UNIVERSITY OF TORONTO MISSISSAUGA

Earth Science (HBSc)

Department of Chemical & Physical Sciences

Earth Science is the discipline that studies our planet and all of its natural environments. Our program offers training in both critical streams of Earth Science: Resources & Tectonics and Earth, Climate & Life. Through our program, students become well equipped to understand the causes and consequences of radical shifts already underway in Earth's climate system. Addressing modern climate change requires an understanding of the underlying physics and chemistry of the earth-climate system, as well as knowledge of how climate and life have co-evolved in the past. Our ancient fossil heritage archives the response of life to global perturbations providing rigorous data with which our students can test emerging climate models.

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

Mine geologist; Surveyor; Geological technician; Prospector; Technical sales representative; Minerals processing technician; Exploration geologist; Compliance officer; Survey technician; Hydrologist; Environmental technician; Cartographer; GIS Specialist; Meteorologist; Paleontologist.

Workplaces

Mineral and hydrocarbon sector; Environmental sector; Government; Financial institutions; Academic institutions; National/provincial parks.

Programs of Study

- Specialist Program ERSPE1465 Earth Science (Science)
- Major Program ERMAJ1465 Earth Science (Science)
- Minor Program ERMIN1465 Earth Science (Science)

Make the most of your time at UTM!

We've pulled together the information you need to plan for how to maximize your university experience.

As you review the inside pages, note that many of the suggestions need not be restricted to the year they are mentioned. Investigate what appeals to you in the proposed yearly plans and then create your own plan using the **My Program Plan Template** form found on **page 6** of this booklet.

Earth Science (HBSc)

Major Program Plan

First Year

Plan Your Academics*

Enrol in (ERS101H5 or ERS111H5 or ENV100Y5); (MAT132H5, MAT134H5) or (MAT135H5 or MAT136H5) or (MAT137H5 or MAT139H5) or MAT137Y5; (CHM110H5 and CHM120H5) or (PHY136H5 and PHY137H5) or (PHY146H5 and PHY147H5); ISP100H5:Writing for University and Beyond.

Choose a program of study (Subject POSt) once you complete 4.0 credits. Use **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**.

Check out...

Where in the world are minerals? Learn exploration methods and mining practices in ERS401H5. Interpret ancient geological environments! Enrol in ERS325H5, a Field Camp held on the north shore of Lake Huron.

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 the **Language Exchange Program** 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.

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.**

Build a Network

Networking simply means talking to people and developing relationships with them. Start by joining the **J. Tuzo Wilson Geology Club** and follow the Facebook group **UTM Earth Science.** Go to the Erindale Chemical & Physical Sciences Society's **Meet the Profs Night**.

Visit the **UTM Library Reference Desk** to meet supportive staff and start building your academic network in first year.

Plan for Your Future

Students in the Specialist Program (ERSPE1465) can apply to join the **UTM Co-op Internship Program (UTMCIP)** stream at the end of their first year.

Connect with support in-person: 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.

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

Second Year

Plan Your Academics*

Enrol in courses ERS201H5 and ERS202H5 and ERS203H5; 0.5 credits from ERS211H5 or ERS225H5 or GGR214H5 or GGR217H5 or GGR227H5 or GGR272H5 or GGR276H5 or GGR278H5.

Consider applying for the **Research Opportunity Program (ROP)** courses. Visit the EEU website for **ROP Course Prerequisites**. Attend the **RGASC's Program for Accessing Research Training (PART)** to enhance your research skills.

Build a Global Mindset

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!

Build Skills

Use the **Career & Co-Curricular Learning Network (CLNx)** to find postings for on- and off-campus work and volunteer opportunities.

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

Sign up to become an **Experiential Education Unit Student Ambassador** and earn a CCR notation.

Build a Network

Connecting with faculty is an important part of your academic journey, so take time to visit a professor during office hours to ask questions, discuss assignments, and review lecture material. Don't be shy! Learn **Tips On How to Approach a Professor** available through the **Experiential Education Unit (EEU).**

Plan for Your Future

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**.

Earth Science (HBSc)

Major Program Plan

Plan Your Academics*

In third and fourth year, enrol in 3.0 additional credits at the 300/400 level from ERS301H5 or ERS302H5 or ERS303H5 or ERS304H5 or ERS311H5 or ERS312H5 or ERS315H5 or ERS325H5 or ERS381H5 or ERS401H5 or ERS402H5 or ERS403H5 or ERS404H5 or ERS411H5 or ERS412H5 or ERS425H5 or PHY351H5 or JGE378H5 or CPS400Y5.

Throughout your undergraduate degree, use **Degree Explorer** to track program requirements and connect with the **Office of the Registrar** or the **CPS Academic Counsellor** for guidance.

Build a Global Mindset

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!

Plan for Your Future

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**.

