

MATHEMATICS AND STATISTICS

# Experience Map



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University  
of Windsor

**MATHEMATICS**

**MATHEMATICS AND STATISTICS**

**MATHEMATICS AND COMPUTER SCIENCE**

**MATHEMATICS WITH FINANCE CONCENTRATION**

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# MATHEMATICS AND STATISTICS

## SKILLS AND KNOWLEDGE OF MATHEMATICS AND STATISTICS GRADUATES

### PROGRAM HIGHLIGHTS

According to *The Jobs Rated Almanac*, careers based on mathematics make up the bulk of the Top 10 jobs. Our programs include a core of rigorous courses designed to develop mathematical problem-solving and communication skills and to increase knowledge of mathematical structures and applications. Career choices include actuarial science, statistics, economics, consulting and law or medicine (with additional studies).

### FUNCTIONAL KNOWLEDGE

- Designing and executing original observational and experimental studies
- Discerning and interpreting patterns, trends, and abnormalities in data sets; working with large amounts of data
- Intuitively understanding abstract concepts and theoretical approaches to problems
- Rigorously and methodically analyzing problems using established theoretical frameworks
- Communicating mathematical arguments and concepts to diverse audiences with clarity and precision
- Analyzing complex problems and breaking them down into steps/component parts

#### CURRICULUM

Courses of study specific to each program



#### CO-CURRICULAR

Activities and experiences that complement coursework  
(Outstanding Scholars, STEPS workshops, peer mentoring, VIP)

#### EXTRACURRICULAR

Activities falling outside of the scope of set curriculum  
(Part-time job, clubs, volunteering, athletics)

### BUILD YOUR SKILLS AND EXPERIENCE

Your UWindsor experience is more than attending classes. It is a combination of academics, co-curricular activities, and extracurricular involvement. By making the most of all three elements of your university experience, you will maximize your opportunities to build your skills, broaden your personal network, and clarify your long term academic and career goals.



### CAREER PLANNING GUIDE

Intentional career planning will help you prepare for your next step after graduation. It is a fluid, dynamic, and continuous process, meaning you can move on or return to an earlier stage at any time. You can even work through simultaneous cycles, like one for your long-term dream job and another for a summer job.



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## HOW TO USE THIS GUIDE

This guide is meant to help you explore various opportunities throughout the course of your UWindsor experience. It is intended to help you link academics, co-curricular, extra-curricular and career planning activities by suggesting some of the options available to you. This is to help you see what you can do, rather than what you are required to do!

## Academics



### First Year

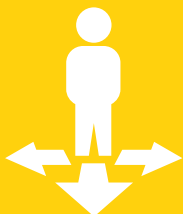
- Take required courses including Linear Algebra, Differential Calculus, Integral Calculus, and Mathematical Foundations
- Review degree course requirements for all years of study
- Participate in our PASS program during Welcome Week to be provided with the skills necessary to excel as a Faculty of Science student
- Visit the Mathematics and Statistics Learning Centre for support in all of your first year mathematics courses and to meet other students in your program
- Meet with the department's Undergraduate Counselor
- Receive peer mentorship from an upper-year MySci Advisor

## Experience



- Begin the process of becoming a LEAD Medallion Scholar and participate in credit and volunteer activities which provide you with skills in **Leadership, Engagement, Application and Discovery**\*
- Apply for a co-curricular experience such as the Volunteer Internship Program (VIP)\*
- Learn about research opportunities within the Department of Mathematics and Statistics\*
- Attend an undergraduate pizza seminar
- Discover research opportunities as part of the Outstanding Scholars program\*
- Research student exchange and study abroad opportunities for middle years to gain a **Global Perspective of Science**\*
- Join a club like the Mathematics and Statistics Student Association, Students Offering Support or Science Society

## Career



- Create a list of things that you enjoy, areas in which you excel, and your skills
- Meet with Career and Employment Services to develop a plan for your future years
- Take an interest assessment to help you identify possible career paths
- Attend our Summer Job Search Workshop
- Become familiar with the mySuccess online job search tool
- Attend our Resumé Workshops or Peer Resumé Clinic

