

ACTUARIAL SCIENCE

CO-OP OR REGULAR

Use math to assess risk and predict uncertainties

Today's real-life financial problems involve future uncertainty, and require statistics, probability, and risk theory. Actuaries address the uncertainties associated with life insurance, property and casualty insurance, annuities, and pensions or other employee benefit plans.

We'll provide you with the 4 basic requirements to becoming an actuary – education, experience, strong communication skills, and assistance in the completion of a series of qualifying exams by various professional bodies, including the Society of Actuaries (SOA), Canadian Institute of Actuaries (CIA), and Casualty Actuarial Society (CAS).

ABINA RECOMMENDS THESE COURSES

- › **MTHEL 131 Introduction to Actuarial Practice:** A good introduction to life insurance products, risk management, and pension plan design, for example. What's not to love!
- › **ACTSC 231 Introductory Financial Mathematics:** A lot of your courses build on what you learn in this course. Learn about rates of interest and discount, annuities and sinking funds, and yield rates.
- › **STAT 331 Applied Linear Models:** In this course, you examine models showing the relationship between a response variable and several explanatory variables via regression models, hypothesis testing and prediction, and non-linear regression.
- › **ACTSC 431 Loss Models:** I'm looking forward to digging deeper into a course about losses – why they happen, how often they'll happen and just how severe they can be.
- › **ACTSC 453 Basic Pension Mathematics:** Personally, I don't have to think about a pension for a while, but I want to learn more about how to help people plan better by looking at liability and individual accrued benefit and projected benefit cost models.

#1 career choice – Actuary is amongst the highest ranked jobs in North America – careercast.com

5 SOA/CAS exams completed by Waterloo's Actuarial Science students

6 co-op terms – that's 2 years of paid work experience by graduation

ABINA

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ACTUARIAL SCIENCE/
FINANCE OPTION

ADVICE TO INCOMING STUDENTS

Don't be afraid to ask for help. If you find that a Math assignment is challenging, seek out one of the many resources available to help you: whether it's your professors, the tutorial centre, or your peers. Take time for extracurricular activities. You'll make friends and burn off stress.





WATERLOO IS A GLOBAL LEADER IN CO-OPERATIVE EDUCATION



Abina's extracurricular activities include Residence Don, the UW Tennis Club and the Actuarial Students National Association.

CO-OP STUDENTS AT WORK

Co-op bridges the gap between the classroom and the real world. Find opportunities to connect classroom theory with applications in a wide range of employment settings. During your co-op work terms, you will assume various job responsibilities, pick up new work-related skills, and earn competitive salaries.

TYPICAL CO-OP POSITIONS

- › Analyst, John Hancock Financial Services, **Abina's first work term**
- › Project Coordinator, Manulife Financial, **Abina's second work term**
- › Revenue Collections, Canada Revenue Agency, **Abina's third work term**
- › Operational Risk Management Analyst, TD Bank Financial Group
- › Actuarial Associate, Cigna Corporation

STUDY AND CO-OP SEQUENCE 1*

| YR. | TERM | REGULAR | SEQ. 1 |
|-----|--------|---------|--------|
| 1 | Fall | Study | Study |
| | Winter | Study | Study |
| | Spring | Off | Work |
| 2 | Fall | Study | Study |
| | Winter | Study | Work |
| | Spring | Off | Study |
| 3 | Fall | Study | Work |
| | Winter | Study | Study |
| | Spring | Off | Work |
| 4 | Fall | Study | Study |
| | Winter | Study | Work |
| | Spring | | Study |
| 5 | Fall | | Work |
| | Winter | | Study |

* This study-work sequence is one of 4 choices of co-op sequences.

UNDERGRADUATE RESEARCH OPPORTUNITIES

If you're curious about the research that professors conduct, research opportunities are available for strong undergraduate students. You could be paid for a part-time opportunity, or a full-time position may substitute as a co-op term. It is not uncommon for students to publish their work.

As an undergraduate in the Statistics and Actuarial Science Department, complete an application, and if successful, you'd be matched with a professor for 4 months. The experience would give you insight into graduate studies and it may earn you a reference letter, which is valuable when applying to master's and/or doctoral degree programs.

WATERLOO IS A CANADIAN INSTITUTE OF ACTUARIES (CIA) ACCREDITED UNIVERSITY

The road to becoming an actuary includes satisfying professional requirements and completing several exams. Upon the successful completion of Waterloo courses with certain grade requirements, you could receive exam exemptions and reach the designation of Associate and Fellow of the CIA at a faster pace. Learn more about becoming an actuary at: uwaterloo.ca/statistics-and-actuarial-science/current-undergraduate-students

CUSTOMIZE YOUR DEGREE

You can choose to add one of two options to your degree:

- › **Predictive Analytics Option:** Includes 7 senior Computer Science, Statistics, and Actuarial Science courses.
- › **Finance Option:** Includes 7 courses ranging from Managerial Accounting in first year, to Advanced Corporate Finance in fourth year.

GRADS AT WORK

- › Account Executive, Sun Life Financial Inc., Toronto
- › Actuarial Analyst, ING Life Insurance Korea Ltd., Seoul
- › Associate Vice President, Manulife Financial, North York
- › Senior Analyst, Willis Towers Watson, Toronto
- › Associate, Audit and Assurance Group, PricewaterhouseCoopers, Toronto
- › E-trading Developer, Citibank Canada, Toronto
- › Assistant Trader, DRW Trading Group, New York



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FACULTY OF MATHEMATICS
ACTUARIAL SCIENCE ACADEMIC ADVISORS

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