MASTER OF SCIENCE IN APPLIED COMPUTING

2019-20 STUDENT HANDBOOK

Computer Science
UNIVERSITY OF TORONTO

MScAC – STUDENT HANDBOOK 2019/20

Congratulations on your acceptance to the Master of Science in Applied Computing (MScAC) program.

The MScAC Student Handbook describes degree requirements, financial support and other matters of interest to MScAC students. The handbook is revised annually. Students will be notified by email of significant changes and upcoming deadlines. Please visit the website regularly at cs.toronto.edu.

DEPARTMENT BUILDINGS

The Department of Computer Science is located in three buildings on the main (downtown) University of Toronto campus:

Bahen Centre for Information Technology (40 St. George Street)
Sandford Fleming Building (10 King's College Road)
D.L. Pratt Building (6 King's College Road)

MScAC student offices are located in rooms 3328, 7252 and 7260 of the Bahen Centre for Information Technology.
Map: uoft.me/UofTCompSci-map

IMPORTANT CONTACTS

ROLE	NAME	LOCATION	E-MAIL
Academic Director	Arvind Gupta	BA 7266	arvind@cs.toronto.edu mscac@cs.toronto.edu
Managing Director	Matt Medland	BA 7264	matt@cs.toronto.edu mscac@cs.toronto.edu
Director of Data Science Programs	Nathan Taback	SS 6027C	nathan.taback@utoronto.ca
MScAC Program Coordinator	Claire Mosses	BA 7250	cmosses@cs.toronto.edu mscac@cs.toronto.edu
Executive and Financial Assistant	Dina Savana	BA7250	dsavana@cs.toronto.edu
Graduate Office		BA 7222	gradoffice@cs.toronto.edu
Technical Support	Alan Rosenthal	BA 3218	pocpm@cs.toronto.edu

IMPORTANT DATES 2019/20

Fall 2019	
Registration begins	July 15, 2019
Enrolment begins	July 16, 2019
Payment of tuition fees deadline	August 23, 2019
Clearing admission conditions	August 31, 2019
Orientation 2019	September 3 & 4, 2019
Fall term begins	September 5, 2019
Registration ends. Payment deadline for any unpaid Fall semester tuition and fees.	September 13, 2019
Final date to *add* fall courses	September 23, 2019
Final date to *drop* fall courses without academic penalty	October 28, 2019
Registration deadline for any unpaid Winter semester tuition and fees	November 30, 2019
Fall term ends	December 23, 2019
University closed for winter break	December 23, 2019– January 5, 2020
Winter 2020	
Winter term begins	January 6, 2020
Final date to *add* winter courses	January 20, 2020
ARIE	February 24, 2020 – February 28, 2020
Final date to *drop* winter courses	February 25, 2020
Winter term classes end	April 11, 2020

Full details of sessional dates throughout the academic year can be found on the SGS website: uoft.me/SGS-calendar

FEES AND FINANCES

The MScAC is a stand-alone program that is not funded through the Department of Computer Science operating budget. Students in the program do not generally have an option to defer their fees. You will be expected to pay the minimum amount to register by August 31, 2019 in order to avoid cancellation of your “invited” registration status.

You are eligible to apply for Teaching Assistantship positions. These will be posted in early July, at which point all students in the graduate programs are invited to apply to these positions. Please note you will need to submit an application to TA in order to be made an offer. Without an application, positions will not be offered. You will be notified about the course(s) for which you were selected as a Teaching Assistant before or during the first full week of September. Additionally, domestic students may be eligible for OSAP, the Ontario Student Assistance Program (ontario.ca/page/osap-ontario-student-assistance-program)

Students in financial difficulty may wish to visit a Financial Counselor at the School of Graduate Studies, 63 St. George Street. A counselor can help with budgeting and may have knowledge of various bursaries, grants, loans or other financial aid to help a student experiencing financial hardship.

uoft.me/SGS-financial-aid

**Students in receipt of OSAP, CSL or US student loans may be able to defer their fees via ACORN.*

COURSE INFORMATION

Course Overview

The MScAC program is a 16-month applied research program designed to prepare you for life-long success as a technical/innovation leader, primarily in the information technology space. It combines eight months of advanced courses in computer science and related fields with an eight-month paid research internship at a firm.

