St. Francis Xavier University

Master of Applied Computer Science (MACS) Frequently Asked Questions (FAQ)

Application Process

1. Am I qualified for the MACS Program?

The minimum requirement is a four-year undergraduate degree in Computer Science (or equivalent degree) with a minimum 70% (B) average.

A degree in a related field is acceptable if the applicant shows evidence of a sufficient Computer Science background suitable for entry into the program as determined by the departmental Graduate Committee.

Please note, admission to the program is competitive, and meeting the admissions requirements does not guarantee admission.

The minimum background is the equivalent of all required courses of a StFX Major degree in Computer Science:

- Introduction to programming: An introduction to computers, algorithms, and programming. Topics include problem analysis, algorithm development, data representation, control structures, arrays, and file manipulation.

- Programming and Data Structures: this course covers memory management and data abstraction via classes and objects, and introduces the linear data structures lists, stacks, and queues. Structured programming is encouraged via modular development.

- Advanced Data Structure: this course provides a deep investigation of foundational data structures and algorithms. Criteria for selecting appropriate data structures and algorithms for a given problem are presented. General problem solving is emphasized throughout the course. Specific topics include stacks, queues, lists, trees, searching, sorting, traversals, recursion, graphs, hashing and complexity analysis.

- Computer Organization: this course covers basic computer arithmetic, architectures and instruction sets; in-depth study of the central processing unit, memory and input/output organization, and microprogramming and interfacing.

- Database Management Systems: an introduction to the theory and practice associated with the design and implementation of databases. Topics include database models (relational model in detail), design, normalization, transactions, SQL, and DBMS (Oracle). A project involving the sign and implementation of a database and the creation of an application with embedded SQL is a key component of the course.

- Discrete Structures: an introduction to sets, binary relations, and operations; induction and recursion; partially ordered sets; simple combinations; truth tables; Boolean algebras and elementary group theory, with applications to logic networks, trees and languages, binary coding theory and finite-state machines.

- Operating Systems: an overview of operating systems functions; file management, CPU scheduling, process management, synchronization, memory management and deadlock handling. UNIX will be introduced and used in this course.

- Matric Algebra and Introduction to Statistics are recommended.

If the applicant is missing some prerequisites, acceptance may still be recommended if the student has sufficient Computer Science background. Alternatively, a student might be required to take qualifying courses at the undergraduate level.

2. What documents do I need to submit?

It is the responsibility of the applicant to ensure that an application payment and all supporting documents are received by the StFX Admissions Office by May 1, 2024. Incomplete applications will not be considered. All documents submitted as part of the admissions process become the property of the University and cannot be returned.

a) Submit an official transcript from each post-secondary institution attended. Transcripts must be sent directly from the issuing institution to the Admissions Office by mail or an official school email to **admissions@stfx.ca**. Any transcript submitted directly by the student must be received in a sealed envelope from the issuing institution. Graduates of StFX do not need to provide a copy of their transcript from StFX. Transcripts in a language other than English should be provided in their original language, along with a certified translation into English. Your application will not be reviewed until official transcripts are received.

b) Submit a copy of your provisional degree certificate.

c) Submit an English proficiency test if your first language is not English.

English Language Proficiency Test	Minimum Score
IELTS	6.5 overall and no lower than 6.0 in each band
TOEFL	90 iBT and no lower than 20 in each band
MELAB	81
CAEL	70 overall and no lower than 60 in each band
C1 Advanced	180 overall and no lower than 170 in each band
C2 Proficiency	180 overall and no lower than 170 in each band
Duolingo	115 with no sub-score lower than 100

* Note that graduate programs demand very strong English language skills. While IELTS 6.5 (no bands less than 6.0) is the minimum requirement, a higher IELTS score may strengthen the application.

