HONOURS BSC COMPUTER SCIENCE, DATA SCIENCE OPTION

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.

This program is offered in English and in French.

Compulsory courses are offered in English and French.

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

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://catalogue.uottawa.ca/en/archives/) for the previous requirements.

ENG 1112	Technical Report Writing	3 Units
ITI 1100	Digital Systems I	3 Units
ITI 1120	Introduction to Computing I	3 Units
ITI 1121	Introduction to Computing II	3 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
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
STA 2391	Probability and Statistics for Engineers	3 Units
CEG 3185	Introduction to Data Communications and Networking	3 Units
CSI 3104	Introduction to Formal Languages	3 Units
CSI 3105	Design and Analysis of Algorithms I	3 Units
CSI 3120	Programming Language Concepts	3 Units
CSI 3130	Databases II	3 Units
CSI 3131	Operating Systems	3 Units
CSI 3140	WWW Structures, Techniques and Standards	3 Units
CSI 4142	Fundamentals of Data Science	3 Units
CSI 4900	Honours Project	3 Units
One option from the following:		6 Units
Option 1:		
6 optional course units in computer engineering (CEG), in electrical engineering (ELG) or in software engineering (SEG) at the 3000 level; or in computer science (CSI) at the 4000 level		
Option 2:		
CSI 2372	Advanced Programming Concepts With C++	
and 3 optional course units in computer engineering (CEG), in electrical engineering (ELG) or in software engineering (SEG) at the 3000 level; or in computer science (CSI) at the 4000 level		
9 course units from:		9 Units
CSI 4106	Introduction to Artificial Intelligence	
CSI 4107	Information Retrieval and the Internet	
CSI 4108	Cryptography	
CSI 4139	Design of Secure Computer Systems	
6 elective course units		6 Units
24 elective course units of non-computing [1]		24 Units
Total:		**120 Units**

Note(s)

[1] Students are encouraged to choose 12 course units of administration, humanities, science or social science courses that relate to the data science domain.