

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.



	1 ST YEAR	2 ND YEAR	3 RD YEAR	4 TH OR FINAL YEAR
PLAN YOUR ACADEMICS*	<p>Enrol in courses CSC108H5; MAT102H5, (132H5, 134H5)/ (135H5, 136H5)/ (137H5, 139H5)/ (157H5, 159H5) and 223H5/ 240H5.</p> <p>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.</p> <p>Develop foundational academic skills and strategies by enrolling in a utmONE course. Build community and gain academic support through LAUNCH. Join a RGASC Peer Facilitated Study Group.</p>	<p>Enrol in courses MAT232H5/ 233H5/ 257Y5, MAT244H5; STA256H5, 258H5 and 260H5.</p> <p>Throughout your undergraduate degree:</p> <ul style="list-style-type: none"> use the Degree Explorer to ensure you complete your degree and program requirements. see the Office of the Registrar and the Academic Advisor & Undergraduate Program Administrator (MAT & STA) 	<p>Enrol in STA302H5, 304H5, 305H5 and 348H5; 2.0 credits of STA courses at the 300+ level; 2.0 credits from [CSC322H5 or (CSC311H5/ 411H5) or MAT302H5, 311H5, 332H5, 334H5, 344H5 or (MAT337H5/ 378H5)]. Lastly, enrol in 1.0 additional credit of any other STA courses.</p> <p>Consider applying for the Research Opportunity Program (ROP) course STA399Y. Visit the EEU website for ROP Course Prerequisites. Attend the RGASC's PART to enhance your research skills.</p>	<p>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, conduct a 400-level research project under the supervision of a STA faculty member to expand your knowledge beyond the regular courses. Speak to the Academic Advisor & Undergraduate Program Administrator (MAT & STA) for details.</p> <p>Log on to ACORN and request graduation.</p>
BUILD SKILLS	<p>Use the Co-Curricular Record (CCR). Search for opportunities beyond the classroom, and keep track of your accomplishments.</p> <p>Attend the Get Hired Fair through the Career Centre (CC) to learn about on- and off-campus opportunities.</p> <p>Attend the Experiential Education Fair.</p>	<p>Use the Career & Co-Curricular Learning Network (CLNx) to find postings for on- and off-campus work and volunteer opportunities.</p> <p>Work on-campus through the Work-Study program. View position descriptions on the CLNx.</p>	<p>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) for more information.</p>	<p>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 the Canadian Math Kangaroo Contest or UTM "Future Students" events.</p>
BUILD A NETWORK	<p>Networking simply means talking to people and developing relationships with them. Start by joining the Mathematical and Computational Sciences Society (MCSS). Follow them @utmccss.</p> <p>Get to know your TA. View the Math Learning Centre Schedule on the MCS departmental website. Visit the UTM Library Reference Desk.</p>	<p>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 Unit (EEU).</p>	<p>Establish a professional presence on social media (e.g., LinkedIn).</p> <p>Thinking about life after UTM? Connect with a UTM alumnus through the CSE's Alumni Mentorship Program!</p>	<p>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.</p> <p>Go to the Canadian Statistics Student Conference.</p>
BUILD A GLOBAL MINDSET	<p>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.</p> <p>First-year international students can also take advantage of THRIVE'IN, a one-day conference dedicated to helping you start your UTM journey successfully.</p>	<p>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.</p> <p>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!</p>	<p>Expanding your intercultural awareness and developing intercultural skills will help you in your academics, personal growth and are highly sought out by employers.</p> <p>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!</p>	<p>Engage in programs like ISTEP and THRIVE to support your transition out of the University!</p>
PLAN FOR YOUR FUTURE	<p>Attend the Program Selection & Career Options workshop offered by the Office of the Registrar and the CC.</p> <p>Check out Careers by Major at the CC to see potential career options.</p>	<p>Explore careers through the CC's Job Shadow Program.</p> <p>Considering further education? Attend the CC's Graduate & Professional Schools Fair. Talk to professors – they are potential mentors and references.</p>	<p>What's your next step after undergrad?</p> <p>Entering the workforce? Evaluate your career options through a CC Career Counselling appointment. Create a job search strategy — book a CC Employment Strategies appointment.</p> <p>Considering further education? Research application requirements, prepare for admission tests (LSAT, GMAT) and research funding options (OGS, SSHRC)</p>	<p>Market your skills to employers. Get your resume critiqued at the CC. Attend the CC workshop Now That I'm Graduating What's Next?</p> <p>Write a strong application for further education. Attend the CC's Mastering the Personal Statement workshop.</p> <p>Ready to transition from the classroom to the workplace? Check out the Recent Graduate Opportunities Program (RGOP).</p>

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

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.

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**

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)**
- **Indigenous Centre (IC)**
- **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)**

Department of Mathematical & Computational Sciences

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www.utm.utoronto.ca/math-cs-stats/

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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3359 Mississauga Rd
Mississauga ON Canada L5L 1C6

905-828-5400

www.utm.utoronto.ca/future-students

