JOINT HONOURS BSC IN COMPUTER SCIENCE AND MATHEMATICS

Computer Science

Computer science at the School of Electrical Engineering and Computer Science combines the study of computation and information processing fundamentals with their application in the world around us. Computer scientists build fast, reliable, scalable and secure software systems to organize and analyze information. The honours curriculum comprises advanced topics in databases, artificial intelligence, computer graphics, security, distributed computing and algorithm design, culminating in an honours project.

This program teaches graduates how to use their creative and innovative talents to conceive, design and implement software systems. The French Immersion Stream is now available to all students in the Computer Science program. Our degrees are very flexible and include options, minors and a major, which can be used to explore connections between computer science and many other fields of study.

Learn more about the Computer Science program (https://www.uottawa.ca/faculty-engineering/undergraduate-studies/programs/computer-science/)

Mathematics

Mathematics and statistics are not only powerful problem-solving tools, but also highly creative fields of studies that combine imagination with logic, and precision with intuition.

Mathematics is much more than numbers! Its basic goal is to reveal and model general patterns to help explain our world, whether they be found in electrical impulses in the human nervous system, the evolution of animal populations in their habitats, fluctuations in stock-market prices, or electronic communications. Mathematics reaches far beyond science and engineering into medicine, business and the social sciences.

Advances in mathematics and statistics lie behind many discoveries that are now part of our daily lives, such as MRI scanners, digital compression of music and video, secure electronic communications, data mining, genomic algorithms, futures pricing, and many other innovations.

The Department of Mathematics and Statistics offers Honours, majors and minors both in mathematics and in statistics. Our Honours program in statistics is accredited by the Statistical Society of Canada, allowing graduates to earn the A.Stat. professional designation. Moreover, the Department offers a joint honours program in mathematics and economics, a joint honours program in mathematics and computer science, as well as a multidisciplinary program in financial mathematics and economics. All our honours programs also include the co-operative education option.

This program is offered in English and in French.

Learn more about the Mathematics program (https://www.uottawa.ca/faculty-science/mathematics-statistics/undergraduate/mathematics/)

Program Requirements

Co-operative education is available with this program.

The French immersion stream is available with this program.

Requirements for this program have been modified. Please consult the 2025-2026 calendars (http://www.uottawa.ca/academic/info/regist/1516/calendars/) for the previous requirements.

ENG 1112	Technical Report Writing	3 Units
Mathematics (51 course units)		
MAT 1320	Calculus I	3 Units
MAT 1322	Calculus II	3 Units
MAT 1341	Introduction to Linear Algebra	3 Units
MAT 1348	Discrete Mathematics for Computing	3 Units
MAT 2122	Multivariable Calculus	3 Units
MAT 2125	Elementary Real Analysis	3 Units
MAT 2141	Honours Linear Algebra	3 Units
MAT 2143	Introduction to Group Theory	3 Units
MAT 2371	Introduction to Probability	3 Units
STA 2100	Introduction to Statistics	3 Units
3 course units from:		3 Units
MAT 2324	Ordinary Differential Equations and the Laplace Transform	
MAT 2355	Introduction to Geometry	
MAT 2362	Foundations of Mathematics	
12 optional course units in mathematics (MAT) at the 3000 or 4000 level [1, 2]		12 Units
6 optional course units in mathematics (MAT) at the 4000 level [1, 2]		6 Units
Computer Science (51 course units)		
ITI 1100	Digital Systems I	3 Units
ITI 1120	Introduction to Computing I	3 Units
ITI 1121	Introduction to Computing II	3 Units
CEG 2136	Computer Architecture I	3 Units
CSI 2101	Discrete Structures	3 Units
CSI 2110	Data Structures and Algorithms	3 Units
CSI 2120	Programming Paradigms	3 Units
CSI 2132	Databases I	3 Units
CSI 2911	Professional Practice in Computing	3 Units
SEG 2105	Introduction to Software Engineering	3 Units
CSI 3104	Introduction to Formal Languages	3 Units
CSI 3105	Design and Analysis of Algorithms I	3 Units
CSI 3131	Operating Systems	3 Units
3 course units from:		3 Units
CEG 3185	Introduction to Data Communications and Networking	
CSI 3130	Databases II	
CSI 3140	WWW Structures, Techniques and Standards	
3 optional course units in computer science (CSI) or software engineering (SEG) at the 3000 or 4000 level		3 Units
6 optional course units in computer science (CSI) at the 4000 level		6 Units

15 elective course units [1]	15 Units
Total:	**120 Units**

Note(s)

1. The course MAT 3153 cannot be counted for units if you have previously passed MAT 4153. You may however take MAT 3153 and then subsequently take MAT 4153, and count both for units.
2. Students planning to go to graduate studies in mathematics or statistics must consult the Department of Mathematics and Statistics for their choices of optional courses.