Typical program schedule for MScAC students

Year 1 (Semester 1: Sept – Dec)	**Year 1 (Semester 2: Jan – April)**	**Year 1 (Semester 3: May – Aug)**	**Year 2 (Semester 4: Sept – Dec)**
CSC2701H	CSC2701H	CSC2702H	CSC2702H
2 elective graduate courses	2 elective graduate courses	Internship	Internship
Resumé preparation begins	Start of the internship process: Applied Research Internship Expo (ARIE) & interviews		Applied Research in Action (ARIA) showcase

COURSE REQUIREMENTS

The first eight months (two semesters) of the MScAC program will be spent taking courses. As an MScAC student, you must complete two mandatory courses:

CSC2701H – Communication for Computer Scientists
CSC2702H – Technical Entrepreneurship

You are also required to complete four technical graduate courses, two of which must be from those offered by the Department of Computer Science. In total, you must complete a minimum of 2.0 Full Course Equivalents (FCE) and receive a minimum passing grade of B- in each course. Only then will you be deemed to have made satisfactory academic progress in the program.

To progress to the internship component of the program, you must have made satisfactory academic progress by the end of the second semester. In the event that you have not made satisfactory academic progress by the end of the second semester, you must immediately contact the program coordinator who will advise you about next steps.

CHOOSING COURSES

General Concentration

You are required to undertake a “T” shaped set of courses in which you strive for some breadth across computer science and some depth in one sub-area. In order to meet the breadth requirement, start by reading the course descriptions, and correlating these with the courses offered in the 2019-20 course schedule. Select three courses from three different areas to ensure breadth, and two courses in the same research area to ensure depth.

You also have the option to choose graduate courses from departments other than computer science (ECE, Mathematics, Statistics, etc). You will need permission from the Academic Director, Professional Programs for any course you choose outside of computer science. You may also require permission from the respective department through their Graduate Administrator. This can be done by using the Add/Drop course form available from the SGS website and submitting it to the Graduate Office.

Data Science Concentration

Students in the Data Science concentration, are required to complete:

- 2 graduate courses (1.0 FCE) from the Computer Science department in two different research areas
- STA2453 (Data Science Methods, Collaboration and Communication)
- An additional graduate course from the Statistics department at STA2000 level or higher totaling 0.5 FCE. Note that some of the courses at STA4500 level and higher are six-week modular courses at 0.25 FCE each.

Additional information and considerations

Breadth is important because you may find that your particular interests coming into the program may be over-ruled by new topics that inspire you, or emerging areas of computer science as applied to industry. There are two possibilities for distributing your course work over the two semesters. The most usual is to take two regular graduate courses for credit in each of the two academic terms. Alternatively, you may wish to enroll in three courses in the Fall semester and one in the Winter semester. This is because there is significant work in the Winter semester in arranging your internship.

One strategy used by some students is to enroll in several courses in the Fall semester so as to ascertain their interests and gauge workload; “dropping down” to either two or three courses before the drop date. In making this decision, it is important to remember that the highest workload is normally at the end of the semester.

You may wish to sit-in on (audit) additional graduate courses. This is an excellent way to learn additional material in areas of interest to you without the overhead of significant coursework. You should also consider participating in departmental academic activities such as going to seminars offered by various research groups. Seminars allow you to appreciate the latest research in a field and a chance to meet professors and other graduate students.

COURSE SCHEDULE

See the complete selection of computer science graduate courses.

THE INTERNSHIP PROCESS

The second eight months of the MScAC program are spent undertaking an applied research internship. The internship is a formal requirement of the program that is completed after you show satisfactory academic progress during your course work.

If you are an international student, you must ensure that you hold a valid work permit allowing you to work in a company during the internship period. Details on how to apply for work permits are available from the Immigration and Citizenship Canada website:
https://www.canada.ca/en/immigration-refugees-citizenship/services/study-canada/work/intern.html

What is an applied research internship?

An applied research internship usually involves research aggregation, namely the exploration and synthesis of research results into an evaluation, study or demonstrable, industrially relevant prototype.

In the service of a company, it is expected that you will exploit your graduate academic training and past experience to explore new initiatives, improvements in process or product, or new designs that could be of potential impact. Your internship may require you to work on explorations that a company might not otherwise perform. This requires a higher standard of creative or intellectual exploration than would normally be encountered in a co-operative (co-op) work term. For example, a role consisting only of programming tasks would likely not qualify as an internship. That said, the scope of the MScAC internship may involve coding or systems development that leads to a contribution to the company's product or service offering.

