

# MACS

## Master of Applied Computer Science



AN APPLIED EDUCATION  
*COMBINING* DEEP  
SYSTEMS KNOWLEDGE,  
INDUSTRY READINESS,  
AND ENTREPRENEURSHIP.



**DALHOUSIE  
UNIVERSITY**

FACULTY OF  
COMPUTER SCIENCE

[dal.ca/macs](http://dal.ca/macs)

# AN **APPLIED** EDUCATION

The Master of Applied Computer Science prepares students for dynamic careers in the software industry. Students develop their technical skills through core courses in systems, communications, and data management. They then apply what they have learned in a paid industry internship, entrepreneurship work term, or research project.

## **WHY CHOOSE DALHOUSIE'S MASTER OF APPLIED COMPUTER SCIENCE AT DAL?**

- 1. Fast track your way to industry:** In a hurry, all program streams can be completed in as little as 16 months. Alternatively, take a deeper dive with a program lasting 24 months which may include an 8-month internship, entrepreneurial work term, or research project.
- 2. Experiential learning:** Customize your own degree and complete one of three program streams:
  - Internship:** Build on your classroom knowledge and gain industry work experience for your resume during a 4 or 8 month paid internship. Internships in Canada and abroad allow you to gain valuable on-the-job technical experience and provide networking opportunities with ICT professionals and potential employers.
  - Entrepreneurship:** Take courses on the technical and entrepreneurial skills needed to create your own software-based business. Develop your ideas in ShiftKey Labs, our start-up incubation space that offers a broad mix of technical resources, workshops, and entrepreneurial mentoring. Meet potential co-founders, gain practical experience, be inspired, and ultimately, explore what is involved in creating a software start-up in a casual, risk-free environment.
  - Project:** Work with active research labs at the forefront of technical innovation. Gain technical experience by completing an in-depth research project under the direction of a faculty supervisor.
- 3. Technical strength:** The MACS program is designed to give you the technical skills needed for rapid advancement in the software industry.
- 4. In-demand coursework:** Our required courses are in high demand by industry and include mobile computing, data management, warehousing and analytics, and communications.
- 5. Wide range of backgrounds:** Whether you are an IT professional working in Canada, a student coming direct from a STEM bachelor's degree, or a foreign-trained professional, this degree is right for you.



## **MACS PROGRAM STREAMS: AT A GLANCE**

### **INTERNSHIP STREAM**

**3 Core Courses:** Data Management, Warehousing, and Analytics; Mobile Computing; Written and Oral Communication Skills

**6 Elective Courses:** Choose from over 40 CS electives

**Paid Internship:** 4 – 8 month industry internship

**Final Deliverable:** Work term report & presentation

### **ENTREPRENEURSHIP STREAM**

**5 Core Courses:** Data Management, Warehousing, and Analytics; Mobile Computing; Written and Oral Communication Skills; Starting Lean; New Venture Creation

**4 Elective Courses:** Choose from over 40 CS electives

**Entrepreneurship Work Term:** 4 - 8 months in ShiftKey Labs

**Final Deliverable:** Demo, Starting Lean canvas & presentation

### **PROJECT STREAM**

**3 Core Courses:** Data Management, Warehousing, and Analytics; Mobile Computing; Written and Oral Communication Skills

**3 Elective Courses:** Choose from over 40 CS electives

**Final Deliverable:** Research Project report & presentation

### **ELECTIVE COURSES**

**Choose from over 40 CS electives, including:**

Usable Privacy and Security; Machine Learning for Big Data; Intelligent Systems; Genetic Algorithms and Programming; Autonomous Robotics; Human-Computer Interaction; Ubiquitous Computing; Algorithms in Bioinformatics; Network Security; Distributed Databases; Natural Language Processing; Visualization

## CAREER OPPORTUNITIES

**A MASTER OF APPLIED COMPUTER SCIENCE DEGREE ADDS VALUE TO YOUR CAREER** and will open up new opportunities for you within the software industry and beyond. You will have the ability to connect with and contribute to the ongoing information technology advancements across all industries. Former graduates of the program have found work as:

- Mobile, Web, and Database Developers
- Software Engineers
- Analysts
- QA Experts
- Data Warehouse Architects
- Solutions Architects
- Technical Consultants
- Senior Technical Leads
- Chief Technology Officers (CTO)
- Technical Founders

## WHO SHOULD APPLY?

Whether you are an IT professional in Canada, a student coming direct from a STEM bachelor degree, or a foreign-trained IT professional, **DALHOUSIE'S MASTER OF APPLIED COMPUTER SCIENCE WILL OPEN DOORS FOR YOU THAT WOULDN'T OTHERWISE BE OPEN.**

## DON'T HAVE A COMPUTER SCIENCE BACKGROUND?

We offer students from non-Computer Science bachelor programs the opportunity to complete the Master of Applied Computer Science in 24 months. This is a great way to enter the technology industry and gain an edge over the competition.

*Revised MACS program is subject to final MPHEC approval*

[dal.ca/macs](https://dal.ca/macs)

### FACULTY OF COMPUTER SCIENCE

Dalhousie University | 6050 University Avenue  
PO Box 15000 | Halifax Nova Scotia B3H 4R2 Canada  
Tel: 902.494.6438 | [cs.admissions@dal.ca](mailto:cs.admissions@dal.ca)