Welcome!

The School of Computing at Queen's University offers undergraduate programs of exceptional quality, diversity, innovation, and reach. This is my invitation to you to come to the Queen's School of Computing for an undergraduate education that is second to none.

As you know, the Queen's School of Computing provides a great variety of innovative undergraduate programs. In addition to the School's flagship Computer Science program, you can choose from a diversity of specialized and multidisciplinary programs, including Biomedical Computing, Cognitive Science, Software Design, and Computing and the Creative Arts. Several unique courses, such as Computer Animation, Computer-Assisted Surgery, and Game Design, enrich our offerings.

In upper years, undergraduates in the Queen's School of Computing have several opportunities to undertake an industrial internship, as well as engage in cutting edge research with our world class researchers.

You may also be interested to know that our classes are small, that our doors are always open, and that the School fosters a warm, supportive, and caring environment.

It is a wonderful and exciting time to be a computer scientist. You live in the age of information. Computing is changing the world in which we live in profound ways, from medicine to business to entertainment, and everything else in between. As well, the computational paradigm is helping answer fundamental questions in the natural and physical sciences. And Computing is barely 75 years of age. Imagine what the other fields of knowledge were like when they were this young. The future is bright for our discipline.

I invite you to join us here in the School of Computing at Queen's University. You will find a School reputed for its academic excellence and the wonderful atmosphere it enjoys. I look forward to seeing you in Kingston.

Best wishes,

Selm G. Akl,
Professor and Director,
School of Computing,
Queen's University,
Kingston, Ontario K7L 3N6
At Queen's, you will find yourself immersed in a world of infinite possibilities. With over 400 clubs to choose from, we are sure you will find the right fit for you. Whether you like going windsurfing on the waterfront, or enjoying a cup of coffee in Kingston's downtown core, we are confident that you’ll soon call it home.

As a Queen’s Computing student, you become part of the School's student-run government; the Computing Students Association.

Members are invited to join exciting events such as the weekly Coffee with Professors, movie nights, semi-formals, and the end of year banquet.

COMPSA also offers support for all students through private tutoring, a buddy program, and student-run tutorials to encourage students to achieve their potential - student success is the number one priority.

::WISC:: Women in the School of Computing

The Women in the School of Computing group provides informal support and mentoring for our female undergraduate and graduate students and faculty. The School’s Wendy Powley founded WISC. Wendy and WISC next set an even loftier goal, founding the successful Ontario Celebration of Women in Computing (ONCWIC) conference, which is held annually in various locations across Ontario.
Computer Science at Queen’s explores the science and the principles that underlie all of computing. It provides broad training with the opportunity to focus on specific areas such as artificial intelligence, human-computer interaction, computing theory, and programming languages. From software developer to systems analyst, information architect to database administrator, graduates are well-prepared for any number of careers in the technology industry and beyond.

*Queen’s Concurrent Education programs* allow students to work towards completing two degrees at the same time. The Program offers students the opportunity of working towards completing a Bachelor of Computing (Honours) and a Bachelor of Education.

Computing students also have the option of completing a *Dual Degree* plan. Queen’s allows students to be simultaneously registered in degree plans in two faculties (a dual degree), or to obtain two degrees in the Faculty of Arts and Science, one after the other (a *Second Degree*).

**Prof Profile:** Ahmed Hassan

Dr. Hassan holds the NSERC RIM Industrial Research Chair in Software Engineering for Ultra Large Scale Systems and is the leader of Canada’s only ULSS software research laboratory. He is a recognized world leader in the use of software repositories to support quality engineering efforts of complex software systems and a global pioneer in ULSS systems. Dr. Hassan is the patent author of key aspects of RIM BlackBerry technology and the founder of the International Conference in Mining Software Repositories.
Parvin Mousavi is an expert in signal and image processing, machine learning, and pattern recognition for biological data. She leads several national and international multidisciplinary projects and has been involved in the development of award-winning technology. Her research develops innovative methods to support understanding of complex biological processes using state-of-the-art imaging techniques and analysis, as well as genetic data and biological information, to formulate more accurate models for disease progression, diagnosis, and response to therapy.
Today, the most significant unanswered question in science is how human beings are able to be intelligent and aware. Cognitive Scientists are interested in learning about the processes of the mind – how ideas are formed, activated and changed in the brain. Our Cognitive Science program was the first in Canada. It is an exciting scientific field that draws from several disciplines such as: neuroscience, linguistics, philosophy, psychology, and artificial intelligence.

Over 60% of the graduates from the Queen’s Cognitive Science Program have gone on to post graduate studies.