## Middle Years

- Take required courses and meet with the department's Undergraduate Counselor to make sure you are on the right path
- Consider completing an undergraduate research project in final year\*
- Begin taking courses to specialize in Pure Mathematics, Statistics, Applied Mathematics, Actuarial Mathematics, Finance or Operations Research
- Consider taking courses toward a minor or double major in a second Science, Business, or Arts discipline
- Seek out internships and courses that offer field experience\*
- Start taking courses required as pre-requisites for graduate/professional school
- Consider studying for and writing the Society of Actuaries Exams

- **Apply** your knowledge through a summer research assistant or teaching assistant position\*
- Participate in UWill Discover undergraduate research conference\*
- Gain a Global Perspective of Science (GPS) through an international exchange or by studying abroad\*
- Expand your skills by taking on a summer, part-time or volunteer position
- Gain valuable **Leadership** skills through the Mathematics and Statistics Student Association
- Assist with problem-solving workshops offered by the Mathematics and Statistics Department
- Assist with the planning and organization of such mathematics outreach programs as Kangaroo Math, Tournament of the Towns, and Science Academy

- Research career fields and occupations
- Explore opportunities and meet employers through a job fair or employer information session
- Attend the Graduate and Professional Schools Fair to explore further educational opportunities
- Analyze the requirements for graduate or professional schools
- Make an appointment with Career & Employment Services to explore career options
- Create a LinkedIn profile and have it critiqued
- Attend information sessions on career opportunities in actuarial mathematics
- Look into scholarship opportunities for post-graduate studies

## Final Year

- Meet with faculty and academic advisor to review degree requirements
- Complete all required courses to fulfill degree audit
- Apply to graduate through MyUWindsor Portal
- Undertake an undergraduate research project with a faculty member\*
- Apply your knowledge through a field work, internship, or practicum course to culminate your senior experience\*
- Study for and write the Society of Actuaries Exams

- Apply for an NSERC – Undergraduate Student Research Award\*
- Conduct field research with faculty member or apply to be a lab instructor for Calculus or Linear Algebra\*
- Be **Engaged** through Service Learning opportunities with Let's Talk Science and Science Rendezvous\*
- Become a MySci Advisor and/or tutor for Students Offering Support (SOS) or the Mathematics and Statistics Student Association
- Complete LEAD Medallion Scholars in two areas for Bronze, three areas for Silver, four areas for Gold in accordance with **Leadership, Engagement, Application, Discover**\*
- Consider attending such off-campus workshops and seminars as the Fields Institute, Canadian Math Society conferences, and Math in Moscow
- Enter the William Lowell Putnam Mathematics Competition

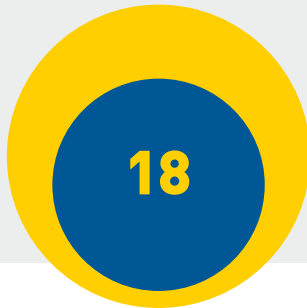
- Consider applying to graduate or professional school and be aware of early application deadlines
- Meet with Career & Employment Services to prepare application documents such as resumé, cover letter, CV or personal statement
- Attend an Interview Skills Workshop and Job Search Tips Workshop
- Set up a mock interview for professional school or job applications
- Meet employers at the annual job fair in January
- Compose a portfolio of relevant academic and work experience
- Write entrance exams for professional schools (MCAT, LSAT)
- Look for such professional development opportunities on campus as Toastmasters

\* High-Impact Practice: educational practices that include experiential learning as a basis for student engagement and successful scholarship

# MATHEMATICS AND STATISTICS

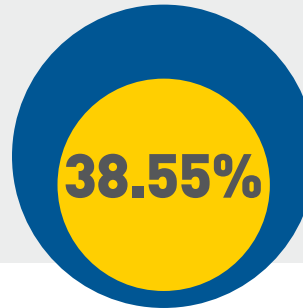
## LIFE AFTER GRADUATION

2016



Number of University of Windsor graduates from Mathematics and Statistics programs in 2016.

