic chemistry. [Year](http://www.wlu.ca/calendars/glossary.php?cal=1&g=415&y=44) 1 [students](http://www.wlu.ca/calendars/glossary.php?cal=1&g=447&y=44) are encouraged to consider taking [MA100](http://www.wlu.ca/calendars/course.php?c=23920&cal=1&d=795&s=365&y=44) and [CH110](http://www.wlu.ca/calendars/course.php?c=22033&cal=1&d=792&s=365&y=44) to prepare for taking further courses in these [disciplines](http://www.wlu.ca/calendars/glossary.php?cal=1&g=428&y=44), as in some cases, [MA241](http://www.wlu.ca/calendars/course.php?c=22269&cal=1&d=795&s=365&y=44) or [CH202](http://www.wlu.ca/calendars/course.php?c=22037&cal=1&d=792&s=365&y=44) are required for success in senior Biology courses.
2. Senior HN courses count as senior BI courses to fulfill program requirements; grades earned are included in the cumulative GPA in Biology.
3. At least 2.0 senior BI credits must be at the 300 or 400 level.
4. Electives must include at least 1.0 [credit](http://www.wlu.ca/calendars/glossary.php?cal=1&g=423&y=44) from disciplines offered by the Faculty of Arts, which may also be used to satisfy the requirements for courses equivalent to the minor in the History & Philosophy of Science.
5. 3.0 senior BI credits must have a lab and/or field work component (not including [BI499](http://www.wlu.ca/calendars/course.php?c=22011&cal=1&d=791&s=365&y=44)‡).
6. [Senior](http://www.wlu.ca/calendars/glossary.php?cal=1&g=446&y=44) honours students are expected to attend all [department](http://www.wlu.ca/calendars/glossary.php?cal=1&g=427&y=44) seminars.
7. Upon consultation with the department, [senior students](http://www.wlu.ca/calendars/glossary.php?cal=1&g=452&y=44) may choose 300 and 400 level courses to fulfill the requirements for one of three streams: Stream A – Cell, Molecular & Microbial Biology, Genetics; Stream B – Biodiversity, Evolution & Ecology;
Stream C – Physiology & Toxicology.

8. The minor in History & Philosophy of Science requires senior credits in a number of disciplines. Students must obtain the necessary [prerequisites](http://www.wlu.ca/calendars/glossary.php?cal=1&g=444&y=44) for the senior courses that will be part of their program. (Refer to the **Faculty of Arts** chapter for a complete description of the [HPS minor](http://www.wlu.ca/calendars/program.php?cal=1&d=776&p=1508&s=364&y=44).)

Graduation Requirements: 20.0 credits minimum, of which 6.0 can be at the 100 level. Courses equivalent to a minor in the Histology and Philosophy of Science (3.0) credits must be completed. A minimum cumulative GPA of 5.00 (C) in Biology courses and a minimum GPA of 5.00 (C) overall are required. Streaming is not mandatory. Students who have chosen a Stream will receive a letter from the Chair of the Biology Department designating this, upon completion of all degree requirements.

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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.** |

**Minor in History and Philosophy of Science**

The minor consists of at least 3.0 credits; at least one 0.5 credit must be from each of following three categories (A, B and C). The remaining courses are from any of these categories. Students are responsible for meeting course prerequisites and exclusions as directed by the relevant department.

**Category A – Core Courses**

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| HP201 | Revolution in Western Science, from Aristotle to the Enlightenment |
| HP202 | Science in the Modern World, From 1800 to the Present |

**Category B – Disciplinary Courses**

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| HI342 | Culture and Ideas in the Modern World: Descartes to Darwin |
| HI343 | Culture and Ideas in the Modern World: Marxism to Post-modernism |
| HI377 | Science and Environment in Canadian History |
| HI424\* | Reading Seminar on Nature and Environment in Canadian History |
| HI425\* | Reading Seminar on Science, Culture and Society in Canadian History |
| HP390 | Directed Study |
| PP201 | Reasoning and Argumentation |
| PP204 | Formal Logic |
| PP216 | Critical Social Theory |
| PP217 | Medical Ethics |
| PP224 | Philosophy and the Environment |
| PP225 | Theories of Knowledge |
| PP226 | Philosophy of Science |
| PP256 | Ancient Philosophy I |
| PP259 | Ancient Philosophy II |
| PP262 | Modern Philosophy I |
| PP263 | Modern Philosophy II |
| PP264 | 20th-Century Philosophy |

**Category C – Science in Historical and Philosophical perspectives**

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| AN202 | Foundations of Anthropological Thought |
| AS101 | Astronomy I: Our place in the cosmos |
| AS102 | Astronomy II: Journey through the cosmos |
| BI226 | Genetics |
| BI236 | Cell and Molecular Biology |
| BI296 | Communication and Critical Thinking Skills in Biology |
| CH313 | Quantum Chemistry |
| CS213 | Technology and Society |
| CS304 | Canadian Communication Thought |

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| EC327 | History of Economic Analysis |
| ES298 | Environmental Thought |
| GG452 | Development of Geographic Thought |
| MA233 | Problem Solving in Mathematics |
| MA235 | Introduction to Game Theory |
| MA238 | Discrete Mathematics |
| MA318 | Geometry |
| PC235 | Classical Mechanics |
| PC242 | Modern Physics |
| PO316 | Environment and Natural Resource Politics in Canada |
| PS390 | History of Psychology |
| RE203 | Science and Religion |
| RE216 | Christianity and Modern Culture |
| SY321 | Sociology of Medicine |
| SY406 | Environmental Sociology |
| WS305 | Gender, Culture and Technology |

**Please note:**

* **No more than 1.0 credit at the 100-level can be counted toward the HPS Minor.**
* **No more than 1.0 credit in the honours program(s) can be counted towards the HPS Minor. This means at most, two of BI226, BI236 and BI296 will be counted towards fulfilling the requirements of the HPS minor. However the grades for all three of these Biology courses are used to calculate the GPA for the minor. Therefore for Biology majors, a GPA of at least 4.5 on a total of HPS eligible 3.5 credits, is required to declare the minor when applying to graduate.**

  ***See Note 4***