What we strive to learn:
- Human memory, learning, perception, problem solving
- Structure and function of the human brain and how it enables intelligent behaviour
- How to characterize language, and how language use relates to human intelligence
- How to model cognition with computers and develop intelligent computers and robots
- What it means to possess consciousness and whether a machine might ever possess consciousness

Prof Profile: Roger Browse

Dr. Browse carries out research in the area of human-machine interaction and virtual reality. His primary interest is in quantifying the performance improvements that accompany the introduction of advanced graphic display capabilities. As the driving forces behind the first Cognitive Science program in Canada, he and Dr. Brian Butler use their vast and diverse knowledge to engage students throughout this innovative program.
Computing and the Creative Arts is a new and exciting field. As many of us log online and connect instantly through social media, the world of digital technology is on the rise. For students interested in creative design and computing technology, these two complementary disciplines are combined and offer students the opportunity to direct, develop and use cutting-edge computer software programs for music, art, drama, and film & media.

This multidisciplinary program opens doors into video game and entertainment industries, multimedia design, production along with traditional computer industries as they increasingly adopt multimedia user interface design. Companies like Apple and Electronic Arts have always focused their hiring on electronic artists, as they often happen to be the most well-rounded coders as well!

Queen’s has the first and only boutique laboratory in the world; recently featured on Discovery Channel

As Professor and the Director of the Human Media Lab, Roel is one of the world’s experts in the interaction between humans and technology. He is the pioneer of two technology paradigms: Attentive User Interfaces (AUI) and Organic User Interfaces (OUI) both of which were featured in media across the globe, from Good Morning America to Scientific American.

Sidneyeve Matrix is an Associate Professor in the Department of Media and Film at Queen’s. As a professor of digital media trends and a professional speaker, she is a regular digital culture trends analyst for national media outlets such as CBC, Canadian Press, CTV Globe Media and countless others. Her celebrated classes examine subjects as diverse as digital culture and gaming, advertising and PR, integrated communications, and more.
A synthesis of courses drawn from computing, engineering, and commerce, the Software Design curriculum includes a range of courses designed to offer students the latest in software techniques and methods.

"Software is the secret elixir that transforms boring pieces of computer hardware into interactive assistants capable of real magic." — Dr. James Cordy

Software Design is the study of the modern methods, technologies, languages, principles and practices that make it possible to conceive, create, validate, and evolve complex software systems. Based solidly on the mathematics of formal methods, Software Design is for those destined to carry the capabilities of computer systems beyond current limits and into the future. Graduates become the software architects, graphics and game developers, designers, and entrepreneurs that drive the software revolution.

A key component of Software Design, Game Design is a creative activity, requiring inspiration to spark new ideas, collaboration among the many types of professionals required to create and evaluate a game idea. Our Game Design courses prepare you for careers and research work in this exciting area.

PROF PROFILE: Nick Graham

Dr. Graham is Professor and director of the EQUIS collaborative gaming technology lab. Dr. Graham participates in two national research initiatives: NCE Graphics, Animation and New Media (GRAND) and the NSERC Strategic Network Surfnet. He works on exercise video games, and together with Holland Bloorview Hospital has created a game allowing children with cerebral palsy to play and exercise together from their homes. He also works on simulation-based training games together with the Canadian army simulation centre.
Computing and Mathematics

The School of Computing and the Department of Mathematics and Statistics have submitted a proposal for a Computing and Mathematics Specialization plan. The proposed plan is intended for students aiming at graduate work in the theory of Computing or in an applied area of Computing that requires significant mathematical expertise, such as communications, optimization, security, or biomedical computing. The plan will give students a potent combination of Computer Science and Mathematics as it relates to research in Computing. In addition to core courses in both Computing and Mathematics, students will have the opportunity to learn about:

- Communications and Coding
- Data Analysis
- Theory in Computer Science
- Discrete Math and Optimization
- Biomathematics and Biomedical Computing

The Queen’s Student: You

Computing thrives because of interested, intelligent, engaged students like you. To learn more about our programs and admission requirements, visit: www.cs.queensu.ca/applicants
Education in action

Queen’s internship option, unlike other co-op programs, avoids interrupting your studies with several short work terms.

Instead, it offers 12- to 16-month industrial placements after second or third year. These longer work terms result in employers who are willing to invest in training and supervision in order to prepare students for larger work projects.


Our interns regularly participate in significant projects with many of Canada’s leading high-tech companies, making a notable contribution, and often returning for permanent employment upon graduation.

You can find our students at:

IBM, Microsoft, EMC², TD, EA, OpenDNS, Deloitte, Celestica, amazon.com, Leica, Syncrude, AUSTRIAN RESEARCH CENTERS SEIBERSDORF, BlackBerry, Calgary Scientific, Google, AMD, Apple.
Cover feature: The Human Media Lab. Queen's first “boutique” laboratory designed by award-winning global designer Karim Rashid

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