

# Chemistry



## Get to know CHEMISTRY

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, of course.

Located in Chernoff Hall, Queen's Department of Chemistry is regarded as one of the best in Canada for both teaching and research. Our aim is to offer a stimulating learning environment for undergraduate students, primarily through participating in engaging, practical laboratory work. In upper years, depending on your interests, you can specialize in one of the more fundamental branches of the discipline, such as analytical, inorganic, organic, physical, or theoretical chemistry. You can also choose to explore interdisciplinary applications, such as environmental, materials, biological, computational, or polymer chemistry.

Professional chemists play major roles in such diverse and important areas as the design and synthesis of pharmaceuticals and materials, the development of alternative energy sources, and the protection of the environment.



*One of the top Chemistry teaching and research departments in Canada with accreditation by the Canadian Society of Chemistry.*

## A Year to CHOOSE

We often say that our students are like explorers. In Arts and Science, your first year is all about making choices and exploring new paths. Whether you are in Arts, Science or Computing, you will choose your courses from a wide variety of subjects as you settle into university life and become familiar with new styles of learning. By the end of your first year, you will have discovered your areas of interest, passion and success, and will then declare your major. Your first year, whether you consider it to be undeclared, undecided or simply a time for exploration, is bound to be a year full of adventure.

## Course HIGHLIGHTS

The first year course in Chemistry is a survey of modern chemistry covering molecular structure, bonding, phases of matter, thermodynamics, electrochemistry, equilibrium, kinetics, polymers, organic and biochemistry with extensive lab participation. Some popular upper year courses include Synthetic Organic Chemistry, Biological Chemistry, Polymer Chemistry, Environmental and Green Chemistry and Quantum Mechanics.

## Queen's ADMISSION

Students apply to Queen's Science (QS) through the OUAC (Ontario Universities' Application Centre) website ([ouac.on.ca](http://ouac.on.ca)). Secondary School prerequisites include English 4U, Calculus and Vectors 4U, Advanced Functions 4U and two of Chemistry 4U, Biology 4U or 4U Physics. Visit [queensu.ca/admission](http://queensu.ca/admission) for additional information regarding requirements and admission to Queen's.

## Degree PLANS

Bachelor of Science (Honours)  
Major / Minor in Chemistry  
Specialization in Chemistry, Environmental Chemistry  
Internship option available

**Acquire Skills. Gain Experience. Go Global.**  
That is a degree from Queen's. [QUartsci.com](http://QUartsci.com)

# 2017 - 2018 Chemistry MAJOR MAP

BACHELOR OF SCIENCE (HONOURS): SPECIALIZATION, MAJOR, MINOR



In ARTS?  
Add **Chemistry**  
as your MINOR.



CONSIDER A 12-16 MONTH QUIP INTERNSHIP

\*This map is intended to provide suggestions for potential activities and career paths, but everyone's abilities, experience, and constraints are different. Build your own map using our online [My Major Map tool](#).

Visit [careers.queensu.ca/majormaps.html](https://careers.queensu.ca/majormaps.html) for the online version with links!

# Chemistry

## MAJOR MAP



### How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. The map just offers suggestions – you don't have to do it all! To make your own custom map, use the [My Major Map](#) tool.

Get started thinking about the future now – where do you want to go after your degree? Having tentative goals (like careers or grad school) while working through your degree can help with short-term decisions about courses and experiences, but also help you keep motivated for success.

### Get the help you need

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. At Queen's, you are never alone. We have many offices dedicated to helping you learn, think and do.

Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming living and learning environment offers the programs and services you need to be successful, both academically and personally, and Queen's wants you to succeed! Check out the [Student Affairs website](#) for available resources.



DEPARTMENT OF  
CHEMISTRY

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# Succeed in the workplace

## What employers want

The Canadian Council of Chief Executives list the top 6 skills sought by employers as:

- 1 People skills
- 2 Communication skills
- 3 Problem-solving skills
- 4 Analytical abilities
- 5 Leadership skills
- 6 Industry-specific knowledge

Take the time to think about the unique skills you have developed at Queen's, starting with the skills list here for ideas. Explaining your strengths with compelling examples will be important for applications to employers and further education. For help, check out the [Career Services skills workshop](#).

## What can I learn studying CHEMISTRY?

- **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**
- **Resource and time management**
- **Team working in a multidisciplinary context**
- **Practical and fundamental knowledge of all subdisciplines of chemistry**

## Why study in Kingston?

For over 175 years, the Kingston community has been a collection of bright minds. We are proud that our city was named one of the top **Intelligent Communities** across the globe, an accolade largely due to the thousands of students who study here every single year. In fact, the BBC has identified Kingston as one of the **GREATEST UNIVERSITY TOWNS** in the world, which might be why Instagram named the city '**the happiest place on the planet**'. Just a quick drive to Toronto, Montreal, Ottawa and even New York, Kingston is a safe and liveable city. Not only are we known as the **freshwater sailing capital of the world**, Kingston is arguably the birthplace of hockey. Wondering what to do while you're attending school? Queen's has more clubs per capita than any other university in Canada, and Kingston has more restaurants per capita than any other city in North America; your time here is guaranteed to be 'fresh made daily'.

*We're closer than you think.*

