STATISTICS, APPLIED (HBSc)

Department of Mathematical & Computational Sciences

Numbers are all around us. From the thickness of the ozone layer to infant mortality rates, from the cost of beer to the chances of contracting AIDS, the world is permeated with quantity. Most of the quantitative information we have is incomplete, or an estimate, or an average, or the result of inexact measurement. This does not mean the information is useless. What it means is that to consider ourselves well educated, we must be able to extract knowledge from numerical data that are subject to random error.

Statisticians do things as diverse as setting insurance rates, testing new drugs, estimating levels of air and water pollution, monitoring the quality of industrial products, and predicting the outcomes of national elections. Our award-winning faculty bring knowledge and experience from a variety of backgrounds. Your time in this program will be enriched with independent study courses, Research Opportunity Program (ROP) courses, small group projects and topics courses with the faculty.

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 ERSPE1540 Statistics, Applied (Science)
- Major Program ERMAJ1540 Statistics, Applied (Science)
- Minor Program ERMIN1540 Statistics, Applied (Science)

Check out...

Get excited about surveys, sampling and observational data! Take STA304H5 and learn about several techniques for obtaining information about a large population at relatively small cost. Want to study multivariate data! Enroll in STA437H5 to learn about fundamental methods of data reduction and hypothesis testing for multivariate means and variances.

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: Actuary; Budget analyst; Insurance underwriter; Logistics specialist; Market research analyst; Mathematical technician; Numerical analyst; Operations research analyst; Statistician; Systems operation analyst; Data entry clerk; Epidemiologist.

Workplaces: Government Agencies; Banks; Investment firms; Insurance companies; Research and development firms.