There are only three exceptions:
  i. StFX graduates do not need a transcript for their StFX degree.
  ii. International applicants who have had their credentials assessed through a World Education Services (WES) comprehensive course-to-course assessment process may submit a WES report.

  d) Submit the [Supplemental Application form.](#)

  e) Complete a Statement of Intent of 250 to 500 words outlining your qualifications for graduate school, your research interests, career goals, and reasons for applying to StFX specifically.

  f) Provide your two references with the [Graduate Studies Reference form](#)
     a. Your references should email the completed reference form directly to admissions@stfx.ca

Please visit the Admissions Office's [How to Apply website](#) for more information.

The program starts each September and only has one intake per year. The deadline to submit your documents and still be considered for admissions is **May 1st** of the same year.

StFX University can only assess your file when we have all the required documents.

3. My undergraduate degree was a three-year degree. Will that qualify me for admission?

A three-year bachelor degree may be considered for admission if it's determined to be equivalent to a four-year Canadian bachelor degree. The degree assessment will be done once you submit a complete application. You may provide an official WES report with your application to support the review process.

4. How long will it take before I get a decision on my MACS application?

Approximately 6-8 weeks (about 2 months) from the time all your documents have been received.

5. Have all my documents arrived? Who can update me about my MACS application?

Please email admissions@stfx.ca to ask about your application status.

6. Do I need to submit an official transcript(s)?

Yes – StFX will not assess your application without an official transcript(s).

7. Are Graduate Record Examination (GRE) scores required?

StFX University **does not** require GRE scores for the Master of Applied Computer Science program.

8. Do I need a Visa and/or study permit?

If you are an international student, you are required to apply for a study permit once you receive admission to StFX. More information about student Visas can be found on the Government of Canada's [Immigration, Refugees and Citizenship Canada](#) website.

International Applicants

1. **How much does the program cost for international students? How do I pre-pay my tuition?**

Information on fees and tuition is available here, or you can email the Student Accounts office with questions regarding fee payment at studentaccounts@stfx.ca.

2. **Are there scholarships available for the MACS program?**

Currently, we have one scholarship available to students of the Master of Applied Computer Science program. MACS students are eligible to apply for the International Student Ambassador Scholarships, which available to both undergraduate, post-baccalaureate diploma, and course-based master's students. The eligibility is as follows:

- All full-time International undergraduate degree or diploma students, full-time students registered in course-based master's program, or full-time students registered in a post-baccalaureate diploma program. Minimum 85% average and demonstrated StFX qualities of academic and/or athletic excellence, leadership, and service to community. Open to all international students studying on a study permit.

3. **Is StFX an accredited university?**

In Canada, Universities fall under the authority of provincial & territorial governments. StFX is a government-funded university that falls under the authority of the province of Nova Scotia and was created by an Act of the Province of Nova Scotia in 1866.

StFX is a member in good standing of Universities Canada, Association of Atlantic Universities (Canada), Association of Commonwealth Universities, and the International Association of Universities. StFX is a Designated Learning Institute (DLI - O19391556899).

4. **Will this program make me eligible to apply for a Post Graduate Work Permit?**

Yes – if you meet all PGWP criteria, upon completing your program, you will be eligible for a 3-year PGWP. More information can be found on the Government of Canada, Post-Graduation Work Permit Program website.

5. **Will I be able to work in Canada while I'm a student?**

International students may be eligible to work in Canada if their student permit conditions include allowance to work on or off campus. You cannot start working before your program of study begins. You must also meet all other requirements:
- Maintain full-time student status at a DLI
- Have a valid study permit, and
- Have a Social Insurance Number (SIN)

For students who are eligible to work-on campus, there is no limit to the number of hours you can work per week.

During regular school semesters, students who are eligible may only work up to 20 hours a week off-campus.

*Until December 31st, 2023 you may be able work more than 20 hours off-campus, please see HERE to determine your eligibility.

If you are eligible to work, you need to be very realistic about how much paid work you accept. Students who miss their classes and/or who don't study enough outside of class are likely to fail their courses and put their education in jeopardy.

6. Do you have an office that supports International Students?

Yes – there are many on and off campus resources to support you throughout your journey, from academic support to mental wellness. The Office of International Student Advising at StFX is also available to offer confidential support, guidance, and advocacy to contribute to your positive experience at StFX, and to help you prepare, adjust, and thrive in Canada.

