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...
Curious about forensics? Learn how to analyze physical evidence — drugs and alcohol, gunshot residue, explosives and paint analysis — through FSC311H5. Interested in science education? Consider CPS398H5, Teaching Opportunities in Sciences.

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.
# 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](http://www.utm.utoronto.ca/program-plans) to create your own plan using My Program Plan.

Update your plan yearly.

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## CHEMISTRY MAJOR Program Plan

### 1ST YEAR

**Enrol in courses (CHM110H5, 130H5), (MAT132H5, 136H5), (MAT134Y5, 135Y5, 137Y5, 157Y5).**

Choose a program of study (Subject POSH) once you complete 4.0 credits. Use the Degree Explorer and the Academic Calendar to plan your degree.

**Develop foundational academic skills and strategies by enrolling in a utmONE course.** Build community and gain academic support through LAUNCH. Join a RGASC Facilitated Study Group.

**Use the Co-Curricular Record (CCR).** Search for opportunities beyond the classroom, and keep track of your accomplishments.

**Attend the Get Experience Fair through the CC to learn about on- and off-campus opportunities.**

**Attend the Experiential Education Fair.**

**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.**

### 2ND YEAR

**Enrol in courses CHM211H5, 231H5, 242H5, 243H5 and JOP221H5.**

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 (P.A.R.T.) to enhance your research skills.

**Use the Career Launch Network (CLN) to find postings for on- and off-campus work and volunteer opportunities.**

**Engage in programs like the Global and Intercultural Fluency Training Series (GIFTS) or learn about and prepare for a future UTM Abroad Experience through the IEC.**

**Enrol in courses (CHM235H5, 294H5)/(MAT137H5, 248H5)/(MAT232H5).**

**Attend the E.A. Robinson Science Education Lecture and the Chemical Institute of Canada (CIC) Student and Young Professional Program.**

### 3RD YEAR

**In third and fourth year, enrol in 1.0 credits from (CHM372H5, 373H5)/(CHM394H5, 395H5)/(CHM396H5, 397H5), 2.5 addition 300/400-level CHM/JOP credits, at least 1.5 of which must be lecture courses.**

**Throughout your undergraduate degree:**

- Use the Degree Explorer to ensure you complete your degree and program requirements.
- Use the Office of the Registrar and the CPS Academic Counsellor.

**Work on-campus through the Work-Study program.** View position descriptions on CLN.

**Use the Experiential Education Unit (EEU).**

**Learn about life after UTM? Connect with a UTM alumnus through the CSE’s Alumni Mentorship Program!**

**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!**

**Earn credits overseas! Apply to study for a summer, term or year at one of 140+ universities.** The CPS department has identified partners which are most relevant to our students. Speak to the IEC for details about Course Based Exchange, funding and travel safety.

**What is Experiential Education?** It means learn by doing! Speak to the CPS Academic Counsellor about opportunities such as JG840Y5 (Advanced Interdisciplinary Research Laboratory) and CPS500Y5 (Chemical and Physical Sciences Internship).

**Log on to ACORN and request graduation.**

### 4TH OR FINAL YEAR

**Skills are transferable 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 competences while giving back to the community.**

**Establish a professional presence on social media (e.g. LinkedIn).**

**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.**

**Learn about working abroad. Read up on worldwide employment trends and industry outlooks through GoinGlobal.**

**Attend the GoinGlobal seminar.**

**What’s your next step after undergrad?**

**Entering the workforce? Evaluate your career options through a CC Employment Strategies appointment.**

**What is a CC Employment Strategies appointment?**

**Consider further education? Research application requirements, prepare for admission tests (LSAT, MCAT), and research funding options (OGS, NSERC, CIHR).**

**Market your skills to employers. Get your resume critiqued at the CC. Attend the CC workshop: Now That I’m Graduating What’s Next?**

**Write a strong application for further education.** Attend the CC’s Mastering the Personal Statement workshop.

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

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Visit [www.utm.utoronto.ca/program-plans](http://www.utm.utoronto.ca/program-plans) for the online version and links.

Revised on: 6/22/2021
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 www.utm.utoronto.ca/clubs.

Services that support you

- Accessibility Services (AS)
- Career Centre (CC)
- Centre for Student Engagement (CSE)
- Experiential Education Unit (EEU)
- Health & Counselling Centre (HCC)
- Indigenous Centre (IC)
- 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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