

Master of Science in Computing and Data Analytics MSc CDA

2024 Admission

HALIFAX ~ CANADA



smu.ca/mscda



Saint Mary's
University



Program structure

MSc CDA is typically completed in 16 months over four consecutive terms. The courses feature technology, platforms, languages, and techniques that are relevant to industry including: Java/J2EE, C#/.Net, JavaScript: node/angular/react, HTML5, PHP, iOS, Android, Rest API, Amazon Web Services (AWS), Azure, Cognos, SQL/MySQL, NoSQL/Mongo DB, Blockchain, R, Python, Tableau, Alteryx, Power BI, Hadoop, Spark, and Hive.

In the first two semesters of the MSc CDA program, students are introduced to software development and big data analytics challenges and solutions through eight foundation courses. The program's unique tutoring and technical mentorship includes group sessions, one-on-one instruction, and practice.

Responding to industry demands, MSc CDA added two elective options that will help advanced students explore topics such as Deep Learning, Advanced NLP using Large Language Models (LLM's), DevOps, MLOps, Cloud Computing, and the Intelligent Automation of Quality Assurance.

Although not courses per se, students attend a series of workshops on industry relevant topics and participate in various competitions to hone their technical and professional skills.

Examples include:

- RBC Next Great Innovator Hackathon, Toronto
- Salesforce Saturday, Cloudekkle Inc.
- Data for Good - Poverty Hackathon, Chief Data Office, Government of Canada
- Retail Hackathon, David Sobey Centre for Innovation in Retailing and Services
- IEEE World Congress on Computational Intelligence
- International Business Analytics Challenge, Montreal



Learn. Apply. Innovate.

The primary focus of the professional 16-month MSc CDA program at Saint Mary's University is to develop highly qualified computing and data analytics professionals who will drive innovation and organizational success. MSc CDA prepares students for rewarding and lucrative careers through experiential learning opportunities and intensive industry interaction.

Students in the Master of Science in Computing and Data Analytics program focus on two growth areas:

- Hardware and software platform design, development, customization, and management
- Data analytics, business intelligence, and knowledge discovery: the acquisition, storage, management, and analysis of huge amounts of data to improve efficiency, innovation, and decision making

AACSB MSc CDA students learn from award-winning faculty from the Faculty of Science and the Sobey School of Business, internationally recognized with the prestigious AACSB accreditation. Fewer than 5% of the world's business programs have earned AACSB, the highest worldwide standard for business schools.

MSc CDA partners with local, national, and international organizations to help students develop in-demand analytics skills and knowledge, leading to exceptional career opportunities.

Smarter, faster artificial intelligence

"The amount of data, analytics, and AI in business and society seem unlikely to decline, so the job of data scientist will only continue to grow in its importance in the business landscape."

Harvard Business Review (July 2022).

Expertise in demand

The Government of Canada predicts labour shortages for data scientists and data analysts until at least 2030. The global demand for data professionals is expected to increase at a 25% annual growth rate.

Build in-demand skills

MSc CDA infuses the entire program with in-demand technical and business skills. Our students hone these abilities through paid projects and internships.

Working with industry

All courses feature industry instructors, giving students real-world learning experiences and exponentially expanding their professional networks.

September to December Fall Term • (4 months)

- Software Development in Business Environment
- Statistics and its Applications in Business
- UI/UX Design and Quality Engineering
- Managing and Programming Databases
- Elective I: Current Practices in Computing and Data Science I

January to April Winter Term • (4 months)

- Web, Mobile, and Cloud Application Development
- Business Intelligence and Data Visualization
- Big Data and Information Technology Management
- Data and Text Mining
- Elective II: Current Practices in Computing and Data Science II

May to December Summer and Fall Terms (8 months)

Applied learning options:

- Graduate Internship I & II
- Master's Project I & II



Your link to industry

Since the program's launch, nearly 100% of graduates have received full time job offers from Fortune 500 firms, SMEs, government, and start-ups alike. Graduates have been hired for a wide range of exciting jobs.



MSc CDA is a registered education provider for the Certified Analytics Professional (CAP) designation, managed by INFORMS, the leading international association for professionals in operations research and analytics. Graduates will have fulfilled the education requirements for the CAP credential and are prepared to write the qualifying exam.

To support our commitment to professional development, MSc CDA partners with our Career and Experiential Learning team, working one on one with our students to transform their passion into careers.

Questions?
Contact us at msc.cda@smu.ca

Professional development

- Fall Hackathon
- Conferences
- Career Development
- Industry Workshops
- Spring Hackathon
- Project Management
- Professional Mentorship

Experiential learning

Students gain teamwork, creativity, project management skills and invaluable experience working on real-world challenges through technical projects, hackathons, and design competitions. Students enrich their portfolios by developing innovative data-driven applications and liaise directly with industry-leading judges.

The program regularly sends teams to local and national competitions—with outstanding results. MSc CDA finished as the top Canadian team and third overall in the prestigious International Business Analytics (IBA) Challenge. Our teams have also finished first multiple times in the Nova Scotia Open Data Hackathon.