STATISTICS, APPLIED

SPECIALIST 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 CSC108H5; MAT102H5, (MAT132H5, MAT134H5)/ (MAT135H5, MAT136H5)/ (MAT137H5, MAT139H5)/ (MAT157H5,MAT159H5), ISP100H5 and MAT223H5/ MAT240H5. 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. Connect with the **Academic Advisor & Undergraduate Program Administrator (MAT & STA)** to discuss your plans. Develop foundational academic skills and strategies by enrolling in a **utmONE** course.	Enrol in courses MAT232H5/ MAT233H5/MAT257Y5, MAT244H5; STA256H5, STA258H5 and STA260H5. Connect with the **Academic Advisor & Undergraduate Program Administrator (MAT & STA)** to discuss your plans and how to apply for an **Research Opportunity Program (ROP).** Visit the EEU website for **ROP Course Prerequisites**. Attend the RGASC's **PART** to enhance your research skills.	Enrol in STA302H5, STA304H5, STA305H5 and STA348H5; 2.0 credits of STA courses at the 300+ level; 2.0 credits from [CSC322H5 or (CSC311H5/ CSC411H5) or MAT302H5,MAT311H5, MAT332H5, MAT334H5, MAT344H5 or MAT337H5]. Lastly, enrol in 1.0 additional credit of any other STA courses. Connect with the **Academic Advisor & Undergraduate Program Administrator (MAT & STA)** to discuss your program and the Office of the Registrar (OR) to review degree requirements	Enrol in any program requirements that you didn't complete in 3rd year. If you didn't have a chance to complete one in 3rd year, consider completing a 400-level **research project** under the supervision of a STA faculty member to expand your knowledge beyond the regular courses. Connect with the **Academic Advisor & Undergraduate Program Administrator (MAT & STA)** to ensure your program is on track and the OR to ensure you are meeting all degree requirements for graduation. 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 while practicing interpersonal skills when talking to employers.	Use the **Career & Co-Curricular Learning Network (CLNx)** to find postings for **Work-Study,** off-campus work and volunteer opportunities. Attend the **Experiential Education Fair** to learn about for-credit EL opportunities.	Consider completing a 300-level **Research Project** under the supervision of a STA Faculty member. Speak to the **Academic Advisor & Undergraduate Program Administrator (MAT & STA).** Apply to become a statistics **teaching assistant (TA)**. Polish your communication and presentation skills and help first and second-year students with stats learning.	Skills are transferable to any job regardless of where you develop them. Inspire young minds to enjoy and pursue math or statistics: ask about how you can help with **Math Circles** and MCS involvement in UTM recruitment events. Speak to the **Academic Advisor & Undergraduate Program Administrator (MAT & STA)**.
BUILD A NETWORK	Networking simply means talking to people and developing relationships with them. Start by joining the **Mathematical and Computational Sciences Society (MCSS)**. Follow them @utmmcss. Get to know your TA. View the **Math Learning Centre Schedule** on the MCS departmental website. 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). Learning more about their research journey can be inspirational.	Establish a professional presence on social media (e.g., LinkedIn). Thinking about life after UTM? Connect with a UTM alumnus through the CSE's **Alumni Mentorship Program**!	Join a professional association. Check out the **Canadian Applied and Industrial Mathematics Society** and the **Statistical Society of Canada**. Consider joining their **Students and Recent Graduates Committee**. Go to the **Canadian Statistics Student Conference**.
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 **Course Based 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** to support your transition out of the University!
PLAN FOR YOUR FUTURE	Where should you start your career journey? The Career Centre's **model** can help you identify things to consider. You can get started today by visiting **My Career Centre** to begin exploring on your own. Get ready to select your Program of Study (POSt) by attending the **Program Selection & Career Options** workshop offered by the Office of the Registrar and CC.	Learn how your academics and career goals work together in a **Career Counselling appointment.** Explore careers through the CC's **Job Shadow Program** and **In the Field.** Considering **further education**? Attend the CC's **Graduate & Professional Schools Fair**.Research application requirements, prepare for admission tests (LSAT, GMAT) and research funding options (OGS, SSHRC)	Attend CC workshops to learn the basics of creating a resume and cover letter, preparing for an interview, and creating a strong LinkedIn profile. To register, visit the UTM Events page on **CLNx.** You would also find exciting networking opportunities to connect with employers, industry professionals and alumni. Are you ready to take the next step in preparing for further education? Get started by checking out the Pursue Learning section of **My Career Centre** and attending a drop-in session with a Career Counsellor for best practices for grad school preparation.	Attend the CC workshop, **Now That I'm Graduating What's Next** to learn how to develop your job search plan. Ready for employment? Schedule an **Employment Strategist Appointment** to review your documents and practice your skills. If you are still unsure about the next steps in your career journey, schedule a **Career Counsellor Appointment** to gain support exploring career options and establishing a career plan.

*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** for the online version and links.

STATISTICS, APPLIED

Skills developed in Statistics, Applied

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: design projects, experiments and other studies; analyze, summarize, make inferences and interpret the information collected; and write effective technical reports.

Technical: understand statistical concepts and the rules of logic, as well as use a range of specialized software to analyze large quantities of numerical data.

Problem-solving: approach problems from different angles to identify key issues and apply statistical theories and methods to solve problems.

Critical thinking & communication: effectively communicate ideas and abstract concepts and construct sound arguments.

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)**
- **The Math Learning Centre (MLC)**
- **UTM Library, Hazel McCallion Academic Learning Centre (HMALC)**

Get involved

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

- Mathematical and Computational Sciences Society (MCSS)
- UTM Student Union (UTMSU)
- UTM Athletics Council (UTMAC)

For a listing of clubs on campus visit the **Student Clubs and Societies Directory** or the **MCS Student Organizations**

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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 Grade 12 prerequisites for this program are Advanced Functions and Calculus. The approximate average required for admission is low to mid 80s. More information is available at **utm.utoronto.ca/viewbook**.

NOTE: During the application process, applicants will select the Computer Science, Mathematics & Statistics 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

What is statistical modeling? In STA256H5, you'll learn about probability distributions, expectation, continuous and discrete random variables and vectors, distribution functions and probability's role in statistical modeling. Why not learn some bootstrapping? Enrol in STA258H5 and learn about statistical methodology with emphasis on the relationship between data analysis and probability theory.

Student Recruitment & Admissions

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University of Toronto Mississauga
3359 Mississauga Rd
Mississauga ON Canada L5L 1C6

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

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