Computers can play chess – could they one day diagnose illnesses or write symphonies? These are questions explored in our Cognitive Science program. Cognitive scientists are probing the concept of intelligence in humans and animals – trying, indeed, to define it – in order to program intelligent computers that are not only capable of performing complex tasks, but of thinking complex thoughts. Drawing on psychology, philosophy, linguistics, neuroscience, and computing, this ambitious, far-ranging program explores the science of the mind and thought.

**Sample Year by Year**

**1ST YEAR**
- CISC 101/3.0
- CISC 124/3.0
- COGS 100/3.0
- 6.0 units from (CISC 102/3.0 and MATH 112/3.0) or (CISC 102/3.0 and MATH 111/6.0) or MATH 110/6.0
- PSYC 100/6.0 or LING 100/6.0 or (PHIL 111/6.0 or PHIL 115/6.0)
- 1.0 units of electives

**2ND YEAR**
- COGS 201/3.0
- CISC 203/3.0
- CISC 204/3.0
- CISC 221/3.0
- CISC 235/3.0
- CISC 269/3.0
- STAT 263/3.0 or 3.0 units from STAT_Options
- PSYC 100/6.0 or LING 100/6.0 or (PHIL 111/6.0 or PHIL 115/6.0)
- 3.0 units of electives

**3RD YEAR**
- CISC 352/3.0
- 18.0 units of COGS Options (Linguistics, Philosophy, Psychology)
- 6.0 units of electives

**4TH YEAR**
- CISC 453/3.0
- COGS 400/3.0 or CISC 452/3.0
- CISC 497/3.0
- COGS 499/3.0 or CISC 500/6.0
- 12.0 units of COGS Options (Linguistics, Philosophy, Psychology)
- 6.0 units of electives

Note that degree requirements are revised regularly. The most current requirements, including course lists and options, are found in the Academic Calendar at: [QUartsci.com/academic-calendar](http://QUartsci.com/academic-calendar)
COGNITIVE SCIENCE SPECIALIZATION MAP

1ST YEAR

GET THE COURSES YOU NEED
In first year you will have the chance to explore the foundations of Computing along with some electives.

GET RELEVANT EXPERIENCE
Join teams or clubs on campus such as the Mostly Autonomous Sailboat Team (MAST). Participate in Open Source Development projects. Join the Queen's ACM Programming team. See the AMS Clubs Directory or the Queen's Get Involved page for more ideas.

GET CONNECTED WITH THE COMMUNITY
Volunteer on or off campus with different community organizations such as Women in the School of Computing Group. Offer your services to a non-profit organization. Organize after school programming or robotics clubs in the local elementary or secondary schools.

GET THINKING GLOBALY
Prepare for work or studies in a multi-cultural environment by taking QUC’s Intercultural Competency Certificate, and research possible immigration regulations.

GET READY FOR LIFE AFTER GRADUATION
Grapple with program decisions? Go to Majors Night or get some help wondering about career options from Career Services. Build your transferable skills in time management, organization, writing and more with Student Academic Success Services.

2ND YEAR

START going deeper into the discipline of Cognitive Science, while considering a certificate such as Media Studies. Attend Degree + in the Fall term to learn more about Certificates and Internship options.

GET RELEVANT EXPERIENCE
Talk to the School and their faculty about research opportunities through Undergraduate Summer Research Assistantships (NSERC-CUISA).

GET CONNECTED WITH THE COMMUNITY
Get involved with the Computing Students Association (COMPSA). Consider volunteering with initiatives such as high school programming competitions, Hour of Code, or local FIRST Robotic teams. Consider entrepreneurial opportunities via programs like the Queen’s Innovation Connector Summer Initiative (QICSI).

GET THINKING GLOBALY
Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a third year exchange through the International Programs Office.

GET READY FOR LIFE AFTER GRADUATION
Explore careers of interest by reading books in the Career Services Information Area, as such as Careers in High Tech. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn.

3RD YEAR

A chance to start grouping courses in areas of interest, or to keep it more general and explore many areas of Cognitive Science. Meet with an Academic Advisor to make sure you are on track and have planned out your courses for next year — for some ideas, see the back page.

GET RELEVANT EXPERIENCE
Stay during the summer as an assistant to a faculty member. Consider applying to the 12-16 month Queen's Undergraduate Internship Program through Career Services. Consult the School’s FAQ and consider applying.

GET CONNECTED WITH THE COMMUNITY
Connect with professors at events or workshops hosted by the School, COMPSA and WISC. Connect with alumni by joining the LinkedIn group Queen’s Connects. Attend conferences like the Canadian Celebration of Women in Computing (CANCWIC).

GET THINKING GLOBALY
Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.

GET READY FOR LIFE AFTER GRADUATION
Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests (like the MCAT or GMAT) and get help thinking about Grad School from Career Services.

4TH OR FINAL YEAR

In fourth year you will have the chance to participate in research-based courses that can lead to Graduate School or your future career path. Make sure to finish up all your courses for your major and your optional certificate(s).

GET RELEVANT EXPERIENCE
Investigate requirements for full-time jobs or other opportunities related to careers of interest. Assess what experience you’re lacking and fill in gaps with volunteering, clubs, or internships — check out the Career Services skills workshop for help.

GET CONNECTED WITH THE COMMUNITY
Consider joining professional associations like Canadian Information Processing Society, IEEE Computer Society, and the Association for Computing Machinery (ACM).

GET THINKING GLOBALY
International students interested in staying in Canada can speak with an International Student Advisor.

GET READY FOR LIFE AFTER GRADUATION
Apply to jobs or future education, or make plans for other adventures. Get help from Career Services with job searching, resumes, interviews, Grad School applications, or other decisions.

What will I learn?
A degree in Computing can equip you with valuable and versatile skills, such as:
- Ability to design, develop and maintain software systems
- Oral and written communication to summarize complex ideas and present data in visual formats
- Ability to model and solve a diverse range of problems
- Critical thinking and systematic problem-solving approaches
- Proficiency in mathematics and logical computational thinking
- Resource and time management
- Project management

Where can I go?
A degree in Computing can take your career in many directions. Many students choose to continue their academic inquiry with a Master’s. Our students are equipped with a strong foundation for careers in:
- 3D animator
- Biomedical computing
- Biotechnician
- Computer programmer
- Cryptographer
- Database administrator
- Game development/design
- Graphic artist
- Information architect
- Robotics
- Software architect
- Software developer
- Software tester
- Sound designer
- Systems analyst
- Web developer

Taking time to explore career options, build experience and network can help you have a smooth transition to the world of work after graduation.