CHEMISTRY (HBSc)

Department of Chemical & Physical Sciences

Chemistry plays a vital and well-integrated role in many areas of scientific discovery, including the development of new drugs, materials and diagnostics. Advancements made in the field of chemistry have brought improvements to our quality of life, and will help us to control the impact we are making on our environment in order to form the basis for a strong economy. Chemistry plays a major role in solving global issues such as combating disease, feeding our growing population and providing clean energy.

Chemistry at UTM provides preparation for work in areas such as medicine, pharmaceutical and biotechnology research, materials production and quality assurance.

MAKE THE MOST OF YOUR TIME AT UTM!

We want to help you maximize your university experience, so we've pulled together information and interesting suggestions to get you started, although there are many more! As you review the chart on the inside pages, note that many of the suggestions need not be restricted to the year they are mentioned. In fact, activities such as joining an academic society, engaging with faculty and seeking opportunities to gain experience should occur in each year of your study at UTM. Read through the chart and create your own plan using **My Program Plan** found at **www.utm.utoronto.ca/program-plans**

Programs of Study (POSt)

- Specialist Program ERSPE1995 Biological Chemistry (Science)
- Specialist Program ERSPE1376 Chemistry (Science)
- Major Program ERMAJ1376 Chemistry (Science)
- Minor Program ERMIN1376 Chemistry (Science)

Check out...

Is health care where your heart is at? Take CHM444H5 and learn about drug development. Interested in science education? Consider CPS401Y5, Research and Development in Science Education. Or instead, would you prefer to apply your knowledge within the industry or lab? Take a look at CPS400Y5 and CPS489Y5.

What can I do with my degree?

The career you choose will depend on your experience and interests. Visit the Career Centre to explore your career options.

Careers for Graduates: Food scientist; Microbrewery technologist; Hazardous waste management technologist; Quality controller; Pulping and bleaching manager; Biochemistry technologist; Medical lab technologist; Water purification chemist; Government affairs specialist; Forensic laboratory analyst.

Workplaces: Cosmetics and fragrance production; Pulp and paper; Pharmaceutical; Government; Medical organizations; Food and beverage production; Plastic manufacturing; Scientific R&D.

CHEMISTRY
MAJOR Program Plan

HOW TO USE THIS PROGRAM PLAN

Read through each year. Investigate what appeals to you here and in any other Program Plans that apply to you.

Visit **www.utm.utoronto.ca/program-plans** to create your own plan using **My Program Plan**. Update your plan yearly.