Finding an internship

In late September of your Fall semester, you will begin preparing a one-page CV. Between late Fall and January 2020, we will go through various iterations of these during the semester, to ensure the content is accurate. At the same time, the program will begin soliciting projects from companies interested in taking on students for applied-research internships. You can expect to view the positions we curate for you by mid-February. Concurrently, a book of cohort CVs will be sent to the companies that have posted positions. Around this time, we also bring companies on campus to engage with you through our Applied Research Internship Expo (ARIE). Companies may contact you, and you may contact them for further information and to schedule interviews. This process may go on for a couple of months, as you become aware of the diverse range of opportunities.

Most students find internships through the companies that the program has recruited. However, you are welcome to do your own search for companies that may be interested in employing you. You must make the Managing Director aware of your intended search. The program will get in contact with companies you may be considering so they can be informed of the details of the MScAC program. This is very important, since some companies may not fully appreciate the differences between an applied-research internship and a co-op programming job. All internships must be approved by the Program Directors.

All internships must be approved by the Program Directors and have a start date during the first week of May. Further details of the internship process will be given over the course of the program.

Choosing your internship

You may get multiple internship offers and we strongly recommend that you look beyond the compensation level in choosing your internship. Other criteria include the quality of the research being offered, the work environment you will be exposed to, the team you will be working with, the supervision you will receive, and possibilities for personal growth. Remember that the internship is the research component of your degree and addressing an interesting challenge will help you in the long term.

Some of the most rewarding internships that past students have reported undertaking are with non-profit companies or start-ups. These organizations may not have the ability to match salaries of larger firms but may compensate for this in other ways.

Compensation for internships

When we recruit companies to our program, we tell them that the average funding level is approximately $60K for the eight-month period and we inform them of various mechanisms they can take advantage of to help offset their costs. However, your compensation is decided between you and the company and we do not discuss this with the company on your behalf.

Internship supervision

Upon accepting an internship offer from a company, you are expected to find two supervisors: an industry supervisor appointed by the company, to whom you will report routinely, and an academic supervisor with whom you will collaborate to address the intellectual challenges of the research to be performed over the course of the internship. It is beneficial— but not required—for your academic and industry supervisors to meet, so they can establish an effective way to guide your work. This may also lead to other opportunities for collaboration.

Applied Research in Action (ARIA) showcase

During your internship, you are required to participate in the ARIA showcase. ARIA is an opportunity for you to present the project you have been working on as part of your internship and to highlight your accomplishments within the program. This event has become incredibly popular and we now see academic and industry supervisors, prospective students and companies, department members, and MScAC alumni in attendance. Many past students have reported this event as critical to developing a deep network of contacts.

Mid-way through the internship (September 2020), we will request materials for you for your ARIA presentation and will detail the process for your participation. If there will be a problem with your attendance at ARIA, please contact the program coordinator immediately to discuss.

Internship Report

You are required to submit an "Internship Report" that details the research you undertook during your internship. This report will be read and signed off by your academic and industry supervisors and then by the MScAC Academic Director. Most students aim to submit their report and have signed off near the end of the eight month internship period.

This report will form part of your student file, and will not be distributed beyond the program administration; however, you should be sensitive to keeping the report sufficiently general so as to avoid divulging confidential company information.

The report should indicate:

- The name of the company and a short description of the organization.
- Your faculty and industry supervisors with their contact information.
- Your original role and expected outcomes.
- How your role and expectations changed over time.
- The outcomes you were able to achieve.
- The research you either incorporated from other sources or performed yourself.
- The impact of your work on the company.
- Lessons learned from your internship experience and overall reflection on the value of the internship to your professional growth.
- Your next steps. What are your next career plans?

You may also wish to include other issues as you see fit.
Document length: two pages is too short and more than ten pages is too long.

Completing the Internship & Graduating from the MScAC Program

At the start of December, we will distribute instructions on how to formally complete the degree. This will include the formal sign-off for your internship report, an "MScAC Completion" form and "Convocation Completion" forms with the latter two submitted to the Graduate Office and MScAC Program Office. Once these documents are submitted and accepted, a "Recommendation for a Master's Degree" will be submitted to the School of Graduate Studies and your name will be added to the convocation register. A graduation package will be sent to you from the Office of Convocation with information regarding convocation dates, tickets, etc. Please note that when you have met all degree requirements, your program will formally finish by December 31, 2020, but your degree may not be confirmed until January 31, 2021.

