# Bachelor of Science – Computing and Information Systems and Biological Sciences Major

## Four Year (120 credits)

**2025/2026** BSc CIS [Program Regulations](https://www.athabascau.ca/calendar/2025/undergraduate/program-regulations/degrees/bachelor-of-science-computing-and-information-systems-major.html) & BSc BIOS [Program Regulations](https://www.athabascau.ca/calendar/2025/undergraduate/program-regulations/degrees/bachelor-of-science-biological-science-major.html) - Effective September 1, 2025

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 Writing 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) or [MATH270](https://www.athabascau.ca/syllabi/math/math270.html) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – MATH270 is required for students wanting to take [COMP400](https://www.athabascau.ca/syllabi/comp/comp400.html) |
| 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 | [COMP 206](https://www.athabascau.ca/syllabi/comp/comp206.html) or [COMP 218](https://www.athabascau.ca/syllabi/comp/comp218.html) or [COMP 268](https://www.athabascau.ca/syllabi/comp/comp268.html) | CIS Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – See Programming Courses Note below |
| Junior | 18 | [COMP272](https://www.athabascau.ca/syllabi/comp/comp272.html) | CIS Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 21 | [BIOL204](https://www.athabascau.ca/syllabi/biol/biol204.html) | BIOL Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component |
| Junior | 24 | [BIOL207](https://www.athabascau.ca/syllabi/biol/biol207.html) | BIOL Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component |
| Junior | 27 | [BIOL230](https://www.athabascau.ca/syllabi/biol/biol230.html) or [BIOL235](https://www.athabascau.ca/syllabi/biol/biol235.html) | BIOL Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 33 | [HLST200](https://www.athabascau.ca/syllabi/hlst/hlst200.html) | BIOL Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Jr/Sr | 36 |  | Option |  | [Any Area of Study](https://www.athabascau.ca/course/index.html?/undergraduate/all/all/) |
| Jr/Sr | 39 |  | Option |  | [Social Science](https://www.athabascau.ca/course/index.html?/undergraduate/social-science/all/) |
| Jr/Sr | 42 |  | Option |  | [Social Science](https://www.athabascau.ca/course/index.html?/undergraduate/social-science/all/) |
| Jr/Sr | 45 | [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/) |
| Jr/Sr | 48 | [SCIE326](http://www.athabascau.ca/html/syllabi/scie/scie326.htm) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 51 | [COMP314](https://www.athabascau.ca/syllabi/comp/comp314.html) | CIS Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 54 | [COMP347](https://www.athabascau.ca/syllabi/comp/comp347.html) | CIS Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 57 | [COMP361](https://www.athabascau.ca/syllabi/comp/comp361.html) | CIS Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 60 | [COMP378](https://www.athabascau.ca/syllabi/comp/comp378.html) | CIS Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 63 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | CIS Major Elective\* |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – feel free to explore the link for COMP specialties |
| Senior | 66 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | CIS Major Elective\* |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 69 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | CIS Major Elective\* |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 72 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | CIS Major Elective\* |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 75 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | CIS Major Elective\* |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 78 | [BIOL341](https://www.athabascau.ca/syllabi/biol/biol341.html) | BIOL Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 81 | [BIOL401](https://www.athabascau.ca/syllabi/biol/biol401.html) | BIOL Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 84 |  | BIOL Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 87 |  | BIOL Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 90 |  | BIOL Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 93 |  | BIOL Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 96 |  | BIOL Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – see list below |
| Senior | 99 |  | BIOL Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component – see list below |
| Senior | 102 |  | BIOL Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – Lab Component – see list below |
| Senior | 105 | [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 [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) | BIOL 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 |
| Senior | 108 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | CIS Major Elective\* |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 111 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | CIS Major Elective\* |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 114 | [COMP482](https://www.athabascau.ca/syllabi/comp/comp482.html) | CIS Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 117 | [COMP494](http://www.athabascau.ca/syllabi/comp/comp494.php) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 120 | [COMP495](https://www.athabascau.ca/syllabi/comp/comp495.html) | CIS 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 |

\*Looking for suggestions on what COMP courses to take? [Explore our suggested COMP course list for specializations.](https://www.athabascau.ca/science-and-technology/resources/school-of-computing-information-systems/scis-elective-course-list-for-specializations.html)

**Overall Program Requirements**

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| **Minimums** |
| 30 credits – Residency requirement (courses through AU) |
| 15 credits – Residency requirement in each of the majors (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) |

**Programming Courses Note:**

**COMP 268** - Introduction to Computer Programming (Java):

Java is a reliable and multi-platform programming language, widely used in computing and information systems including web, mobile, and cloud applications and enterprise-level development. It has been a core programming language in many universities. You may choose this course if you don’t have a preference for other programming languages.

**COMP 206** - Introduction to Computer Programming (C++):

C++ is often a desired language in computer systems and game programming, or anything that is considered "computationally intensive". It can provide low-level control and high-performance code for software-hardware interfaces, operating systems, computer graphics, and high-performance computing. Students who are interested in game programming, computer graphics, embedded systems, and computer system level programming may choose this course.

**COMP 218** - Introduction to Computer Programming with Python:

Python is relatively easy to learn and use. It has extensive library support and is commonly adopted in many computing and its application areas including machine learning. Python is recommended for students who would take AI and machine learning, data analysis, and other related computing courses and minors.

**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), [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) |