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](http://www.queensu.ca/sgs) 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.
2021-2022
Computing PhD Map*

DOCTOR OF PHILOSOPHY (PHD)

YEARS I
• 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.
• 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 website.
• Seek experiential/professional development opportunities.

YEARS II
• 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.
• Review submission and examination guidelines.
• Secure necessary oral defence accommodations.
• Discuss career pathways, references, letters, and publication options with your supervisor.

YEARS III
• Attent or present at a graduate conference such as the Queen’s Computing Student Research Conference.
• Explore your research through social media such as Twitter or a blog.
• Apply for the Graduate Dean’s Travel Grant for Doctoral Field Research.
• Consider volunteering with different local community organizations, such as Loving Spoonful or the AMS Clubs Directory.
• Use a Teaching Assistant or Research Assistant position to develop your skills and experience.
• Start building your teaching portfolio including student evaluations, and seek mentorship.
• Start a meeting with your department.
• 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, CFRC, and the SGS Blog. Look in the AMS Clubs Directory.
• Attend or present at a graduate conference such as the Queen’s Computing Student Research Conference.
• Explore your research through social media such as Twitter or a blog.
• Apply for the Graduate Dean’s Travel Grant for Doctoral Field Research.

YEARS IV & TRANSITIONING
• Continue to present at conferences.
• Consider participating in the 3 Minute Thesis (3MT) 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.
• Think about audiences for your research.
• Complete CORE online module on research ethics if required, resources, research/occupational goals, part-time, and any required accommodation plans.
• Consider volunteering with different local community organizations, such as Loving Spoonful.
• Enjoy a hot beverage on Tuesday and Thursday coffee breaks with faculty and peers.
• Participate in your graduate and professional student community through activities such as graduate student outreach programs, organizing conferences, and research groups.
• Consider signing up for the PhD-Community Initiative program run by the SGS.
• Why Are You Going to Do With That? for advice on various career options.
• Take a Career Services workshop or meet with a career counselor for help. Check out books like Networking: Managing your Career.
• Stay on the lookout for special events like School of Graduate Studies Career Week to explore your career pathways.
• Find a career fit starts with knowing yourself. Take a Career Services workshop or meet with a career counselor for help. Check out books like 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.
• Start building your teaching portfolio including student evaluations, and seeking mentorship.
• Explore different careers of interest, through various career options.
• For help with teaching, get support from the Teaching Assistant or Research Assistant position to develop your skills and experience.
• Investigate internships from MITACS and other sources.
• Secure necessary oral defence accommodations.
• Discuss career pathways, references, letters, and publication options with your supervisor.

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.
• Participate in your graduate and professional student community through activities such as graduate student outreach programs, organizing conferences, and research groups.
• Consider signing up for the PhD-Community Initiative program run by the SGS.
• 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) and the Queen’s Alumni Association professional associations, and at conferences. Check out Career Services’ networking workshops.
• Founded in 2006, the Queen’s Alumni Association. Find your way through the academic process with the help of Expanding Horizons and the SGS website.
• Seek experiential/professional development opportunities.

BUILD SKILLS & EXPERIENCE
• Hon skills for non-academic employment by continuing involvement on committees and in the community.
• Start keeping an ePortfolio of your skills, experiences, and competencies.
• For help with teaching, get support from the Centre for Teaching and Learning. Enroll in EDUS902 or the PUT Certificate for more professional development in teaching and learning.
• Begin teaching as a departmental Teaching Fellow.
• Investigate internships from MITACS and other sources.
• Secure necessary oral defence accommodations.
• Discuss career pathways, references, letters, and publication options with your supervisor.
• Consider signing up for the PhD-Community Initiative program run by the SGS.
• How 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, responsible research and cultural sensitivity.
• Professionalism in all aspects of work, research, and interactions.
• Leadership: initiative and vision leading people and discussion.

WHAT WILL I LEARN?

WHERE CAN I GO?

*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!
**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 following minimum scores are required: (1) TOEFL iBT: Writing (24/30); Speaking (22/30); Reading (22/30); Listening (20/30). Applicants must have the minimum score in each test as well as the minimum overall score, or (2) IELTS: 7.0 (academic module overall band score and a 7.0 for each test band), or (3) PTE Academics: 65, or (4) CAEL CE - 70 (minimum overall score).

**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 $22,000 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](#).