	1ST YEAR	2ND YEAR	3RD YEAR	4TH OR FINAL YEAR
PLAN YOUR ACADEMICS*	Enrol in courses CHM110H5 and CHM120H5; (MAT132H5 and MAT134H5) or (MAT135H5 and MAT136H5) or (MAT137H5 and MAT139H5) or (MAT157H5 and MAT159H5) or MAT137Y5 or MAT157Y5; ISP100H5. Choose a program of study (Subject POSt) once you complete 4.0 credits. Use the **Degree Explorer** and the **Academic Calendar** to plan your degree. Develop academic skills and strategies by enrolling in a **utmONE** First-Year Foundations Course. Build community and gain academic support through **LAUNCH**. Join a RGASC **Peer Facilitated Study Group**.	Enrol in courses CHM211H5 and CHM231H5 and CHM242H5 and CHM243H5 and JCP221H5. Consider applying for **Research Opportunity Program (ROP)** courses CHM299Y5 or CHM399Y5. Visit the EEU website for **ROP Course Prerequisites**. Attend the RGASC's **Program for Accessing Research Training (PART)** to enhance your research skills.	In third and fourth year, enrol in 1.0 credits from (CHM372H5 and CHM373H5) or (CHM394H5 and CHM395H5) or (CHM396H5 and CHM397H5), 2.5 additional 300/400-level CHM/JCP credits, at least 1.5 of which must be lecture courses. For a complete list of courses, please visit the Academic Calendar. Throughout your undergraduate degree: • use the **Degree Explorer** to ensure you complete your degree and program requirements. • see the **CPS Academic Counsellor** and the **Office of the Registrar**	In third and fourth year, enrol in 1.0 credits from (CHM372H5 and CHM373H5) or (CHM394H5 and CHM395H5) or (CHM396H5 and CHM397H5), 2.5 additional 300/400-level CHM/JCP credits, at least 1.5 of which must be lecture courses. For a complete list of courses, please visit the Academic Calendar. What is **Experiential Education**? It means learn by doing! Speak to the **CPS Academic Counsellor** about opportunities such as JCB487Y5 (Advanced Interdisciplinary Research Laboratory) and CPS400Y5 (Chemical and Physical Sciences Internship). Log on to ACORN and request graduation.
BUILD SKILLS	Use the **Co-Curricular Record (CCR)**. Search for opportunities beyond the classroom, and keep track of your accomplishments. Attend the **Get Hired Fair** through the Career Centre (CC) to learn about on- and off-campus opportunities. Attend the **Experiential Education Fair**.	Use the **Career & Co-Curricular Learning Network (CLNx)** to find postings for on- and off-campus work and volunteer opportunities. Sign up to become an **Experiential Education Unit Student Ambassador** and earn a CCR notation.	Work on-campus through the **Work-Study program**. View position descriptions on CLNx. Explore your interest. Apply to become a **Wellness Ambassador** at the Health & Counselling Centre.	Skills are transferrable to any job regardless of where you develop them. Need to strengthen your leadership skills? Consider being a **UTM Let's Talk Science Outreach** volunteer. Participate in the **Community Leadership Development Program** as a community leader and gain skills on various competencies while giving back to the community.
BUILD A NETWORK	Networking simply means talking to people and developing relationships with them. Start by joining the **Erindale Chemical and Physical Sciences Society (ECPS)**. Make sure to go to the **ECPS's Meet the Profs Night**. Visit the UTM Library **Reference Desk**.	Do you have a professor you would like to connect with? Ask them a question during office hours. Discuss an assignment. Go over lecture material. Don't be shy! Learn **Tips On How to Approach a Professor** available through the Experiential Education Unit (EEU).	Establish a professional presence on social media (e.g. LinkedIn). Attend the **E.A. Robinson Science Education Lecture** through the CPS department. Thinking about life after UTM? Connect with a UTM alumnus through the CSE's **Alumni Mentorship Program**!	Join a professional association. Check out the **Chemical Institute of Canada** and the **Association of Professional Chemists of Ontario**. Go to the **Southern Ontario Undergraduate Student Chemistry Conference** or the **Canadian Society for Chemistry Conference and Exhibition**.
BUILD A GLOBAL MINDSET	Engage with the many programs offered by the **International Education Centre (IEC)**, whether you are an international or domestic student. Consider joining the **Canada Eh?** day trips or **English Language Conversation Circles** to deepen your global mindset. First-year international students can also take advantage of **THRIVE-IN**, a one-day conference dedicated to helping you start your UTM journey successfully.	Participate in **International Education Week** and engage in programs like **Global and Intercultural Fluency Training Series (GIFTS)** to build on your leadership and communication skills in global citizenship. Learn about and prepare for a future **UTM Abroad Experience** through the IEC to strengthen and enhance your intercultural skill set, and learn about other cultures while sharing your own!	Expanding your intercultural awareness and developing intercultural skills will help you in your academics, personal growth and are highly sought out by employers. **Earn credits overseas!** Apply to study for a summer term, or year at one of 170+ universities. Speak to the IEC for details about **Outbound Exchange**, funding and travel safety. Attend Global Learning Week to learn about the various opportunities available to you!	Engage in programs like **ISTEP** and **THRIVE-OUT** to support your transition out of the University!
PLAN FOR YOUR FUTURE	Students in the Specialist Program (ERSPE1376) can apply to join the **UTM Co-op Internship Program (UTMCIP)** stream at the end of their first year. For personal guidance, drop in to an **Academic & Career Planning Session** to chat with Advisors and Career Counsellors. Visit the Career Corner in the **Student Services Hub** to chat with a Peer Career Assistant about resources that fit your goals.	Explore your options with the CC's **Job Shadow Program, In the Field,** or a one-on-one with a **Career Counsellor**. Thinking about grad school? Attend the **Graduate & Professional School Fair**, research application requirements, admission tests, and explore funding options. Getting ready for work? Join workshops, drop-ins, and networking events to build experience and confidently share your skills – Register on **CLNx**.	Need job search support? Book a coaching appointment with an **Employment Strategist** for personalized guidance. Ready to take the next step for grad school, visit the Pursue Learning section on **MyCareerCentre** and drop-in to chat with a **Career Counsellor** about grad school prep tips. Want to grow your network? Attend the Career Centre Networking Series and Let's Talk About events — Register on **CLNx**.	Join the **Now That I'm Graduating What's Next?** session to start building your job search plan. Attend the **Sweats to Suits Job Search Conference** and discover diverse career pathways. Work with the **Employment Strategist** team to review your resume and prep for interviews. Still figuring things out? Meet with a **Career Counsellor** to create a career plan and attend a **Career Wellness** session to support your well-being along the way.

