

Software Engineering Co-op Curriculum - Fall 2021

NON-CEGEP Entry

1st Term (Fall)		14 credits	Prerequisites/Co-requisites
MATH 140	Calculus 1	3	P- High school calculus
MATH 133	Linear Algebra and Geometry	3	P- A course in functions
PHYS 131	Mechanics & Waves	4	C - MATH 139 or higher level calculus course.
FACC 100	Intro. to Engineering Profession	1	
HSS 1	Humanities & Social Sciences 1*	3	
2nd Term (Winter)		15 credits	Prerequisites/Co-requisites
CHEM 120	General Chemistry 2	4	P - College level mathematics and physics or permission of instructor
MATH 141	Calculus 2	4	P - (MATH 139 or MATH 140 or MATH 150)
PHYS 142	Electromagnetism & Optics	4	Model-based Programming 3 P - ECSE 202
ECSE 222	Di		
3rd Term (Fall)			
4th Term (Winter)			
	Digital Logic	3	P - ECSE 202
COMP 206	Introduction to Software Systems	3	P - ECSE 202 or COMP 250
MATH 240	Discrete Structures	3	C - MATH 133
5th Term (Summer)		2 credits	Prerequisites/Co-requisites
ECSE 201	Software Engineering Co-op 1	2	P - ECSE 223 or COMP 250 and CCOM 206
6th Term (Fall)		15 credits	Prerequisites/Co-requisites
COMP 251	Algorithms and Data Structures	3	P - COMP 250, C - MATH 240
ECSE 205	Probability & Statistics for Eng.	3	
ECSE 211	Design Principles and Methods		
		15 credits	Prerequisites/Co-requisites
COMP 302	Prog. Languages & Paradigms	3	P - COMP 250, MATH 240
COMP 360	Algorithm Design	3	P - COMP 251, MATH 240
7th Term (Winter)		3	P - MATH 263, ECSE 200, COMP 251
ECSE 326	Software Requirements Eng.	3	P - (ECSE 223 or COMP 303)
ECSE 427	Operating Systems	3	P - (ECSE 324 or COMP 273)
		2 credits	Prerequisites/Co-requisites
ECSE 401	Software Engineering Co-op 3	2	P - ECSE 301
8th Term (Summer)		2 credits	Prerequisites/Co-requisites
ECSE 402	Software Engineering Co-op 4	2	P - ECSE 401
9th Term (Fall)		13 credits	Prerequisites/Co-requisites
ECSE 458 D1	Capstone Design Project	3	P - ECSE 211, ECSE 324, CCOM 206, COMP 302
ECSE 429	Software Validation	3	P - (ECSE 321 or COMP 303)
ECSE 420	Parallel Computing	3	P - ECSE 427
FACC 400	Engineering Professional Practice	1	P - FACC 100, FACC 250, and 60 program credits
XXXX xxx	Technical Complementary 1	3	
10th Term (Winter)		15 credits	Prerequisites/Co-requisites
ECSE 458 D2	Capstone Design Project	3	P - ECSE 458 D1
COMP 421	Database Systems	3	P - COMP 206, COMP 251, COMP 302
XXXX Term (Summer)		3	
XXXX xxx	Technical Complementary 2	3	
XXXX xxx	Technical Complementary 3	3	
Elective	Elective Course	3	
12th Term (Fall)			
13th Term (Winter)			

List A

		Credits	Prerequisites/Co-requisites
ECSE 325	Digital Systems	3	P - ECSE 324
ECSE 343*	Numerical Methods in Engineering	3	P- ECSE 205, COMP 250, MATH 263
ECSE 415	Intro. to Computer Vision	3	P - ECSE 205, (ECSE 206 or ECSE 316)
ECSE 416	Telecom. Networks	4	P - (ECSE 316 or ECSE 308), ECSE 205, COMP 250
ECSE 422	Fault Tolerant Computing	3	P - ECSE 324, COMP 250
ECSE 425	Computer Architecture	3	P - ECSE 324
ECSE 437	Software Delivery	3	P - (ECSE 321 or COMP 303)
ECSE 439	Software Language Engineering	3	P - (ECSE 321 or COMP 303)
ECSE 444	Microprocessors	4	P - ECSE 324
ECSE 446	Realistic Image Synthesis	3	P - ECSE 202, ECSE 205, COMP 250
ECSE 544	Computational Photography	4	P - ECSE 205, ECSE 206
ECSE 551**	Machine Learning for Engineers	4	P - COMP 250, (ECSE 205 or MATH 323); C- ECSE 343 or ECSE 543 or MATH 247
ECSE 552	Deep Learning	4	P - (ECSE 551 or COMP 551)

List B

COMP 330	Theory of Computation	3	P - COMP 251
COMP 350*	Numerical Computing	3	P - MATH 222 or MATH 262, MATH 223, (ECSE 202 or COMP 208 or COMP 250 or equiv)
COMP 409	Concurrent Programming	3	P - COMP 251, COMP 302 & COMP 310 or ECSE 427
COMP 417	Intro. Robotics and Intelligent Systems	3	P - COMP 251, MATH 223 & (ECSE 321 or COMP 206)
COMP 524***	Artificial Intelligen	4	P - COMP 262, MATH 2251, CO 5E 321 or AMP 2513
M 34	P P		MP Aromputation