Why GRADUATE STUDIES in COMPUTING?

The School of Computing is active in research on a broad range of topics, with a strong research record. We are finding methods to make data more secure, software more reliable, and computers more intelligent.

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

– Eric Rapos, PhD student

Why QUEEN’S?

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

PhD (4 years): Course work, topic proposal, comprehensive exam, research, thesis writing, thesis defence.

RESEARCH Areas

- Artificial Intelligence
- Biomedical Computing
- Data Analytics
- Databases and Cloud Computing
- Data Mining
- Game Development
- Human Computer Interaction
- Mobile Computer Networking
- Software
- Theory

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 him/her and tell them about your interest in graduate work and related experience.
2020-2021
Computing PhD Map

DOCTOR OF PHILOSOPHY (PHD)

YEAR I

ACHIEVE YOUR ACADEMIC GOALS
- Key priorities include forming your committee, coursework, field exams, and language exam.
- Meet early with your supervisor to set expectations and discuss roles, responsibilities, program requirements, resources, research/occupational goals, timelines, and any required accommodation plans.
- Look to Student Academic Success Services for a variety of supports.
- Prepare your topical proposal.

MAXIMIZE RESEARCH IMPACT
- Think about audiences for your research.
- Complete CORE online module on research ethics if doing research with living people or sensitive topics.
- Apply to NSERC, OGS, and other funding.
- Attend conferences in your field. Hundreds of conferences exist in Computing.

BUILD SKILLS AND EXPERIENCE
- Serve on departmental, faculty or university committees. Talk to the Queen's Graduate Computing Society about getting involved.
- Consider positions in student services, the SGS, or media outlets like the Queen's Journal, CFRL, and the SGS Blog. Look in the AMS Clubs Directory.
- Use a Teaching Assistant or Research Assistant position to develop your skills and experience.

ENGAGE WITH YOUR COMMUNITY
- Women are encouraged to take part in the annual Canadian Celebration of Women in Computing.
- Consider volunteering with different local community organizations, such as Martha's Table, or Loving Spoonful.
- Enjoy a hot beverage on Tuesday and Thursday coffee breaks with faculty and peers.

LAUNCH YOUR CAREER
- Finding career fit starts with knowing yourself. Take a Career Services workshop or meet with a career counsellor for help. Check out books like So What Are You Going to Do With That? for advice on various career options.
- Start reading publications like University Affairs and the Chronicle of Higher Education. Browse non-academic labour market websites.
- Stay on the lookout for special events like School of Graduate Studies Career Week to explore your career pathways.

YEAR II

YEAR III

YEAR IV

& TRANSITIONING

- Write and defend your thesis proposal.
- Embark on your substantive research.
- Set up regular meetings with your supervisor to discuss progress and obstacles to timely completion.
- Find your way through the academic process with the help of Expanding Horizons and the SGS Habitat.
- Seek experiential/professional development opportunities.

- Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the SGS writing camps, such as Dissertation on the Lake.
- Use conference presentations to create, discuss, and explore ways to disseminate research findings. Learn from the Expanding Horizons publishing workshop.
- Begin discussion of potential thesis defence examiners.

- Plan date of thesis submission for examination.
- Present your research to graduate students and faculty or at conferences and work with supervisor to prepare for defence.
- Scrutinize submission and examination guidelines.
- Secure necessary oral defence accommodations.
- Discuss career pathways, references letters, and publication options with your supervisor.

- Continue to present at conferences.
- Consider participating in the 1 Minute Thesis (1MT) competition.
- Contact the Queen's Media Centre for guidance on speaking to news outlets about your work.
- List yourself on the Arts and Science University Research website.

- Continue to attend conferences and connect with scholars in your field and with community partners.
- Continue public outreach through social media and the Queen's Media Centre.
- Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.

- Practice articulating the skills you have developed in settings outside the university, such as casual conversation, networking, and interviews. Get help from a Career Services workshop.
- Take advantage of the state-of-the-art research facilities, which feature NMR, mass spectrometry, X-ray diffraction, a laser lab, and more.

- Do some targeted networking with people working in careers of interest, through Queens Connects on LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Check out Career Services’ networking workshops.

- Consider joining professional associations like the Association for Computing Machinery (ACM), IEEE.
- Join groups on LinkedIn reflecting specific careers or topics of interest.

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WHAT WILL I LEARN?
- 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, research and cultural sensitivity
  - Professionalism in all aspects of work, research, and interactions
  - Leadership: initiative and vision leading people and discussion

WHERE CAN I GO?
- A PhD in Computing can take your career in many directions. In Canada, less than 40% of all PhDs will work in post-secondary education – the majority will work in industry, government, or non-profits.
- Management positions in public, private and non-profit organizations
- Systems Software Developer
- Telecommunications/Networks Engineer
- Biomedical Engineer/Bioinformatics specialist
- Industrial Analyst
- Computer Systems/Database Manager
- Operations Research Specialist
- Systems Analyst/Operating Systems Programmer
- Electronic Data Processing Auditor
- Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

The coronavirus pandemic may impact how some activities are delivered in 2020-2021. Please check directly with the host of any activity on the map for the latest information.

* This map is intended to provide suggestions for activities and careers, but everyone's abilities, experiences, and constraints are different. Build your own Grad Map using our online My Grad Map tool.

Visit careers.queensu.ca/gradmaps for the online version with links!
Graduate Studies FAQs

Application FAQs

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS
- MSc in Computing Science or a closely-related field.
- Grade requirements: minimum first class standing (A average).

ADDITIONAL REQUIREMENTS
- Statement of research interests.
- If English is not a native language, prospective students must meet the English language proficiency requirements in writing, speaking, reading, and listening. The School of Graduate Studies requires the following minimum scores: TOEFL (paper-based): 550, (2) TOEFL iBT: Writing (24/30); Speaking (22/30); Reading (22/30); Listening (20/30), for a total of 88/120 (applicants must have the minimum score in each test as well as the minimum overall score), or (3) IELTS: 7.0 (academic module overall band score), or (4) PTE Academics: 65.

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?

The minimum funding guarantee for Computing PhD students is $21,500 per year, throughout years 1–4. The funding package may be comprised of graduate awards and teaching assistantships.

We encourage all students to apply for external funding from OGS, NSERC and other sources. Queen's will automatically issue a one time $10,000 award to Doctoral students who have won federal government tri-council awards. For more information, see the School of Graduate Studies' information on awards and scholarships.

How do I use this map?

Whether you are considering or have embarked on graduate studies at Queen's, use this map to plan for success in five overlapping areas of your career and academic life. The map helps you explore possibilities, set goals and track your individual accomplishments. Everyone's journey is different – the guide offers options for finding your way at Queen's and setting the foundation for your future. To make your own customized map, use the online My Grad Map tool.

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 SGS Habitat 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.