*Consult the Academic Calendar for greater detail on course requirements, program notes and degree requirements.

Revised on: 04/22/2025

Visit **www.utm.utoronto.ca/program-plans** for the online version and links.

CHEMISTRY

Skills developed in Chemistry

To be competitive in the job market, it is essential that you can explain your skills to an employer. Visit the Career Centre to learn how to articulate and market the following skills:

Research: conduct journal research and utilize logical reasoning to interpret results/data derived from scientific experimentation.

Technical: experience with state-of-the-art laboratory technology and instruments; ability to use computer programs to manipulate and display data; and comply with quality control procedures while conducting experiments.

Quantitative: analyze data for trends and apply statistical packages to data to test for significance.

Communication: organize research ideas and information into comprehensive reports; and interact professionally with a multidisciplinary team of researchers, technicians, students and professors.

Get involved

Check out the 100+ student organizations on campus. Here are a few:

- Erindale Chemical and Physical Sciences Society (ECPS)
- UTM Student Union (UTMSU)
- UTM Athletics Council (UTMAC)

For a listing of clubs on campus visit the **Student Groups and Societies Directory**

Services that support you

- **Accessibility Services (AS)**
- **Career Centre (CC)**
- **Centre for Student Engagement (CSE)**
- **Equity, Diversity & Inclusion Office (EDIO)**
- **Experiential Education Unit (EEU)**
- **Health & Counselling Centre (HCC)**
- **International Education Centre (IEC)**
- **Office of the Registrar (OR)**
- **Recreation, Athletics and Wellness Centre (RAWC)**
- **Robert Gillespie Academic Skills Centre (RGASC)**
- **UTM Library, Hazel McCallion Academic Learning Centre (HMALC)**

Department of Chemical & Physical Sciences

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FUTURE STUDENTS

Admission to UTM

All program areas require an Ontario Secondary School Diploma, or equivalent, with six Grade 12 U/M courses, or equivalent, including English. Your admission average is calculated using English plus your next best five courses. The Grade 12 prerequisites for Chemistry are Advanced Functions, Chemistry and Physics. The approximate average required for admission is mid- to high-70s. More information is available at **utm.utoronto.ca/viewbook**.

NOTE: During the application process, applicants will select the Chemical & Physical Sciences admissions category but will not officially be admitted to a formal program of study (Specialist, Major, and/or Minor) until after first year.

Sneak Peek

Support is available to first-year chemistry students through tutorial classes, office hours, Facilitated Study Groups and a 24/7 system of Virtual Office Hours. In addition, all of our students have access to new, state-of-the-art teaching laboratories.

Upper-year students can become involved in cutting-edge research projects in our research labs. We recently launched the Centre for Medicinal Chemistry, an interdisciplinary centre for the development of new drugs. It will become a research hub of leading scientists dedicated to developing innovative approaches in the fight against cancer and other diseases.

Student Recruitment & Admissions

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905-828-5400
www.utm.utoronto.ca/future-students

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