Final Form Submission Deadlines

Submission	**Due Date**
Finalized internship report to be sent to the academic and industry supervisors.	December 12, 2020
Final report + all completion forms to be sent to the MScAC Program Office.	December 31, 2020

STUDENT POLICIES

University of Toronto Policies

The University of Toronto has various policies in place governing graduate activity. Particularly relevant to students studying in computer science are those policies relating to Academic Integrity, Ethics and Conduct. Full details of all the policies applicable to you during your time as a student with the Department of Computer Science: uoft.me/SGS-policies.

DEPARTMENT & UNIVERSITY RESOURCES

Department of Computer Science Communications & External Relations Office

This office works to ensure the Department's key audiences are aware of the strengths and achievements of our students, alumni, faculty and staff. We organize several events throughout the year, including the Applied Research in Action Showcase (ARIA) and networking activities involving alumni including former MScAC graduates.

Do you have an exciting story or achievement to share? Please reach out by contacting communications@cs.toronto.edu. We regularly seek to profile MScAC students as part of our graduate program and research activities. Your work could appear in a local news publication, appear on social media or be featured as part of U of T News!

As an MScAC student, you're also invited to join our exclusive network for alumni and students—CompSci Connect. Simply log-in with your current LinkedIn or Facebook credentials (or create a new user profile) and see computer science news, jobs, events, social media feeds and more all in one place. Our alumni network is also there to help support you through mentorship and our discussion forum.

www.UofTCompSciConnect.ca

For more information about our alumni programs, please contact alumni@cs.toronto.edu.

COMPUTER FACILITIES

As a graduate student in the Department of Computer Science you have access to a variety of computer resources. The "apps" servers are for e-mail and text editing (etc.), and the "comps" servers are for heavy computation. Read more at support.cs.toronto.edu.

We strongly recommend that you bring a laptop with you. An external monitor, keyboard and mouse will be provided in space reserved for the program.

Your "CSLab account" is the key to a number of departmental services. You will have received e-mail about activating this. Please activate as soon as possible. The account also gives you an e-mail address and once you have a CS e-mail address, people will start e-mailing you at it. Please either read your CS inbox directly or forward incoming mail to an account that you do read.

Your first point of contact for assistance with computing facilities is the MScAC “POC” (point of contact) at pocpm@cs.toronto.edu. The POC has written an introductory list of computing topics at cs.toronto.edu/~pocpm including one about reading your CS e-mail.

STUDENT FORMS AND LETTERS

During your time in the department, you may require student forms or letters for actions such as adding/dropping courses, taking leaves of absence, or for immigration purposes:

- uoft.me/SGS-forms

Alternatively, you can visit the Graduate Office for further information on where to find these documents.

U OF T LIBRARY SERVICES

The University of Toronto Libraries system is the largest academic library in Canada and is ranked third among peer institutions in North America, including Harvard, Yale and Columbia.

uoft.me/uoftlibraries

GRADUATE CENTRE FOR ACADEMIC COMMUNICATION

The Graduate Centre for Academic Communication provides graduate students with advanced training in academic writing and speaking. All programs are free, and five types of support are provided, designed to target the needs of both native and non-native speakers.

uoft.me/SGS-writing

THE CENTRE FOR INTERNATIONAL EXPERIENCE

CIE & SGS offer the assistance of an international transition advisor who supports students adjusting to life in Canada. At CIE you can seek advice about Immigration and Citizenship Canada documentation and processes, including study and work permits. The CIE also administers the University Health Insurance Plan.

cie.utoronto.ca

SAFETY

It is the goal of the University of Toronto to do everything possible to create an environment where students and staff can feel safe to live, work and live feel safe to live, work and live.

studentlife.utoronto.ca/be-safe

HEALTH & WELLNESS

The University of Toronto offers a wide range of services to all its students to support them in achieving their personal and academic best.

healthandwellness.utoronto.ca
uoft.me/SGS-services

QUICK LINKS

Need more information? The following links may be of use.

Department website	cs.toronto.edu
Graduate course schedule	uoft.me/cstimetable
SGS Calendar	uoft.me/SGS-calendar
Graduate Fees	uoft.me/SGS-fees
Student Accounts	fees.utoronto.ca/
University of Toronto policies	uoft.me/SGS-policies
SGS forms	uoft.me/SGS-forms
Centre for International Experience	cie.utoronto.ca
U of T Libraries system	uoft.me/uoftlibraries
Housing	housing.utoronto.ca
Services for students	uoft.me/SGS-services
Financial Aid	uoft.me/SGS-financial-aid
Career Centre (Career Learning)	cln.utoronto.ca
Registration & Enrolment	uoft.me/SGS-enrol