# Bachelor of Science – Biological Sciences Major – Game Programming Minor

## Four Year (120 credits)

**2024/2025** [Program Requirements](https://www.athabascau.ca/calendar/2024/undergraduate/program-regulations/degrees/bachelor-of-science-biological-science-major.html) **-** Effective September 1, 2024

This program plan will assist you in planning your program. You must follow the official program requirements for the calendar year in which you are enrolled.

Please contact [FST Student Success Centre](http://scis.athabascau.ca/contact-us/index.php) for program planning assistance.

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| **Course Level Legend**JUNIOR / JR - 200 numbered courseSENIOR / SR - 300 or 400 numbered coursePREPARATORY - 100 numbered course | **Course Progress Legend**TR - Transfer Credit AwardedC - Completed AU CourseIP - In Progress AU Course |

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| **LEVEL** | **TOTALCREDITS** | **COURSE** | **REQUIREMENT** | **COURSE PROGRESS** | **COMMENTS** |
| Junior | 3 | [ENGL255](http://www.athabascau.ca/syllabi/engl/engl255.php) | Required CoreEnglish Wiring Requirement |  | [Humanities](https://www.athabascau.ca/course/index.html?/undergraduate/humanities/all/) – ENGL255 is strongly recommended, can choose a different ENGL course as long as a minimum grade of B- is achieved |
| Junior | 6 | [MATH215](http://www.athabascau.ca/html/syllabi/math/math215.htm) or [MATH216](http://www.athabascau.ca/html/syllabi/math/math216.htm) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 9 | [MATH265](http://www.athabascau.ca/html/syllabi/math/math265.htm) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 12 | [COMP200](http://www.athabascau.ca/syllabi/comp/comp200.php) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 15 | [BIOL204](https://www.athabascau.ca/syllabi/biol/biol204.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component |
| Junior | 18 | [BIOL207](https://www.athabascau.ca/syllabi/biol/biol207.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component |
| Junior | 21 | [BIOL230](https://www.athabascau.ca/syllabi/biol/biol230.html) or [BIOL235](https://www.athabascau.ca/syllabi/biol/biol235.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 27 | [HLST200](https://www.athabascau.ca/syllabi/hlst/hlst200.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Jr/Sr | 30 | [COMP206](https://www.athabascau.ca/syllabi/comp/comp206.html) or [COMP306](https://www.athabascau.ca/syllabi/comp/comp306.html) | Minor Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Jr/Sr | 33 |  | Minor Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – See list below |
| Jr/Sr | 36 |  | Minor Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – See list below |
| Jr/Sr | 39 |  | Minor Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – See list below |
| Jr/Sr | 42 |  | Option |  | [Any Area of Study](https://www.athabascau.ca/course/index.html?/undergraduate/all/all/) |
| Jr/Sr | 45 |  | Option |  | [Social Science](https://www.athabascau.ca/course/index.html?/undergraduate/social-science/all/) |
| Jr/Sr | 48 |  | Option |  | [Social Science](https://www.athabascau.ca/course/index.html?/undergraduate/social-science/all/) |
| Senior | 51 | [PHIL333](http://www.athabascau.ca/html/syllabi/phil/phil333.htm) or [PHIL371](http://www.athabascau.ca/html/syllabi/phil/phil371.htm) | Required Core |  | [Humanities](https://www.athabascau.ca/course/index.html?/undergraduate/humanities/all/) |
| Senior | 54 | [SCIE326](http://www.athabascau.ca/html/syllabi/scie/scie326.htm) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 57 | [BIOL341](https://www.athabascau.ca/syllabi/biol/biol341.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 60 | [BIOL401](https://www.athabascau.ca/syllabi/biol/biol401.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 63 |  | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 66 |  | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 69 |  | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 72 |  | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) / [Applied Studies](https://www.athabascau.ca/course/index.html?/undergraduate/applied-studies/all/) – see list below |
| Senior | 75 |  | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) / [Applied Studies](https://www.athabascau.ca/course/index.html?/undergraduate/applied-studies/all/) – see list below |
| Senior | 78 |  | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component – see list below |
| Senior | 81 |  | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component – see list below |
| Senior | 84 |  | Option |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 87 | [COMP318](https://www.athabascau.ca/syllabi/comp/comp318.html) | Minor Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 90 | [COMP369](https://www.athabascau.ca/syllabi/comp/comp369.html) | Minor Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 93 | [COMP390](https://www.athabascau.ca/syllabi/comp/comp390.html) | Minor Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 96 | [COMP452](https://www.athabascau.ca/syllabi/comp/comp452.html) | Minor Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 99 |  | Option |  | [Any Area of Study](https://www.athabascau.ca/course/index.html?/undergraduate/all/all/) |
| Senior | 102 |  | Option |  | [Any Area of Study](https://www.athabascau.ca/course/index.html?/undergraduate/all/all/) |
| Senior | 105 |  | Option |  | [Any Area of Study](https://www.athabascau.ca/course/index.html?/undergraduate/all/all/) |
| Senior | 108 |  | Option |  | [Any Area of Study](https://www.athabascau.ca/course/index.html?/undergraduate/all/all/) |
| Senior | 111 | [SCIE480](http://www.athabascau.ca/syllabi/scie/scie480.php) or [COMP494](http://www.athabascau.ca/syllabi/comp/comp494.php) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 114 |  | 400 Level Option |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 117 |  | 400 Level Option |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 120 | [ASTR495](https://www.athabascau.ca/syllabi/astr/astr495.html) or [BIOL495](https://www.athabascau.ca/syllabi/biol/biol495.html) or [CHEM495](https://www.athabascau.ca/syllabi/chem/chem495.html) or [ENSC495](https://www.athabascau.ca/syllabi/ensc/ensc495.html) or [GEOG495](https://www.athabascau.ca/syllabi/geog/geog495.html) or [GEOL495](https://www.athabascau.ca/syllabi/geol/geol495.html) or [MATH495](https://www.athabascau.ca/syllabi/math/math495.html) or [NUTR495](https://www.athabascau.ca/syllabi/nutr/nutr495.html) or [PHYS495](https://www.athabascau.ca/syllabi/phys/phys495.html) or [SCIE495](https://www.athabascau.ca/syllabi/scie/scie495.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Recommended for this to be your last course or in your last group of courses |

