# Bachelor of Science –Applied Mathematics and Computing and Information Double Major

## Four Year (120 credits)

**2024/2025** BSc APMT [Program Regulations](https://www.athabascau.ca/calendar/2024/undergraduate/program-regulations/degrees/bachelor-of-science-applied-mathematics-major.html) & BSc CIS [Program Regulations](https://www.athabascau.ca/calendar/2024/undergraduate/program-regulations/degrees/bachelor-of-science-computing-and-information-systems-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 | [COMP200](http://www.athabascau.ca/syllabi/comp/comp200.php) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 9 | [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 | 12 | [MATH265](http://www.athabascau.ca/html/syllabi/math/math265.htm) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 15 | [MATH270](https://www.athabascau.ca/syllabi/math/math270.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 18 | [MATH266](https://www.athabascau.ca/syllabi/math/math266.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Junior | 21 | [MATH271](https://www.athabascau.ca/syllabi/math/math271.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Jr/Sr | 24 | [MATH](https://www.athabascau.ca/course/index.html?/undergraduate/science/mathematics/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Jr/Sr | 27 | [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) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – See Programming Courses Note below |
| Jr/Sr | 30 | [COMP272](https://www.athabascau.ca/syllabi/comp/comp272.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Jr/Sr | 33 |  | Option |  | [Any Area of Study](https://www.athabascau.ca/course/index.html?/undergraduate/all/all/) |
| Jr/Sr | 36 |  | Option |  | [Social Science](https://www.athabascau.ca/course/index.html?/undergraduate/social-science/all/) |
| Jr/Sr | 39 |  | Option |  | [Social Science](https://www.athabascau.ca/course/index.html?/undergraduate/social-science/all/) |
| Senior | 42 | [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 | 45 | [SCIE326](http://www.athabascau.ca/html/syllabi/scie/scie326.htm) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 48 | [MATH309](https://www.athabascau.ca/syllabi/math/math309.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 51 | [MATH315](https://www.athabascau.ca/syllabi/math/math315.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 54 | [MATH365](https://www.athabascau.ca/syllabi/math/math365.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 57 | [MATH366](https://www.athabascau.ca/syllabi/math/math366.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 60 | [MATH370](https://www.athabascau.ca/syllabi/math/math370.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 63 | [MATH376](https://www.athabascau.ca/syllabi/math/math376.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 66 | [MATH476](https://www.athabascau.ca/syllabi/math/math476.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 69 | [MATH](https://www.athabascau.ca/course/index.html?/undergraduate/science/mathematics/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 72 | [MATH](https://www.athabascau.ca/course/index.html?/undergraduate/science/mathematics/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 75 | [COMP314](https://www.athabascau.ca/syllabi/comp/comp314.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 78 | [COMP347](https://www.athabascau.ca/syllabi/comp/comp347.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 81 | [COMP361](https://www.athabascau.ca/syllabi/comp/comp361.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 84 | [COMP378](https://www.athabascau.ca/syllabi/comp/comp378.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 87 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) – feel free to explore the link for COMP specialties |
| Senior | 90 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 93 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 96 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 99 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 102 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 105 | [COMP](https://www.athabascau.ca/course/index.html?/undergraduate/science/computer-science/) | Major Elective |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 108 | [COMP482](https://www.athabascau.ca/syllabi/comp/comp482.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 111 | [COMP494](http://www.athabascau.ca/syllabi/comp/comp494.php) | Required Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 114 | [COMP495](https://www.athabascau.ca/syllabi/comp/comp495.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 |
| Senior | 117 | [MATH480](https://www.athabascau.ca/syllabi/math/math480.html) | Major Core |  | [Science](https://www.athabascau.ca/course/index.html?/undergraduate/science/all/) |
| Senior | 120 | [MATH495](https://www.athabascau.ca/syllabi/math/math495.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 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.