Please visit the StFX International webpage - this office is equipped to aid with arrival services, immigration affairs, and easing your transition to studying at StFX. You can also contact our International Student Advisor Lubna Rahman at lrahman@stfx.ca.

The MACS Program

1. How many people are accepted each year for the StFX MACS Program?

Approximately 40-50 students are accepted per academic year.

2. What does the program look like?

Students must complete 10-11 courses, and each course is worth the equivalent of 3 credits, except for Computer Science Graduate Seminar, which is a mandatory 6 credits and taken during the students first Fall semester, and Project, an optional experiential project-based course, which is also worth 6 credits.

This means that to complete the program, students must complete 1 mandatory course and 9-10 elective courses totaling 36 credits.

	YEAR 1			YEAR 2		
Semester	Fall	Winter	Spring/Summer	Fall	Winter	Spring/Summer
Dates	September – December	January – April	May – August	September – December	January – April	May – August
Credits	**9**	**9**	**-**	**9**	**9**	**-**
						Total: 36 Credits

3. Available Courses

Below are the graduate-level courses available to students in the MACS.

Not every course is offered every year.

Students will also have the option of completing up to 3 credits of undergraduate courses (not listed below) or graduate courses outside of Computer Science to count towards their MACS in Computer Science degree.

	MACS Graduate Courses:	Course Weight
1.	**CSCI 521 -** Real-Time Systems	3 Credits
2.	**CSCI 522** - High Performance Computing	3 Credits
3.	**CSCI 523** - Software Engineering	3 Credits
4.	**CSCI 524** - Mobile Application Design/Development	3 Credits
5.	**CSCI 525** – Machine Learning Design	3 Credits
6.	**CSCI 526 -** Embedded Systems	3 Credits
7.	**CSCI 527** - Big Data	3 Credits
8.	**CSCI 528** - Advanced Data Analytics	3 Credits
9.	**CSCI 529** – Mobile Robotics	3 Credits
10.	**CSCI 531** – Reinforcement Learning	3 Credits
11.	**CSCI 532** – Advanced Natural Language Processing	3 Credits
12.	**CSCI 541** - Theory of Computing	3 Credits
13.	**CSCI 542** - Representing & Reasoning	3 Credits
14.	**CSCI 543** - Specification & Verification	3 Credits
15.	**CSCI 544** - Computational Logic	3 Credits
16.	**CSCI 545** - Artificial Intelligence	3 Credits
17.	**CSCI 546 -** Biomedical Computation	3 Credits
18.	**CSCI 547** - Evolutionary Computation	3 Credits
19.	**CSCI 550** - Approximation Algorithms	3 Credits
20.	**CSCI 554** - Matrix Computation	3 Credits
21.	**CSCI 555** - Data Mining & Machine Learning	3 Credits
22.	**CSCI 561** - Computer & Network Security	3 Credits
23.	**CSCI 562** - Computer Graphics	3 Credits
24.	**CSCI 563** - Advanced Database Systems	3 Credits
25.	**CSCI 564** - Constraint Processing & Heuristic Research	3 Credits
26.	**CSCI 594** - Computer Science Graduate Seminar	6 Credits
27.	**CSCI 595** - Project	6 Credits

To access detailed descriptions of the courses mentioned above, kindly refer to the Computer Science section of the StFX Academic Calendar.

4. Experiential Learning:

One cornerstone of this program is the opportunities provided to students to engage in experiential learning, which will help them build confidence and gain experience in the field before entering the workforce.

The program is structured so that real-world problems are embedded throughout the program (in the Computer Science Graduate Seminar course and throughout the elective courses).

Also, students can complete a CSCI Project. This course supplies real-life software development experience working by applying classroom learning in a real work context. Students work with an industry or academic partner and develop computing solutions to real-world problems. Students handle managing the project from development to execution to presentation to the client and final review.

5. Does this program have a Co-op option?

Students in the MACS program can apply to complete Co-operative Education (Co-op). Co-op offers paid work experience for students interested in developing a career in various areas within computer science fields and integrate work experience in their field of interest within their academic studies while earning 6 credits towards their MACS degree.

