CHEMISTRY

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Chemistry explores the composition, structure, and transformation of matter. Frequently called the central science, it provides the basis for studies in many other disciplines, ranging from biology to materials science, in addition to being a booming discipline of its own.

Major, Bachelor of Science (Honours) | degree PLAN

Sample Year by Year

1ST YEAR
- CHEM 112/6.0
- 3.0 units from MATH 110/6.0, MATH 111/6.0, MATH 112/3.0
- PHYS 104/6.0 or PHYS 106/6.0 or PHYS 117/6.0
- MATH 120/6.0 or MATH 121/6.0 or (MATH 123/3.0 and MATH 124/3.0)
- 3.0 units of electives and/or minor

2ND YEAR
- CHEM 213/3.0
- CHEM 214/3.0
- CHEM 215/3.0
- CHEM 221/3.0
- CHEM 222/3.0
- CHEM 224/3.0
- 12.0 units of electives and/or minor

3RD YEAR
- 12.0 units from CHEM 311/3.0, CHEM 312/3.0, CHEM 313/3.0, CHEM 321/3.0, CHEM 322/3.0, CHEM 323/3.0
- CHEM 397/6.0
- 12.0 units of electives and/or minor

4TH YEAR
- CHEM 497/6.0
- 6.0 units from CHEM 311/3.0, CHEM 312/3.0, CHEM 313/3.0, CHEM 321/3.0, CHEM 322/3.0, CHEM 323/3.0
- 3.0 units of CHEM at the 400 level
- 15.0 units of electives and/or minor

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

TOP 5 REASONS to study CHEMISTRY

1. Chemistry opens very broad career options.
2. With extensive experimental training, Chemistry studies are very hands-on and fun!
3. Queen’s Chemistry Department is a very supportive and nurturing environment; our graduating class is small and close-knit.
4. All major and specialization students conduct research in fourth year as part of their plan.
5. Queen’s Chemistry programs are accredited by the Canadian Society for Chemistry.

ALUMNI JOBS

- 10% of alumni work in Government
- 11% of alumni work in Health & Medicine
- 14% of alumni work in Research & Development
- 32% of alumni work in Education

alumni STORY

Not too long ago, Jenny Du was a student at Queen’s. Now she’s living the California lifestyle at a cool startup. As the Director of Extraction, Jenny works with a team at Apeel Sciences to use natural plant extracts to formulate edible coatings that work to extend the shelf-life of fresh produce.

10.0 thresholds

- 2.7 cGPA AUTOMATIC ACCEPTANCE min C+ in CHEM 112
- 1.9 cGPA PENDING LIST min C- in CHEM 112

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

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

Quartssci.com/certs

DEPARTMENT OF CHEMISTRY
Faculty of Arts and Science
Chernoff Hall
98 Bader Lane
613-533-2616
chem.queensu.ca
**CHEMISTRY MAJOR MAP**

**1ST YEAR**
- Get the courses you need: In first year you will have the chance to explore the foundations of Chemistry in biology, chemistry, geography and geology 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.

**2ND YEAR**
- Get relevant experience: Join clubs on campus such as Let’s Talk Science, Women in Science and Engineering or the Undergraduate Science Case Competition. Consider an intramural sports or an athletics team. Check out the Athletics and Recreation site.

**3RD YEAR**
- GET CONNECTED WITH THE COMMUNITY: Volunteer on or off-campus with community organizations such as Science Rendezvous. Consider joining an intramural sports or an athletics team. Check out the Athletics and Recreation site.
- GET THINKING GLOBALLY: Prepare for work or studies in a multi-cultural environment by taking QCIC’s Intercultural 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: Grasping with program decisions? Go to Majors Night or get some help wondering about career options. From Career Services. Attend departmental information sessions on Plan selection (March).

**4TH OR FINAL YEAR**
- What will I learn? A degree in Chemistry can equip you with valuable and versatile skills, such as:
  - Academic and technical skills to conduct research, understand scientific journal articles, trouble-shooting, clearly explain and interpret research data
  - Organizational skills to compile, organize and maintain accurate records
  - Ability to operate laboratory equipment and to employ appropriate scientific lab techniques
  - Proficiency in mathematical and logical analysis
  - Sensitivity to the health and safety of others - safe handling, storage and disposal of hazardous chemicals
  - Written and oral communication skills to prepare and present reports from research ideas and information using current technology
  - Observation and decision making skills
  - Team working in a multidisciplinary context
  - Resource and time management
  - Practical and fundamental knowledge of all sub-disciplines of chemistry

- Where can I go? A degree in Chemistry can take your career in many directions. Many students choose to continue their academic journey with a Master’s. Our students are equipped with a strong foundation for careers in:
  - Environmental research
  - Forensic science
  - Environmental sustainability
  - Materials science
  - Patent law
  - Pharmaceuticals
  - Pharmacy
  - Public health
  - Quality control
  - Sustainability design

- How can you get involved? Taking time to explore career options, build experience and network can help you make a smooth transition to the world of work after graduation.

- Consider a 1.5 - 2.5 month internship for part-time jobs, graduate studies, or other opportunities. Assess what you’re lacking and fill in gaps – check out the Career Services skills workshop for help. Consider presenting your research results at the Southern Ontario Undergraduate Student Chemistry Conference in the Spring or at Inquiry Queen’s.
- Consider presenting and publishing your work through Inquiry Queen’s.
- Consider presenting your research results at the Southern Ontario Undergraduate Student Chemistry Conference in the Spring or at Inquiry Queen’s.
- Consider joining associations like the Chemical Institute of Canada or the Association of The Chemical Profession of Ontario.
- Consider joining groups on LinkedIn reflecting specific careers or topics of interest in Chemistry.
- Consider applying to do a 12-16 month Co-op internship between your third and fourth year.
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- In 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 major and your optional minor and/or certificate(s).

- Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.
- International students interested in staying in Canada can speak with an International Student Advisor.
- Consider widening your global skills by applying to the dual MSc Queen’s - Stuttgart degree. Do your research at the University of Stuttgart in Germany.
- Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests (like the LSAT or MCAT) and get help thinking about grad school from Career Services, as well as departmental resources; start looking into graduate school scholarship applications.
- 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.

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