Third Year

Build Skills

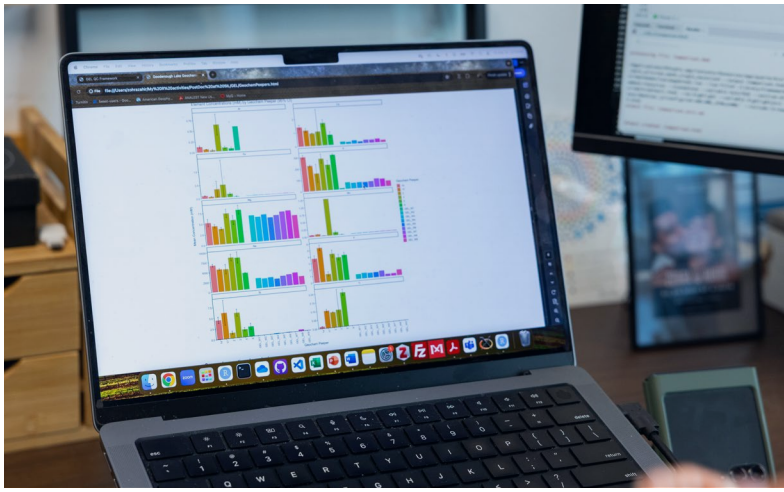
Interpret ancient geological environments in the field. ERS325 is a Field Camp held on the north shore of Lake Huron in the summer. Speak to the **CPS Academic Counsellor** to learn more.

Build a Network

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

Attend a lecture presented by the **E.A. Robinson Science Education Lectureship** through the CPS department.

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



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

Final Year

Plan Your Academics*

In third and fourth year, enrol in 3.0 additional credits at the 300/400 level from ERS301H5 or ERS302H5 or ERS303H5 or ERS304H5 or ERS311H5 or ERS312H5 or ERS315H5 or ERS325H5 or ERS381H5 or ERS401H5 or ERS402H5 or ERS403H5 or ERS404H5 or ERS411H5 or ERS412H5 or ERS425H5 or PHY351H5 or JGE378H5 or CPS400Y5.

Enrol in a course with hands on experience such as ERS401H5 which includes weekly field trips. Speak to the **CPS Academic Counsellor** to learn more.

Log on to ACORN and request graduation.

Build a Global Mindset

Engage in programs like **ISTEP** and **THRIVE-OUT** to support your transition out of the University!

Build Skills

Skills are transferrable to any job regardless of where you develop them. Need to strengthen your collaboration skills? Consider a role as a **Waste Ambassador** with the Sustainability Office.

Apply to the CPS400 Internship Course. Speak to the **CPS Academic Counselor** for more details.

Build a Network

Join a professional association. Check out the **Geological Association of Canada** or the **Toronto Geological Discussion Group**.

Go to the **Prospectors & Developers Association of Canada (PDAC) Convention**.

Plan for Your Future

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.

My Program Plan
Template

Plan Your Academics*

Build a Global Mindset

Build Skills

Year:

Build a Network

Plan for Your Future

Notes:

**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.

Earth Science (HBSc)

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. The admission average is calculated with English plus the next best five courses. The Grade 12 prerequisites are Advanced Functions, Biology, Chemistry and reccomended are Calculus and Physics. The approximate average required for admission is mid- to high-70s. More information is available at **https://www.utm.utoronto.ca/future-students/admissions/requirements**.

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.

Gain Hands-on Experience

Experiential learning at UTM empowers students to learn by doing, by taking what they study in the classroom and applying it in practical, hands-on settings. Build practical skills, explore career interests,and deepen your academic learning, giving you a strong advantage as you move toward your future goals.

- **Academic Internships**
  Earn academic credit while completing a work placement.
- **Alternative Reading Week**
  Three-day community impact experience.
- **Community Engaged Learning**
  Learning with local communities.
- **Field Courses**
  Applying classroom knowledge in the field.
- **Global Learning**
  Learning across global contexts
- **Research Opportunity Program**
  Hands-on research with faculty.
- **Skills Accelerator Program**
  Build skills with an employer.
- **Social Innovation Project**
  Student teams solve local organizational challenges.
- **UTM Co-op Internship Program**
  Learning through immersive paid Co-op jobs.
- **Work Study**
  Part-time, paid work on campus.

Student Recruitment & Admissions

Innovation Complex, Room 1270
University of Toronto Mississauga
3359 Mississauga Rd
Mississauga ON Canada L5L 1C6

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

Sneak Peek

As citizens of the world, we are, and will increasingly be, required to make decisions about our relation with Earth: we need to be sufficiently informed to contribute to the ongoing debates. In ERS111H5 you'll get the chance to focus on our relationship with Earth: how she supports us, how she affects us, and how we affect her. Curious about the materials that form the Earth? Get excited about ERS201H5. The course includes an optional field trip to the Algonquin-Bancroft area of eastern Ontario.

Our students have access to new, state-of-the-art teaching laboratories and are involved in cutting-edge research projects in our research labs.

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Skills developed in Earth Science

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:

Communication: read, critically evaluate and produce professional papers and geologic maps.

Investigative: knowledge of the origin, composition, and evolution of the Earth, and how the Earth system responds to internal and external forces, as well as understand spatial data and temporal geologic change.

Technical: identify, describe and classify earth materials and structures, as well as analyze quantitative geologic data.

Critical thinking & problem-solving: recognize bias and incompleteness in the geologic record; apply physics, chemistry, biology, statistics and mathematics to solve geologic problems; and apply geoscience knowledge to address problems affecting society.

Get involved

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

- J. Tuzo Wilson Club
- Erindale Chemical and Physical Sciences Society (ECPS)
- UTM Student Union (UTMSU)

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

Department of Chemical & Physical Sciences

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905-828-5351; 905-828-3800
christina.fortes@utoronto.ca
www.utm.utoronto.ca/cps

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)**

This QR code leads to the online version of this Program Plan. Scan the code to gain access to all the live links.