Students complete professional development seminars and workshops offered through the Co-op department prior to work term placement. This will prepare students to be professional, committed for the challenges of work term placements, and ensure that good relations with employers are fostered, right from the start.

Space is limited for MACS co-op opportunities.

The fees are $2,200 CAD. Each professional development seminar is $600, and each work term is $500, for a total of $1,000.

Students pay the co-op fees as they register for each part of the program.

During each co-op work term, students will pay 3-credit tuition per work term, StFX additional fees, and their co-op work term fee. For information regarding StFX tuition and additional fees, visit the Student Accounts webpage.

To learn more about the MACS Co-op, kindly refer to the Masters Co-op Program Question & Answers webpage.

*MACS Co-op students are strongly encouraged to focus on their academics in the fall semester of their first year, including maintaining a pass grade of 70% for courses, attending classes, and keeping up with assignments. The Co-op Office will review academic grades in December. If a course grade falls below 70% (which is considered a failing grade by MACS academic standards), the student will be ineligible to continue with the Co-op program.

For specific co-op information related to the current academic year, please visit MACS Co-op webpage.

Living in Antigonish

1. When must I arrive to campus?

All students **must be in class for the first day of classes**. This is crucially important. Please plan your trip accordingly.

Please review the [Calendar of Events](#) in advance for the exact first day of class for your given academic year.

2. Where is StFX located?

StFX University is located in [The Town of Antigonish,](#) a small town in northeast Nova Scotia (town population approximately 5,000), about two hours from the Stanfield International Airport and the City of Halifax, the provincial capital.

StFX University is located centrally in the small town. There are several small shopping districts – most within walking distance - and the town has two large grocery stores, a Walmart, Shopper's Drug Mart, the Antigonish Mall, as well a variety of fast food and sit-down restaurants.

More information for newcomers to the Town of Antigonish can be found on the [town's website](#).

Please note the Town of Antigonish does not have public transportation.

3. Does StFX have residence options for Graduate Students?

StFX University does offer housing options, including traditional and apartment style residences.

More information can be found on the [StFX Residence Options webpage](#), or by emailing residence@stfx.ca.

There is off-campus housing available throughout the Town of Antigonish.

Off-campus listings:
- [StFX Housing | Renting & Looking](#) - Facebook group for Antigonish apartments adverts.
- [Rentgorilla](#) – search Antigonish, Nova Scotia rentals.
- [Kijiji Rental Listings](#) – search Antigonish, Nova Scotia rentals.

4. Does StFX have dining options on campus?

Our campus dining experience is varied and comfortable, with many nutritious options. StFX provides nutritional support to meet all dietary needs such as vegetarian, gluten free, halal, kosher, and more. Our Balanced Way program offers students information on eating right, while offering delicious food choices.

From all-you-care-to-eat plans to Starbucks coffee, all-day breakfast, lunch and dinner options, sandwiches, salads and more, our dining spaces have the perfect meal options for you.

More information on dining and meal plan options, please visit the [StFX Meal Plans webpage](#).

5. Are there recreational opportunities on campus?

The Fitness Centre located in the Keating Centre (map) is open to all community members and students with new or existing memberships. Student memberships are included with your tuition dues and can be activated at the Welcome Desk. More information can be found here.

There are also Varsity sports that run throughout the Academic year. Find out more about StFX teams and when they play here.

6. What is Nova Scotia weather like?

Nova Scotia's climate is characterized by very cold, snowy winters and pleasantly warm summers. Antigonish/Nova Scotia is in an area characterized by the continuous clash of air masses, which makes the climate unstable, windy, and rainy (and snowy in winter).

Snowfall usually occurs from late November to early April. In winter, snowstorms can occur, called "nor'easters" because they are brought by intense winds from the north-east.

In the summer, you can expect sunshine and warm temperatures – a great time to get out and explore the area, and perhaps visit one of our local beaches.

Please be prepared with proper clothing, particularly during the Canadian winter.