Graduate Internships

Students from our 2022 cohort secured the following exciting positions during their residency:

- Cloud Engineer—Citco
- Consultant—Deloitte
- Data Science Engineer—Statistics Canada
- Data Analyst—Nova Scotia Power
- IT Developer—Canada Revenue Agency
- Data Analyst—RBC Capital Markets

Career paths

MSc CDA graduates have found successful careers as:

- Machine Learning Engineer
- Business Intelligence Analyst
- Data Scientist
- Senior Data Analyst
- Full Stack Developer
- Artificial Intelligence Advisor
- Enterprise Data Designz
- Data Analytics Manager
- Big Data Engineer
- Mobile Application Developer
- Software Developer
- Database & System Analyst
- Senior Solutions Architect

Application and admissions

Admission Requirements

The MSc CDA follows the general admission requirements and procedures of the Faculty of Graduate Studies and Research (FGSR). Applicants must also meet or provide evidence for the following criteria:

- Applicants require a four-year Bachelor of Science in Computing Science degree (or equivalent in a quantitative field) with a minimum cumulative GPA equal to 70%
- Please check with the program for country specific GPA requirements
- Letter of Intent describing how the program will benefit your educational and career goals
- An up-to-date curriculum vitae
- Applicants must successfully complete a programming test
- Applicants must successfully complete a technical interview
- Students whose first language is not English, and who have not attended an English language secondary school or who do not hold a degree completed entirely in English, must meet FGSR language requirements.

Acceptance

The Dean, Faculty of Graduate Studies and Research, issues the official decision letter. Accepted students must complete a Seat Deposit Form and pay a non-refundable deposit of **\$5,000** by the deadline specified in the admission letter. Once payment is received, a student's seat is confirmed and the student can register for the program.

Application deadlines

The deadline to file your online application and pay the application fee is **March 1, 2024**. All required documents must be received by the university by **March 31, 2024**. When the program reaches capacity, incomplete applications will be closed and we will no longer accept new applications until admission opens for the next available cohort.

How To Apply

Before applying, prospective students are required to complete a take-home programming test to ensure they possess the background computing knowledge to be successful in the program. To access the test, please email cda.test@smu.ca.

Once you successfully complete the test, you will be invited to submit an application, which includes:

- Online application form and \$110 processing fee
- Unofficial transcripts for all post secondary education
- If transcripts are in a language other than English, a notarized translation is required.
- Resume
- Letter of intent
- Three (3) recommendation forms
- Official proof of English language proficiency (if req'd)

As soon as all required documents are on file we conduct an initial review, and if your application meets admission requirements, you will be contacted for a technical interview. If you are successful in the interview, the Admission Committee will recommend one of the following:

- **Early Admission:** granted to exceptional candidates
- **Regular Admission:** you will be added to a pool of candidates that will be re-evaluated against the number of spaces available. If chosen for the cohort, you will be contacted by the Admission Committee

Estimated program tuition

Canadian students: **\$21,000**
International students: **\$41,000**

Tuition and fees are paid at the beginning of each term (Sept 2024, January 2025, May 2025, Sept 2025). The university also charges Mandatory Fees and Medical & Dental insurance.

Questions?
Visit smu.ca/international/welcome





Saint Mary's University

Ideally located in the vibrant city of Halifax, Saint Mary's University is home to a diverse and inclusive community of over 7,500 faculty, staff and students, and boasts a global network of more than 53,000 alumni.

Founded in 1802, Saint Mary's is one of the oldest universities in Canada. We offer a unique experience, combining world-leading research with a close-knit community. Saint Mary's is known for its engaged faculty and students, entrepreneurial spirit and impactful research that reaches beyond campus walls and into the wider community. Our students, researchers and faculty share the desire to work towards a future that is inclusive, sustainable, diverse and resilient—a world without limits.

Family and graduate housing

For student families, graduate students, and other eligible individuals, Saint Mary's University offers one and two-bedroom apartments. Additionally, the surrounding South End of Halifax offers student housing options in a vibrant urban setting. Here, you'll be close to campus, green spaces, and great local life. For information on Family and Graduate Housing monthly rental rates, visit: smu.ca/campus-life/family-and-graduate-housing.

Master of Science in Computing and Data Analytics



Flight times

- MONTREAL - 1 hr 29 min
- TORONTO - 2 hr 05 min
- NEW YORK - 2 hr 41 min
- BOSTON - 1 hr 19 min

About Halifax

Whether you're looking for vibrant city living with amazing culture, cuisine and nightlife, or a more relaxed rural pace to find escape, Halifax is all about having the best of both worlds. Known the world over for its warm and welcoming people, Halifax is more than an all-access ocean playground: it's your key to a future filled with opportunity.



Student life

As a graduate student, you can get involved in several on- and off-campus activities as soon as you arrive in Halifax. The International Centre offers events throughout the year including ski trips, International Night, game nights, movie nights, and Lunch n' Learns. In addition, there are over 40 active student societies on campus which students are invited to participate in such as Net Impact, Speak Up Society, MBA Society, Graduate Student Society, and the Power to Change Society. Saint Mary's has a world-class fitness facility and a wide range of varsity and intramural sports. For more information and to learn about campus life visit: smu.ca/campus-life.





Graduate Studies and Research

Saint Mary's University is a dynamic research institution. Our Faculty of Graduate Studies and Research (FGSR) oversees 29 graduate programs (PhD, Masters, Diploma) in a stimulating intellectual community that spans all faculties, all joined in the pursuit of academic excellence through research.

- Home to CLARI (Change Lab Action Research Initiative), a provincial network connecting researchers from Nova Scotia's post-secondary institutions with various community groups
- Gain access to several research databases and resources including the IMPACT Investment Fund, where students can manage their own portfolio while studying
- As a PRME (Principles of Responsible Management Education) Champion, the Sobey School of Business incorporates social and environmental responsibility into graduate research education and support tools through the PRME Library



Currently graduate students make up approximately 10% of the student body at Saint Mary's.



Saint Mary's has received \$41 million in external research support in the last 4 years, including well over half a million for Covid-19 research.



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