Adding Value to Your Team

The Bachelor of Computing Degree, with Majors in Computer Science and Software Engineering, prepares students for the workplace by teaching them software development, data structures, algorithms, teamwork, and professional standards. Students gain hands-on experience in leading edge technology, problem solving and software development, preparing them with an applied academic foundation. They also study new and emerging methods for software design and development. The Computer Science major has a greater emphasis on algorithm design and analysis, the theory of computation, and math. The Software Engineering major focus more on design methodologies and project management. Both majors take courses on the system analysis and design and software engineering, along with electives such as testing, networks, HCI, computational intelligence, graphics, game programming, security, and parallel programming.

University of Guelph Advantage

- Students complete 2 years of their degree before their first co-op work term
- Students have the unique opportunity to study an "area of application". These elective courses, drawn from another academic discipline, allow for both specialization and diversity. As such, a student can combine their degree with a variety of disciplines (music, psychology, business, math, etc.)
- Our co-op process responds to your hiring needs. Employers can post, hire and interview throughout the semester and our students are available for 4 or 8 month work terms

Student Strengths

- Students will complete ten core computing courses, including intermediate programming, object-oriented programming, and operating systems before their first work term
- Students possess strong technical knowledge researching data structures, algorithm design and analysis, software engineering, and database management
- C, Java, Python and SQL are the primary languages used in our curriculum
- Students master core topics including computer organization, operating systems, Linux, and OSX
- We teach collaborative, team-based design coursework (agile methodology), and our students integrate easily in software design teams

recruit@uoguelph.ca
519-824-4120 ext. 52323
uoguelph.ca/coop

Bachelor of Computing Course Sequencing

* Specific to Software Engineering

* Specific to Computer Science

YEAR	FALL (SEPT-DEC)	WINTER (JAN-APRIL)	SUMMER (MAY-AUG)
ONE	• PROGRAMMING • SOFTWARE DESIGN I • CALCULUS I • DISCRETE STRUCTURES IN COMPUTING I • 2 COURSES IN THE AREA OF APPLICATION **OR** ELECTIVES	• DISCRETE STRUCTURES IN COMPUTING II • LINEAR ALGEBRA I • SOFTWARE DESIGN II • INTERMEDIATE PROGRAMMING • 2 COURSES IN THE AREA OF APPLICATION **OR** ELECTIVES	**OFF**
TWO	• STRUCTURE AND APPLICATION OF MICROCOMPUTERS • OBJECT ORIENTED PROGRAMMING • DATA STRUCTURES • SOFTWARE DESIGN III • 2 COURSES IN THE AREA OF APPLICATION **OR** ELECTIVES • 1 COURSE IN AREA OF APPLICATION **OR** ELECTIVE • INTRODUCTION TO CO-OPERATIVE EDUCATION	• SOFTWARE SYSTEMS DEVELOPMENT AND INTEGRATION • OPERATING SYSTEMS I • THE ANALYSIS AND DESIGN OF COMPUTER ALGORITHMS • 1 - 2 COURSES IN THE AREA OF APPLICATION **OR** ELECTIVES	**WORK TERM ONE**
THREE	**WORK TERM TWO**	• SYSTEM ANALYSIS AND DESIGN IN APPLICATIONS • 1 3000 OR 4000 LEVEL CIS ELECTIVE • 2 – 3 COURSES IN THE AREA OF APPLICATION **OR** ELECTIVES	**WORK TERM THREE**
FOUR	• SOFTWARE ENGINEERING • 1 3000 OR 4000 LEVEL CIS ELECTIVE • STATISTICS I • THEORY OF COMPUTATION • 1 - 2 COURSES IN THE AREA OF APPLICATION **OR** ELECTIVES	**WORK TERM FOUR**	**WORK TERM FIVE**
FIVE	• SOFTWARE DESIGN IV • SOFTWARE RELIABILITY AND TESTING • HUMAN COMPUTER INTERACTION • 1 3000 OR 4000 LEVEL CIS COURSE • 2 4000 LEVEL CIS COURSES • 2 COURSES IN THE AREA OF APPLICATION OR ELECTIVES	• 2 COURSES IN THE AREA OF APPLICATION OR ELECTIVES • COMPILERS • 1 3000 OR 4000 LEVEL CIS COURSE • 1 4000 LEVEL CIS COURSE • SOFTWARE DESIGN V • 3 COURSES IN THE AREA OF APPLICATION OR ELECTIVES	

BASED ON THE 2022/23 UNDERGRADUATE CALENDAR

PLEASE SEE THE CURRENT UNDERGRADUATE CALENDAR FOR MORE INFORMATION

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