Generating Solutions

The Bachelor of Computing program at the University of Guelph, instituted in 1971, prepares students with strong technical and analytic skills. 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.

Our Program

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. The Computer Science major has a greater emphasis on algorithm design and analysis, the theory of computation, and math. The Software Engineering major focuses more on design methodologies and project management. Both majors take courses on system analysis and design and software engineering as a team, 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.

• At Guelph, computing 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 needs. Employers can post, hire and interview throughout the semester and our students are available for 4 or 8 month work terms. The Recruit Guelph hiring tool makes hiring Guelph co-op students easy!

Students Strengths

• Students will have accomplished five computing courses, including intermediate programming, object-oriented programming, and operating systems before their first work term.

• By their second work term, students possess greater technical knowledge of data structures, Algorithm design and analysis, software engineering, and database management.

• C, Java, Python and SQL are the primary languages used in our curriculum that are integral to our program.

• Students master core topics including computer organization, operating systems, Linux and OSX.

• The strong focus on collaborative, team-based design coursework (agile methodology), results in students who are able to integrate well in a conventional work-place.
Bachelor of Computing Course Sequencing:

* Specific to Software Engineering
* Specific to Computer Science

<table>
<thead>
<tr>
<th>YEAR</th>
<th>FALL (SEPTEMBER - DECEMBER)</th>
<th>WINTER (JANUARY - APRIL)</th>
<th>SUMMER (MAY - AUGUST)</th>
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</table>
| ONE  | • INTRODUCTION TO PROGRAMMING  
      • SOFTWARE DESIGN I  
      • CALCULUS I  
      • 3 COURSES IN THE AREA OF APPLICATION OR ELECTIVES  
      | • DISCRETE STRUCTURES IN COMPUTING I  
      • SOFTWARE DESIGN II  
      • INTERMEDIATE PROGRAMMING  
      • 2 COURSES IN THE AREA OF APPLICATION OR ELECTIVES  
      • 3 COURSES IN THE AREA OF APPLICATION OR ELECTIVES  
      | OFF |
| TWO  | • STRUCTURE AND APPLICATION OF MICROCOMPUTERS  
      • OBJECT ORIENTED PROGRAMMING  
      • DATA STRUCTURES  
      • SOFTWARE DESIGN III  
      • DISCRETE STRUCTURES IN COMPUTING II  
      • 1 COURSE IN THE AREA OF APPLICATION OR ELECTIVE  
      • INTRODUCTION TO CO-OPERATIVE EDUCATION  
      | • SOFTWARE SYSTEMS DEVELOPMENT AND INTEGRATION  
      • OPERATING SYSTEMS I  
      • THE ANALYSIS AND DESIGN COMPUTER ALGORITHMS  
      • 1-2 COURSES IN THE AREA OF APPLICATION OR ELECTIVES  
      • 1 3000 OR 4000 LEVEL CIS ELECTIVE  
      | WORK TERM ONE |
| THREE| WORK TERM TWO | • SOFTWARE ENGINEERING  
      • 1 3000 OR 4000 LEVEL CIS ELECTIVE  
      • 2 – 3 COURSES IN THE AREA OF APPLICATION OR ELECTIVES  
      | WORK TERM THREE  
| FOUR | • SOFTWARE DESIGN IV  
      • SYSTEM ANALYSIS AND DESIGN IN APPLICATIONS  
      • ONE OF: MODELLING OF COMPUTER SYSTEMS OR STATISTICS I  
      • THEORY OF COMPUTATION  
      • 1 - 2 COURSES IN THE AREA OF APPLICATION OR ELECTIVES  
      | WORK TERM FOUR  
| FIVE | • SOFTWARE DESIGN V  
      • 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  
      • COMPLIERS  
      • 1 3000 OR 4000 LEVEL CIS COURSE  
      • 1 4000 LEVEL CIS COURSE  
      • 3 COURSES IN THE AREA OF APPLICATION OR ELECTIVES  
      | WORK TERM FIVE  

BASED ON THE 2016/17 UNDERGRADUATE CALENDAR.

PLEASE SEE THE CURRENT UNDERGRADUATE CALENDAR FOR MORE INFORMATION

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