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 $10,000 award to incoming PhD students who have won federal government tri-council awards. For more information, see the School of Graduate Studies' information on available resources.

Why GRADUATE STUDIES in COMPUTING?

The School of Computing is active in research on a broad range of topics, with an 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 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.
### Compute Career Impact: Research Maximizing Community

- **YEAR 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.

- **YEAR II**
  - 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 the Queens Graduate Computing Society.
  - Seek experiential/professional development opportunities.

- **YEAR III**
  - Continue to meet regularly with your supervisor, review research progress, and write your dissertation.
  - Check out the SGS Dissertation Boot Camp or 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.

- **YEAR IV & TRANSITIONING**
  - 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.

### Build Skills and Experience

- **YEAR I**
  - Think about audiences for your research.
  - Complete ROMEO 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.

- **YEAR II**
  - Attend or present at a graduate conference such as the Queen’s Graduate Computing Society 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.

- **YEAR III**
  - 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.

- **YEAR IV & TRANSITIONING**
  - 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.

### Engage With Your Community

- **YEAR I**
  - Women are encouraged to take part in the annual Canadian Celebration of Women in Computing.
  - Consider volunteering with different local community organizations, such as Martin’s Table or Loving Spoonful.
  - Enjoy a hot beverage on Tuesday and Thursday.

- **YEAR II**
  - 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. Enroll in SGS3901 or the PTL Certificate for more professional development in teaching and learning.

- **YEAR III**
  - Begin teaching as a departmental Teaching Fellow.
  - Find opportunities for extra training through CTL, Expanding Horizons, Mitacs, or other sources to boost your skills. Investigate internships from Mitacs and other sources.
  - Prepare for work or studies in a multi-cultural environment by taking OQUIC and Four Directions Aboriginal Student Centres Training Certificate.

- **YEAR IV & TRANSITIONING**
  - Practice articulating the skills you have been developing in settings outside the university, such as casual conversation, networking, and interviews.
  - Get help from Career Services.

### Launch Your Career

- **YEAR I**
  - Finding career fit starts with knowing yourself. Take a Career Services career planning workshop or meet with a career counsellor 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.
  - Stay on the lookout for special events like Graduate Student Career Forum to explore your career pathways.

- **YEAR II**
  - Start building your teaching portfolio including student evaluations, and seeking mentorship.
  - Explore different careers of interest by reading job advertisements, exploring career and jobs websites, and networking with Queen’s alumni or find alumni in various careers through "Ask an Alum". For more information check out Career Counselling.
  - Investigate requirements for professional positions or other opportunities related to careers of interest.

- **YEAR III**
  - Participate in hiring committees and attend job talks. Research academic careers of interest. Write 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.

- **YEAR IV & TRANSITIONING**
  - Build connections with faculty outside of your department. Pursue internships 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, or 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 from the International Student Office.

### WHAT WILL I LEARN?

A graduate degree in Computing can equip you with valuable and versatile skills, such as:

- **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.

- **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**

A career in Computing offers a variety of opportunities in many different fields, such as:

- **Electronic Data Processing Auditor**
- **Programmer**
- **Biomedical Engineer/Bioinformatics**
- **Systems Software Developer**
- **Environmental Engineer**
- **Information Technology Consultant**
- **Network Administrator**
- **Web Developer**
- **Game Developer**
- **Art Director**
- **Project Manager**
- **Documentation Specialist**
- **Technical Writer**
- **Database Administrator**
- **Software Architect**
- **Data Analyst**
- **Product Manager**
- **Technical Support Specialist**
- **Network Engineer**
- **Information Technology Consultant**
- **Network Administrator**
- **Web Developer**
- **Game Developer**
- **Art Director**
- **Project Manager**
- **Documentation Specialist**
- **Technical Writer**
- **Database Administrator**
- **Software Architect**
- **Data Analyst**
- **Product Manager**

### Graduation Maps

- **PhD MAP**

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

* 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.