**Overall Program Requirements**

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| **Minimums** |
| 30 credits – Residency requirement (courses through AU) |
| 15 credits – Residency requirement in the major (courses through AU) |
| 9 credits – Residency Requirement in the minor (courses through AU) |
| 72 credits – **Senior** (300/400) level  |
| 45 credits – **Senior** (300/400) level **Science**  |
| 15 credits – **Senior Science credits at the 400 level** |
| 6 credits – In Social Science  |
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| **Maximums** |
| 75 credits – In **any one Science discipline** |
| 12 credits – Amount of senior project credits (495/496) |
| 6 credits – At the preparatory (100) level |
| 30 credits – Prior Learning Assessment and Recognition (PLAR) |

**Biological Sciences Major Electives** – Students must complete a minimum of 21 credits selected from the list of courses below. All 21 credits must be at the senior (300 or higher) level. A minimum of 6 credits must include science lab components.

[BIOL310](https://www.athabascau.ca/syllabi/biol/biol310.html), [BIOL320](https://www.athabascau.ca/syllabi/biol/biol320.html) (lab component), [BIOL325](https://www.athabascau.ca/syllabi/biol/biol325.html) (lab component), [BIOL345](https://www.athabascau.ca/syllabi/biol/biol345.html) (lab component), [BIOL480](https://www.athabascau.ca/syllabi/biol/biol480.html) (lab component), [BIOL495](https://www.athabascau.ca/syllabi/biol/biol495.html), [BIOL496](https://www.athabascau.ca/syllabi/biol/biol496.html), [CHEM301](https://www.athabascau.ca/syllabi/chem/chem301.html), [CHEM350](https://www.athabascau.ca/syllabi/chem/chem350.html) (lab component), [CHEM360](https://www.athabascau.ca/syllabi/chem/chem360.html) (lab component), [CHEM495](https://www.athabascau.ca/syllabi/chem/chem495.html), [CHEM496](https://www.athabascau.ca/syllabi/chem/chem496.html), [HADM336](https://www.athabascau.ca/syllabi/hadm/hadm336.html), [HADM379](https://www.athabascau.ca/syllabi/hadm/hadm379.html), [HLST301](https://www.athabascau.ca/syllabi/hlst/hlst301.html), [NUTR330](https://www.athabascau.ca/syllabi/nutr/nutr330.html) or [NUTR331](https://www.athabascau.ca/syllabi/nutr/nutr331.html), [NUTR405](https://www.athabascau.ca/syllabi/nutr/nutr405.html), [NUTR406](https://www.athabascau.ca/syllabi/nutr/nutr406.html), [NUTR495](https://www.athabascau.ca/syllabi/nutr/nutr495.html), [NUTR496](https://www.athabascau.ca/syllabi/nutr/nutr496.html), [PSYC302](https://www.athabascau.ca/syllabi/psyc/psyc302.html), [PSYC355](https://www.athabascau.ca/syllabi/psyc/psyc355.html)

**Recommended Options** - As the following courses are pre-requisites to some electives, they are recommended options for students in the Biological Sciences major:

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| [CHEM217](https://www.athabascau.ca/syllabi/chem/chem217.html) (lab component), [CHEM218](https://www.athabascau.ca/syllabi/chem/chem218.html) (lab component) |

**Game Programming Minor Electives** – Students must complete a minimum of 9 credits from the list below.

[COMP214](https://www.athabascau.ca/syllabi/comp/comp214.html), [COMP230](https://www.athabascau.ca/syllabi/comp/comp230.html), [COMP232](https://www.athabascau.ca/syllabi/comp/comp232.html), [COMP266](https://www.athabascau.ca/syllabi/comp/comp266.html), [COMP268](https://www.athabascau.ca/syllabi/comp/comp268.html), [COMP272](https://www.athabascau.ca/syllabi/comp/comp272.html), [COMP282](https://www.athabascau.ca/syllabi/comp/comp282.html), [COMP283](https://www.athabascau.ca/syllabi/comp/comp283.html), [COMP308](https://www.athabascau.ca/syllabi/comp/comp308.html), [COMP314](https://www.athabascau.ca/syllabi/comp/comp314.html),[COMP347](https://www.athabascau.ca/syllabi/comp/comp347.html), [COMP348](https://www.athabascau.ca/syllabi/comp/comp348.html), [COMP361](https://www.athabascau.ca/syllabi/comp/comp361.html), [COMP378](https://www.athabascau.ca/syllabi/comp/comp378.html), [COMP466](https://www.athabascau.ca/syllabi/comp/comp466.html), [COMP482](https://www.athabascau.ca/syllabi/comp/comp482.html), [COMP486](https://www.athabascau.ca/syllabi/comp/comp486.html), [COMP489](https://www.athabascau.ca/syllabi/comp/comp489.html)