2013



Percentage of Canadian university computer science, mathematics and statistics graduates who continued their studies post-bachelor degree. (National Graduates Study 2013)



## COMMON INDUSTRIES FOR MATHEMATICS AND STATISTICS GRADUATES

- Academia
- Actuarial science
- Banking and financial services
- Education: Curriculum design, teaching
- Government: Research and policy development
- Industry: Forecasting, product development/testing
- IT and computer science
- Statistics and Research: Public and private sectors
- Telecommunications

## CAREER TRACKS\*

Accountant  
Actuary  
Appraiser  
Astronomer  
Bank manager  
Business advisor  
Claims adjuster

Computer programmer  
Computing consultant  
Doctor  
Economic developer  
Financial advisor  
Immigration services officer  
Lab technician

Lawyer  
Loan consultant  
Mathematician  
Modeling analyst  
Payroll officer  
Professor  
Project manager

Quantitative analyst  
Real estate broker  
Research co-ordinator  
Risk management analyst  
Software engineer  
Statistician  
Teacher

\* Additional education and/or training required for some of the above careers.

## CAREER-READINESS COMPETENCIES



**Critical Thinking and Problem Solving: Using strategic and creative thinking to make decisions and evaluate solutions**

- Learning, understanding, and interpreting information to apply knowledge to new situations
- Applying new and/or unfamiliar information and technologies to diverse situations and settings
- Thinking creatively to solve complex problems



**Professionalism and Work Ethic: Demonstrating personal management practices and a high level of integrity and ethical behaviour**

- Managing time, data, and resources to meet deadlines
- Identifying priorities and preferable courses of action to execute necessary tasks
- Assessing only relevant information and resources pertaining to your work



**Teamwork and Collaboration: Working as a productive member of a group and collaborating with others to achieve set goals**

- Leading and interacting with colleagues who reflect different backgrounds, learning styles, and approaches
- Working effectively in groups when required; engaging in collaborative decision making
- Identifying one's ideal role and contributing to the collective through leading, teaching, and motivating others



**Communication: Appropriate and effective articulation of ideas and information to a range of audiences**

- Establishing and communicating hypotheses
- Preparing and delivering data-driven oral and written presentations and reports using technological aids
- Utilizing technical writing to convey the message of a broader piece of work



## CAMPUS RESOURCES

- Visit **Leddy Library** and the **Writing Support Desk** on the main floor for help with academic assignments
- Improve study skills through the **Skills To Enhance Personal Success (STEPS)** program
- Discover ways to get involved on campus through the **Student Success and Leadership Centre**
- Explore mentorship opportunities through the **Connecting4Success (C4S)** and **Bounce Back** programs
- Apply to the **Volunteer Internship Program (VIP)** to get involved in the community
- Look into the **Work Study** program for on-campus employment opportunities
- Broaden your cultural awareness through the **International Student Centre** and **Student Exchange Office**
- Get assistance developing your career plan and job search skills from **Career & Employment Services**
- Consult with the **EPICentre** if you are interested in starting your own business
- Seek out assistance with academic accommodation from **Student Accessibility Services**
- Tend to your health and wellness with support from **Student Health Services, Lancer Recreation** and the **Student Counselling Centre**

### Recruitment Office

Phone: 519-973-7014  
Toll-Free: 1-800-864-2860  
Email: [info@uwindsor.ca](mailto:info@uwindsor.ca)

### Department of Mathematics and Statistics

Phone: 519-253-3000, Ext. 3015  
Email: [mthsta2@uwindsor.ca](mailto:mthsta2@uwindsor.ca)

### Career and Employment Services

Phone: 519-253-3000, Ext. 3895  
Email: [careerservices@uwindsor.ca](mailto:careerservices@uwindsor.ca)  
[experience.uwindsor.ca](http://experience.uwindsor.ca)



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