GEOGRAPHICAL INFORMATION SYSTEMS (HBSc)

Department of Geography

The GIS BSc offers an analytical perspective on geographical information. In-depth studies — beyond basic geography — include mapping, spatial analysis, digital databases with specializations in modeling, statistical analysis and remote sensing.

Our Department prides itself in being at the forefront of student experience at UTM. Our Faculty are very successful and active researchers, maintaining research programs, laboratories and supervise graduate students at UTM. They are also outstanding teachers, with several of our faculty being recognized with teaching awards from both inside and outside the university. We think that the wonderful opportunities and support in our Department will make your degree in Geography not only a meaningful and valuable learning experience, but also an exciting and fun one.

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**

Programs of Study (POSt)

- Major Program ERMAJ0305 Geographical Information Systems (Science)
- Minor Program ERMIN0305 Geographical Information Systems (Science)

Check out...

What's the connection between GIS and population health? Use GIS to map and study health information such as the spatial clustering of disease in GGR322H5. Ever considered an internship? Apply for JEG400/401 and gain hands on experience.

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: Cartographer; Remote sensing analyst; GIS/GPS analyst or technician; Land surveyor; Survey technician; Computer mapping and software developer; Aerial photo analyst; Spatial data analyst; GIS specialist; Geomatics specialist.

Workplaces: Data processing; Remote sensing; Map and atlas publishers; Positioning and navigation; Environmental research agencies; Health care; Survey firms and land developers; Mining.

GEOGRAPHICAL INFORMATION SYSTEMS
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.

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	1ST YEAR	2ND YEAR	3RD YEAR	4TH OR FINAL YEAR
PLAN YOUR ACADEMICS*	Enrol in courses GGR111H5 and 112H5. Choose a program of study (Subject POSt) 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**.	Enrol in courses GGR272H5, 276H5, 278H5 and 2.0 credits from any other 200-level GGR courses. Throughout your undergraduate degree: • use the **Degree Explorer** to ensure you complete your degree and program requirements. • see the **Office of the Registrar** and the **Geography Academic Counsellor**.	Enrol in courses GGR321H5 and 337H5. Attain 2.0 credits from: GGR311H5, 322H5, 335H5, 370H5, 372H5, 376H5, 437H5 and 494H5. Work in a foreign lab through the **iROP program**. Speak to the IEC **Global Mobility Coordinator**. Prefer staying local? Apply to the **ROP** course GGR399Y. Visit the EEO website for **ROP Course Prerequisites**. Attend the RGASC's **P.A.R.T.** to enhance your research skills.	What is **Experiential Education**? It means learn by doing! Gain experience designing and executing an independent senior thesis by enroling in GGR417Y5 Honours Thesis. Speak to the **GIS Program Advisor** about enroling in a course with hands on experience such GGR437H5 (Advanced Remote Sensing). 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 Experience Fair** through the Career Centre (CC) to learn about on- and off-campus opportunities.	Use the **Career Learning Network (CLN)** 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 CLN.	Explore your interests. Know a thing or two about computers? Work for UTM's **Information & Instructional Technology Services**.	Consider a practical work-based experience through the internship course JEG400/401. Speak to the **Program Advisor for Geographical Information Systems** for details.
BUILD A NETWORK	Networking simply means talking to people and developing relationships with them. Start by joining the **Student Association for Geography and Environment (SAGE)**. Visit the UTM Library **Reference Desk**.	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).	Establish a professional presence on social media (e.g., LinkedIn). Attend department research seminars and participate in departmental **networking events** organized by SAGE.	Join a professional association. Check out the **Canadian Institute of Geomatics**. Go to the **Canadian Cartographic Association Conference** or the **GIScience Conference**.
BUILD A GLOBAL MINDSET	Attend events through the I**nternational Education Centre (IEC)** to explore different cultures through food, music, and sport or through sight-seeing around the GTA.	Embark on a **UTM Abroad Co-Curricular Experience** through the IEC. Speak to the **Global Mobility Coordinator** and the **Geography Academic Counsellor** to select the appropriate courses. Prefer traveling in Canada? Check out the IEC's **UTM Across Canada** program.	Earn credits overseas! Study for a summer, term or year at one of 120 universities. The Geography department has identified partners who are most relevant to their students. Speak to the **IEC** for details about **Course Based Exchange** and funding.	Why not work abroad? Read up on worldwide employment trends and industry outlooks through **GoinGlobal**. Attend the **Go Global Expo**. See if you are eligible for **International Experience Canada**.
PLAN FOR YOUR FUTURE	Attend the **Program Selection & Career Options** workshop offered by the Office of the Registrar and the CC. Check out **Careers by Major** at the CC to see potential career options.	Explore careers through the CC's **Extern Job Shadowing Program**. Ask the **Geography Academic Counsellor** about **Professional Advancement for Geography and Environment Students (PAGES)**. Considering **further education**? Attend the CC's **Graduate and Professional Schools Fair**. Talk to professors – they are potential mentors and references.	What's your next step after undergrad? Entering the workforce? Evaluate your career options through a CC **Career Counselling appointment**. Create a job search strategy — book a CC **Employment Strategies appointment**. Considering further education? Research application requirements, prepare for admission tests (LSAT, MCAT), and research funding options (OGS, NSERC).	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**.

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

Revised on: 9/8/2017

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

GEOGRAPHICAL INFORMATION SYSTEMS

Skills developed in GIS

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:

Technical: use specialized field equipment, satellite imagery and state of the art software; gain experience with computer modeling; conduct surveying and sampling; and conduct field studies.

Research: use statistical applications, as well as gather, organize and analyze data.

Communication: read and construct graphs/maps; summarize results of experiments; communicate across cultures; and maintain records.

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:

- Student Association for Geography and Environment (SAGE)
- UTM Student Union (UTMSU)
- UTM Athletics Council (UTMAC)

For a listing of clubs on campus visit **www.utm.utoronto.ca/clubs**.

Department of Geography

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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. The admission average is calculated with English plus the next best five courses. 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

Make maps using GIS! In GGR272H5 students explore map rendering in the digital and mobile worlds. What are the natural and anthropogenic origins of environmental change? Find out in the physical geography course GGR112H5.

Our department prides itself in being at the forefront of student experience at UTM. Our students use equipment satellite imagery, and state-of-the-art computers and software in the GIS laboratory. We also have an active weather station on campus monitoring local weather conditions. Students can run their own project related to weather monitoring using the latest data logging instruments.

Student Recruitment & Admissions

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Mississauga ON Canada L5L 1C6

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

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