**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.

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**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. 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](http://www.utm.utoronto.ca/program-plans).

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**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 ER1398HS, Teaching Opportunities in Sciences.

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**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.
1ST YEAR

- Choose a program of study (Subject POS) once you complete 4.0 credits. Use the Degree Explorer Planner and the Academic Calendar to plan your degree.
- Start strong and get informed with utmONE and LAUNCH through the Office of Student Transition. Join a RGASC Peer Facilitated Study Group.
- Complete 4.0 credits. Use the Degree Explorer to ensure you complete your degree and program requirements.
- Enrol in courses CHM110H5, 120H5, 231H5, 242H5, 243H5 and JCP221H5.
- Consider applying for Research Opportunity Program (ROP) courses CHM299Y5 or CHM999Y5. Visit the EEO website for ROP Course Prerequisites. Attend the RGASC’s Program for Accessing Research Training (P.A.R.T.) to enhance your research skills.

2ND YEAR

- Enrol in courses CHM211H5, 231H5, 242H5, 243H5 and JCP221H5.
- Consider applying for Research Opportunity Program (ROP) courses CHM299Y5 or CHM999Y5. Visit the EEO website for ROP Course Prerequisites. Attend the RGASC’s Program for Accessing Research Training (P.A.R.T.) to enhance your research skills.
- Attend the Get Experience Fair through the CC to learn about on- and off-campus opportunities.
- 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.
- Embrace a UTM Eco-friendly? Become a Green Ambassador with the Environmental Affairs Office.
- Do you have a professor you really like or 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 Office (EEO).
- Enjoy the Co-Curricular Record (CCR). Search for opportunities beyond the classroom, and keep track of your accomplishments.

3RD YEAR

- Attend the Get Experience Fair through the CC to learn about on- and off-campus opportunities.
- 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.
- Do you have a professor you really like or 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 Office (EEO).
- Attend the E.A. Robinson Science Education Lecture through the CPS department.
- Earn credits overseas! Study for a summer, term or year at one of 120 universities. The CPS department has identified 9 partners which are most relevant to our students. Speak to the CPS department.
- Establish a professional presence on social media (e.g. LinkedIn).
- Consider applying for Research Opportunity Program (ROP) courses CHM299Y5 or CHM999Y5. Visit the EEO website for ROP Course Prerequisites. Attend the RGASC’s Program for Accessing Research Training (P.A.R.T.) to enhance your research skills.

4TH OR FINAL YEAR

- 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 CHM887Y5 (Introduction to Research in Chemistry).
- 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.
- Build 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.
- Why not work abroad? Read up on worldwide employment trends and industry outlooks through GoinGlobal. Attend the So Global Expo. See if you are eligible for International Experience Canada.

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.

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

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

Services that support you

- AccessAbility Services (AS)
- Career Centre (CC)
- Centre for Student Engagement (CSE)
- Experiential Education Office (EEO)
- Health & Counselling Centre (HCC)
- Indigenous Centre (IC)
- International Education Centre (IEC)
- Office of Student Transition (OST)
- 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)

Get involved

Check out 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.

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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