SOFTWARE DESIGN
Specialization, Bachelor of Computing (Honours) degree PLAN

Sample Year by Year

1ST YEAR
- CISC 121/3.0
- CISC 124/3.0
- 6.0 units from (CISC 102/3.0 and MATH 112/3.0) or (CISC 102/3.0 and MATH 111/4.0) or MATH 110/6.0
- 6.0 units from MATH 120/6.0, MATH 121/6.0, or (MATH 123/3.0 and MATH 124/3.0)
- 12.0 units of electives

2ND YEAR
- STAT 263/3.0 or 3.0 units from STAT_Options
- CISC 203/3.0
- CISC 204/3.0
- CISC 220/3.0
- CISC 221/3.0
- CISC 222/3.0
- CISC 235/3.0
- CISC 260/3.0
- 6.0 units of SODE_Options (Game Development or Software Development)

3RD YEAR
- CISC 324/3.0
- CISC 325/3.0
- CISC 327/3.0
- CISC 497/3.0
- 21.0 units of SODE_Options

4TH YEAR
- CISC 423/3.0
- CISC 422/3.0
- CISC 498/3.0

Note that degree requirements are revised regularly. The most current requirements, including course lists and options, are found in the Academic Calendar at: QUarts.com/academic-calendar

SOFTWARE DESIGN
SODE-P-BCH Specialization (Computing) Bachelor of Computing (Honours)

The School of Computing’s Software Design program is for those destined to push the capabilities of computer systems beyond their current limits. Mentored in the art and science of computer software architecture, analysis, and evolution by experts in Ultra-Large Scale Software Systems and Gaming research, our graduates become the software architects, graphics and game developers, designers and entrepreneurs who drive the software revolution.

1 TOP REASONS to study COMPUTING
1. Computing is one of the top degrees for career opportunities in North America.
2. Learn from outstanding professors who are internationally recognized experts and committed educators.
3. Gain the skills and theoretical knowledge you’ll need to excel as a computer scientist.
4. Take courses which reflect the sweeping uses of computing in all aspects of modern life.
5. Test the waters and explore your passions outside of computing while still immersed in our diverse multidisciplinary offerings.

ALUMNI JOBS
- 9% of alumni work in PHARMACEUTICALS
- 15% of alumni work in INSURANCE
- 18% of alumni work in BANKING & INVESTMENT
- 21% of alumni work in EDUCATION

Susan Bartlett is a Queen’s University alumna with a BSc in Software Design and a BA in English Literature. Through skills honed at Queen’s, Susan leads teams of designers, researchers, and business strategists to deliver innovative solutions at Bridgeable. She is passionate about understanding the complex interactions people have with the world around them.

Employment Relations
Entrepreneurship, Innovation and Creativity
Disability and Physical Activity
French for Professionals
Geographic Information Science
Global Action and Engagement
Indigenous Languages and Cultures
International Studies
Media Studies
Sexual and Gender Diversity
Urban Planning Studies

add a CERTIFICATE to your degree

University of Waterloo
Faculty of Arts and Science
Goodwin Hall
55 Union Street
613-533-6050
cs.queensu.ca

2018-19 thresholds
- 2.6cGPA AUTOMATIC ACCEPTANCE min B in CISC 12#
- 2.3cGPA PENDING LIST min B- in CISC 12#

*Thresholds are made on a competitive basis and are updated annually. For the latest information please visit: QUarts.com

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GET THE COURSES YOU NEED

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## SOFTWARE DESIGN SPECIALIZATION MAP

### 1ST YEAR

- **Get the Courses You Need**
  - In your first year, you will have the chance to explore the foundations of Computing along with some electives.
  - See the back page for specific courses to consider.
  - Attend Majors Night in the Winter term to learn more about Plan options.

- **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 Globally**
  - Prepare for work or studies in a multi-cultural environment by taking QUI’s Inter-cultural Competency Certificate, and research possible immigration regulations.
  - Speak to a QUIC advisor to get involved in their programs, events, and training opportunities.

- **Get Ready for Life after Graduation**
  - Grappling 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

- **1ST YEAR REVIEW**
  - Start going deeper into the discipline of Software Design, while considering a minor and/or certificate such as Media Studies. Attend Degree + in the Fall term to learn more about Certificates and Internship options.
  - Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Support Services) and the Writing Centre for some help.

- **GET THE COURSES YOU NEED**
  - Talk to the School and their faculty about research opportunities through Undergraduate Summer Research Assistantships (NSERC/USRA). 
  - Look into summer jobs by talking to the dept. or Career Services about work through SWEP or Work Study. Join the COMPSA Site Services team to develop websites. Be a COMPSA tutor.

- **GET RELEVANT EXPERIENCE**
  - 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 CONNECTED WITH THE COMMUNITY**
  - Explore careers of interest by reading books in the Career Services Information Area, such as Careers in High Tech. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn.

- **GET THINKING GLOBALLY**
  - It’s 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**
  - Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.

### 3RD YEAR

- **GET THE COURSES YOU NEED**
  - A chance to start grouping courses in areas of interest, or to keep it more general and explore many areas of Software Design. 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 (CAN-CWIC).

- **GET THINKING GLOBALLY**
  - Investigate requirements for full-time jobs or other opportunities related to careers of interest.
  - Consider joining professional associations like Canadian Information Processing Society, IEEE Computer Society, and the Association for Computing Machinery (ACM).

- **GET READY FOR LIFE AFTER GRADUATION**
  - 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.

### 4TH OR FINAL YEAR

- **1ST YEAR REVIEW**
  - Investigate requirements for full-time jobs or other opportunities related to careers of interest.
  - Consider joining professional associations like Canadian Information Processing Society, IEEE Computer Society, and the Association for Computing Machinery (ACM).

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

- **GET RELEVANT EXPERIENCE**
  - Investigate requirements for full-time jobs or other opportunities related to careers of interest.
  - Consider joining professional associations like Canadian Information Processing Society, IEEE Computer Society, and the Association for Computing Machinery (ACM).

- **GET CONNECTED WITH THE COMMUNITY**
  - Investigate requirements for full-time jobs or other opportunities related to careers of interest.
  - Consider joining professional associations like Canadian Information Processing Society, IEEE Computer Society, and the Association for Computing Machinery (ACM).

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  - Investigate requirements for full-time jobs or other opportunities related to careers of interest.
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### 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:
  - 2D 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.