Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Computer Science – Data Science
September Entry

Department of Computer Science and Software Engineering

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Fall	MAST 218	Multivariable Calculus I	3.00	MATH 204, 205	
		MAST 221	Applied Probability	3.00	MATH 204, 205	MAST 218
		STAT 280	Introduction to Statistical Programming	3.00	MATH 203, 204	
		COMP 248	Object-Oriented Programming I	3.50		MATH 204
			Elective*			
	Winter	MAST 234	Linear Algebra and Applications I	3.00	MATH 204	
		MAST 333	Applied Statistics	3.00	MAST 221	
		COMP 228	System Hardware	3.00	COMP 248	MATH 203, 204
		COMP 232	Mathematics for Computer Science	3.00	MATH 203, 204	
		COMP 249	Object-Oriented Programming II	3.50	COMP 248, MATH 203	MATH 205
Year 2	Fall	COMP 335	Introduction to Theoretical Computer Science	3.00	COMP 232 or COEN 231; COMP 249 or COEN 244	
		COMP 352	Data Structures and Algorithms	3.00	COMP 249	COMP 232
		COMP 361	Elementary Numerical Methods	3.00	COMP 232, COMP 249	
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
			Elective*			
	Winter	COMP 348	Principles of Programming Languages	3.00		COMP 249
		COMP 354	Introduction to Software Engineering	4.00	COMP 352; ENCS 282	
		COMP 432	Machine Learning	4.00	COMP 352	
			Elective*			
Year 3	Fall	MAST 387	Data Science Lab	3.00	STAT 280; MAST 333	
		COMP 346	Operating Systems	4.00	COMP 228 or SOEN 228, COMP 352	
		COMP 433	Introduction to Deep Learning	4.00	COMP 352	
			Elective*			
	Winter	ENCS 393	Social and Ethical Dimensions of Information and Communication Technologies	3.00	ENCS 282; 30 credits in BCompSc program	
		COMP 353	Databases	4.00	COMP 232, COMP 352	
		SOEN 471	Big Data Analytics	4.00	COMP 352	
			Elective*			

***Please note, only core courses are listed above and not all electives are assigned a row in the above sequence.**

For the list of electives which students must complete, please consult section 71.85 of the Undergraduate Calendar.

Students in the Bachelor of Computer Science should follow the academic calendar for the year to which they have been admitted/readmitted.

To be considered full-time, students must register for a minimum of 12 credits per term.

Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Computer Science – Data Science
January Entry

Department of Computer Science and Software Engineering

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Winter	MAST 218	Multivariable Calculus I	3.00	MATH 204, 205	
		MAST 234	Linear Algebra and Applications I	3.00	MATH 204	
		COMP 248	Object-Oriented Programming I	3.50		MATH 204
			Elective*			
	Summer	COMP 228	System Hardware	3.00	COMP 248	MATH 203, 204
		COMP 232	Mathematics for Computer Science	3.00	MATH 203, 204	
		COMP 249	Object-Oriented Programming II	3.50	COMP 248, MATH 203	MATH 205
			Elective*			
Year 2	Fall	COMP 335	Introduction to Theoretical Computer Science	3.00	COMP 232 or COEN 231; COMP 249 or COEN 244	
		COMP 352	Data Structures and Algorithms	3.00	COMP 249	COMP 232
		MAST 221	Applied Probability	3.00	MATH 204, 205	MAST 218
		STAT 280	Introduction to Statistical Programming	3.00	MATH 203, 204	
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
	Winter	COMP 346	Operating Systems	4.00	COMP 228 or SOEN 228, COMP 352	
		COMP 348	Principles of Programming Languages	3.00		COMP 249
		COMP 354	Introduction to Software Engineering	4.00	COMP 352; ENCS 282	
		COMP 432	Machine Learning	4.00	COMP 352	
		MAST 333	Applied Statistics	3.00	MAST 221	
Year 3	Fall	MAST 387	Data Science Lab	3.00	STAT 280; MAST 333	
		COMP 361	Elementary Numerical Methods	3.00	COMP 232, COMP 249	
		COMP 433	Introduction to Deep Learning	4.00	COMP 352	
			Elective*			
	Winter	ENCS 393	Social and Ethical Dimensions of Information and Communication Technologies	3.00	ENCS 282; 30 credits in BCompSc program	
		COMP 353	Databases	4.00	COMP 232, COMP 352	
		SOEN 471	Big Data Analytics	4.00	COMP 352	
			Elective*			

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Université Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Computer Science – Data Science Co-op Entry

Department of Computer Science and Software Engineering

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Fall	COMP 232	Mathematics for Computer Science	3.00	MATH 203, 204	
		COMP 248	Object-Oriented Programming I	3.50		MATH 204
		MAST 218	Multivariable Calculus I	3.00	MATH 204, 205	
		MAST 221	Applied Probability	3.00	MATH 204, 205	MAST 218
		STAT 280	Introduction to Statistical Programming	3.00	MATH 203, 204	
	Winter	COMP 228	System Hardware	3.00	COMP 248	MATH 203, 204
		COMP 249	Object-Oriented Programming II	3.50	COMP 248, MATH 203	MATH 205
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
		MAST 234	Linear Algebra and Applications I	3.00	MATH 204	
			Elective*			
	Summer	COMP 352	Data Structures and Algorithms	3.00	COMP 249	COMP 232
		COMP 348	Principles of Programming Languages	3.00		COMP 249
		COMP 335	Introduction to Theoretical Computer Science	3.00	COMP 232 or COEN 231; COMP 249 or COEN 244	
			Elective*			
Year 2	Fall	Work Term 1				
	Winter	SOEN 471	Big Data Analytics	4.00	COMP 352	
		MAST 333	Applied Statistics	3.00	MAST 221	
		COMP 432	Machine Learning	4.00	COMP 352	
			Elective*			
	Summer	Work Term 2				
Year 3	Fall	MAST 387	Data Science Lab	3.00	STAT 280; MAST 333	
		COMP 354	Introduction to Software Engineering	4.00	COMP 352; ENCS 282	
		COMP 361	Elementary Numerical Methods	3.00	COMP 232, COMP 249	
		COMP 433	Introduction to Deep Learning	4.00	COMP 352	
			Elective*			
	Winter	Work Term 3				
	Summer	COMP 346	Operating Systems	4.00	COMP 228 or SOEN 228; COMP 352	
		COMP 353	Databases	4.00	COMP 232, COMP 352	
		ENCS 393	Social and Ethical Dimensions of Information and Communication Technologies	3.00	ENCS 282; 30 credits in BCompSc program	
			Elective*			

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To be considered full-time, students must register for a minimum of 12 credits per term.