

# Computing MSc Map

## Applying to and Navigating Graduate Studies

GRAD MAP FOR MSc STUDENTS 

### Why GRADUATE STUDIES in COMPUTING?

The School of Computing is actively engaged in research on a broad range of topics, with an eminent research record. Research areas include: Artificial Intelligence, Biomedical Computing, Data Analytics, Human Computer Interaction and Gaming, Security, Software Engineering, Systems and Networks and Theory of Computation. We are finding methods to make data more secure, software more reliable, and computers more intelligent.

### Why QUEEN'S?

*"The cutting-edge research, world-renowned supervisors, unparalleled social experience, and a devotion to school life [...] result in nothing short of awesome."*

*– Dr. Eric Rapos, Alumni*

The Queen's School of Computing offers a graduate program that is unique in its quality, diversity, innovation, and reach. Our faculty and students are engaged in research projects that span the spectrum of traditional computer science, while at the same time exploring areas never visited before. Some of us are discovering properties of certain computers that are radically different from the ones we have today, in the sense that a bit is the spin of an atom, or a register is a strand of DNA.



Others are building organic interfaces for humans to communicate with computers. At Queen's you will find a School reputed for its academic excellence and the wonderful atmosphere it enjoys.

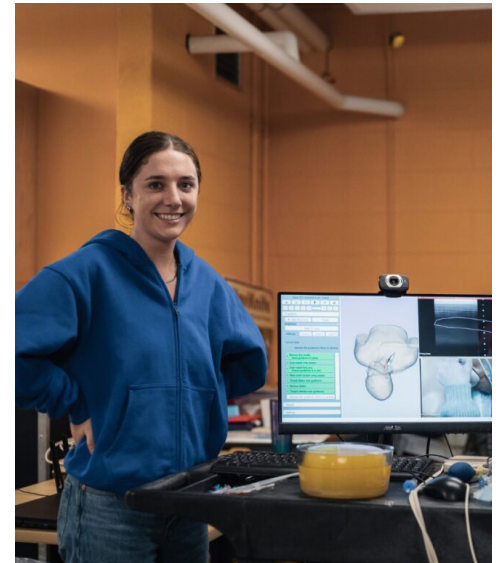
### Program STRUCTURE

- Research MSc (4-6 terms) course work and thesis, funded
- Project MSc (2-3 terms): course work and project, unfunded
- Course work MSc (2 terms)

### RESEARCH Areas

- Artificial Intelligence
- Biomedical Computing
- Data Analytics
- Human Computer Interaction and Gaming
- Security
- Software Engineering
- Systems and Networks
- Theory of Computation

We encourage you to identify an area of research interest and contact a potential supervisor before applying.



Visit the School of Computing website to read faculty profiles and learn more about faculty members' research areas. When you find a faculty member with similar research interests to yours, contact them and tell them about your interest in graduate work and related experience.

# Computing MSc Map

MASTER OF SCIENCE (MSc)



## GETTING STARTED

## INTERMEDIATE STAGE

## WRAPPING UP

### ACHIEVE YOUR ACADEMIC GOALS

- Start with key priorities like developing your relationship with your supervisor, exploring possible research problems, and doing your coursework.
- Find your way through the academic process with help from departmental and School of Graduate Studies and Postdoctoral Affairs (SGSPA) professional development workshops, the department Grad Chair, and the SGSPA website.

### MAXIMIZE RESEARCH IMPACT

- Start to think about the audiences for your research.
- If you will be continuing graduate studies, apply for NSERC and OGS funding.

### BUILD SKILLS AND EXPERIENCE

- Consider positions in student services, the SGPS, or media outlets like the Queen's Journal, CFRC, or the SGSPA Blog. Look in the AMS Clubs Directory for more ideas.
- Serve on departmental, faculty, or university committees. Talk to the Queen's Graduate Computing Society for tips on getting involved.

### ENGAGE WITH YOUR COMMUNITY

- Women are encouraged to take part in the annual Canadian Celebration of Women in Computing (CAN-CWiC).
- Explore how you can connect with your community through experiential opportunities on- and off-campus.
- Consider volunteering with different local community organizations, such as Martha's Table, or Loving Spoonful.

### LAUNCH YOUR CAREER

- Finding a career that fits starts with knowing yourself. Get help by taking a Career Services workshop or meeting with a career educator and coach.
- Start reading publications like University Affairs and the Chronicle of Higher Education. Browse non-academic labour market websites.
- Check admission test deadlines if needed for further studies.

- Complete your coursework; begin to research and write your thesis or begin working on your project.

- Attend or present at a graduate conference
- Consider participating in the 3 Minute Thesis (3MT) or GRADflix competition.
- Expand your research audience through social media such as Twitter or a blog.
- Consider being interviewed on the SGSPA radio show Grad Chat to talk about your research.

- Start keeping an ePortfolio of your skills, experiences, and competencies.
- Use a Research Assistant or Teaching Assistant position to develop your research or teaching skills.
- For help with teaching, get support from the Centre for Teaching and Learning. Enrol in SGS902 or the PUTL Certificate for more professional development in teaching and learning.

- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
- Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and Four Directions Indigenous Student Centre.
- If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

- Explore different careers of interest by using Queens Connects on LinkedIn to connect with Queen's alumni. Check out Career Cruising for more information.
- If you are considering a PhD, explore programs of interest, reach out to faculty, and apply to PhD programs and external scholarships.

- Complete and defend your thesis or present your project.

- Consider publication options for your research.
- Attend a conference or workshop, such as the International Conference on Software Engineering (ICSE), SPIE Medical Imaging conference, Conference on Human Factors in Computing Systems (CHI), or the Canadian Conference on Computational Geometry (CCCG).

- Practice articulating the skills you have been developing in settings outside the university, such as casual conversation, networking, and interviews. Get help from a Career Services workshop.
- Check out opportunities for extra training through CTL, SGSPA professional development, MITACS, or other sources to boost your skills.

- Do some targeted networking with people working in careers of interest, through QueensConnects on LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.
- Consider joining professional associations like the Association for Computing Machinery (ACM) and IEEE.

- Participate in hiring committees and attend job talks. Start focusing on areas of interest. Research organizations of interest and start putting together your CV or resume for potential positions of interest. Get help from Career Services with job searching, resumes, and interviews.

## Knowledge & Workplace Skills

A graduate degree in Computing can equip you with:

- **Knowledge and technical skills**
- **Effective communication skills** in multiple forms for diverse audiences
- **Information management:** prioritize, organize, and synthesize large amounts of information
- **Time management:** Meet deadlines and manage responsibilities despite competing demands
- **Project management:** develop ideas, gather information, analyze, critically appraise findings, draw and act on conclusions
- **Creativity and innovation**
- **Perseverance**
- **Independence** and experience as a collaborative worker
- **Awareness**, an understanding of sound **ethical practices**, **social responsibility**, responsible research, and **cultural sensitivity**
- **Professionalism** in all aspects of work, research, and interactions
- **Leadership:** initiative and vision leading people and discussion

## Career Possibilities

A Master's degree in Computing can take your career in many directions. Some of our Research MSc may continue on to a PhD. In addition our MSc students are equipped with a strong foundation for careers including:

- Biomedical Engineer/Bioinformatics specialist
- Computer Systems/Database Manager
- Management positions in public, private and non-profit organizations
- Machine Learning/AI analyst
- Systems Analyst/Operating Systems Programmer
- Systems Software Developer
- Telecommunications/Networks Engineer

Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

### How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. To make your own custom map, use the My Grad Map tool: [careers.queensu.ca/gradmaps](https://careers.queensu.ca/gradmaps).

# Graduate Studies FAQs

## How do I make the most of my time at Queen's?

Use the Grad Map to plan for success in five overlapping areas of your career and academic life. Everyone's journey is different - the ideas on the maps are just suggestions to help you explore possibilities. For more support with your professional development, take advantage of the SGSPA professional development framework and the new Professional Development Plan (PDP) process to set customized goals to help you get career ready when you graduate.

## Where can I get help?

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming environment offers the programs and services you need to be successful, both academically and personally. Check out the SGSPA website for available resources.

## What is the community like?

At Queen's, graduate students from all disciplines learn and discover in a close-knit intellectual community. You will find friends, peers and support among the graduate students enrolled in Queen's more than 130 graduate programs within 50+ departments & research centres. With the world's best scholars, prize-winning professional development opportunities, excellent funding packages and life in the affordable, historic waterfront city of Kingston, Queen's offers a wonderful environment for graduate studies. Queen's is an integral part of the Kingston community, with the campus nestled in the core of the city, only a 10-minute walk to downtown with its shopping, dining and waterfront. For more about Kingston's history and culture, see Queen's University's Discover Kingston page.

# Application FAQs

## What do I need to know to APPLY?

### ACADEMIC REQUIREMENTS

- Undergraduate degree with a concentration in Computing Science.
- Candidates with high academic standing in an undergraduate degree other than computing science, who have some computing science background may be admitted as graduate preparatory students.
- **Grade requirements:** minimum upper second class standing (B+ average).

### ADDITIONAL REQUIREMENTS

- Official transcripts from all post-secondary institutions, two academic letters of recommendation, CV and Statement of interest.
- After submitting the application for research-based or project-based MSc programs, correspond with potential supervisors.
- For non-native English speakers, meet the following English proficiency requirements: TOEFL iBT: Writing (24), Speaking (22), Reading (22), Listening (20); IELTS: 7.0 overall and in each band; PTE Academic: 65; CAEL CE: 70 overall.

### KEY DATES & DEADLINES

- **Application due:** January 15th for both September and January admissions.
- **Notification of acceptance:** Between February and June.

Before you start your application, please review the Graduate studies application process.

## What about FUNDING?

MSc students in the research stream receive minimum funding of \$21,500 per year. The funding package may consist of external graduate awards (such as NSERC, VECTOR Scholarship, OGS), graduate research fellowships, and internal fellowships. If a student receives a teaching assistantship, it serves as an additional top-up to the minimum guaranteed funding.

Apply for external funding from OGS, NSERC, and other sources. Queen's will automatically issue a one time \$5,000 award to incoming Masters students who have won federal government tri-council awards. For more information, see the School of Graduate Studies and Postdoctoral Affairs information on awards and scholarships.



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