Computing PhD Map

Applying to and Navigating Graduate Studies

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 them and tell them about your interest in graduate work and related experience.
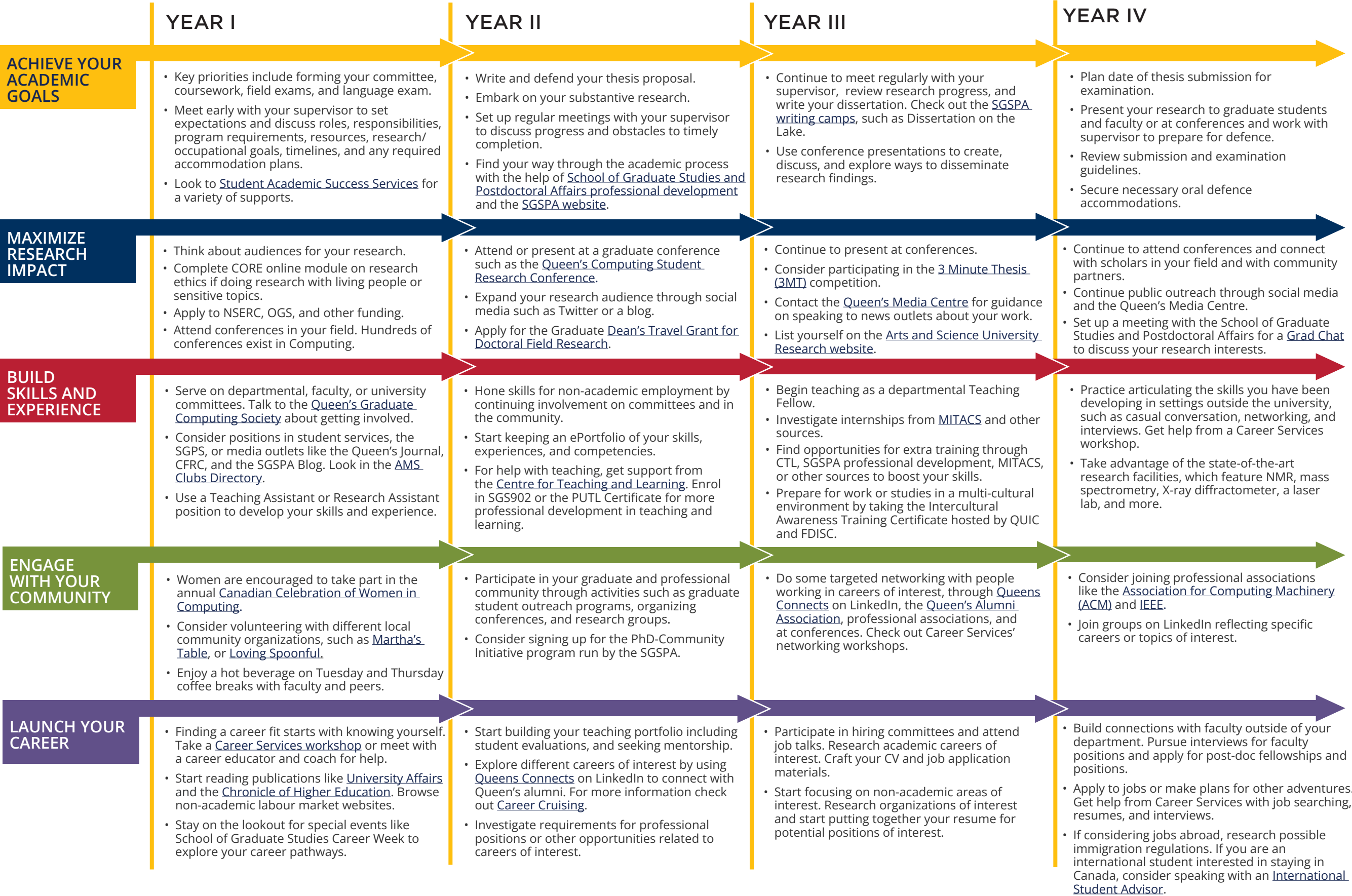

Queen's UNIVERSITY

GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS

2023-2024
Computing PhD Map

DOCTOR OF PHILOSOPHY

Queen's UNIVERSITY

	YEAR I	YEAR II	YEAR III	YEAR IV
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.	• 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 School of Graduate Studies and Postdoctoral Affairs professional development and the SGSPA website.	• Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the SGSPA writing camps, such as Dissertation on the Lake. • Use conference presentations to create, discuss, and explore ways to disseminate research findings.	• 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.
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.	• Attend or present at a graduate conference such as the Queen's Computing Student Research Conference. • Expand your research audience through social media such as Twitter or a blog. • Apply for the Graduate Dean's Travel Grant for Doctoral Field Research.	• 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.	• 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 and Postdoctoral Affairs for a Grad Chat to discuss your research interests.
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 SGPS, or media outlets like the Queen's Journal, CFRC, and the SGSPA Blog. Look in the AMS Clubs Directory. • Use a Teaching Assistant or Research Assistant position to develop your skills and experience.	• Hone 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. Enrol in SGS902 or the PUTL Certificate for more professional development in teaching and learning.	• Begin teaching as a departmental Teaching Fellow. • Investigate internships from MITACS and other sources. • Find opportunities for extra training through CTL, SGSPA professional development, MITACS, or other sources to boost your skills. • Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and FDISC.	• 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. • Take advantage of the state-of-the-art research facilities, which feature NMR, mass spectrometry, X-ray diffractometer, a laser lab, and more.
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 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 SGSPA.	• 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 IEEE. • Join groups on LinkedIn reflecting specific careers or topics of interest.
LAUNCH YOUR CAREER	• Finding a career fit starts with knowing yourself. Take a Career Services workshop or meet with a career educator and coach for help. • 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.	• Start building your teaching portfolio including student evaluations, and seeking mentorship. • Explore different careers of interest by using Queens Connects on LinkedIn to connect with Queen's alumni. For more information check out Career Cruising. • Investigate requirements for professional positions or other opportunities related to careers of interest.	• Participate in hiring committees and attend job talks. Research academic careers of interest. Craft your CV and job application materials. • Start focusing on non-academic areas of interest. Research organizations of interest and start putting together your resume for potential positions of interest.	• Build connections with faculty outside of your department. Pursue interviews for faculty positions and apply for post-doc fellowships and positions. • Apply to jobs or make plans for other adventures. Get help from Career Services with job searching, resumes, and interviews. • If considering jobs abroad, research possible immigration regulations. If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

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**, responsible 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.

- Biomedical Engineer/Bioinformatics specialist
- Computer Systems/Database Manager
- Electronic Data Processing Auditor
- Industrial Analyst
- Management positions in public, private and non-profit organizations
- Operations Research Specialist
- 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.

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 Individual Development Plan (IDP) 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
- 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 $23,000 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 and Postdoctoral Affairs' information on awards and scholarships.

Queen's UNIVERSITY COMPUTING

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