Software Engineering Curriculum - Fall 2010

Non-CEGEP Entry

1st Semester (Fall)		15 Credits	Pre-requisites/Co-requisites Required
CHEM 110	General Chemistry 1	4	-
FACC 100	Introduction to the Engineering Profession	1	-
MATH 133	Linear Algebra and Geometry	3	-
MATH 140	Calculus 1	3	-
PHYS 131	Mechanics and Waves	4	C - MATH 140
2nd Semester (Winter)		**18 Credits**	**Pre-requisites/Co-requisites Required**
CHEM 120	General Chemistry 2	4	-
MATH 141	Calculus 2	4	P - MATH 140
PHYS 142	Electromagnetism and Optics	4	P - PHYS 131 / C - MATH 141
CS	Complementary Studies Group B (HSSML) - 1	3	-
CS	Complementary Studies Group A (Impact)	3	-
3rd Semester (Fall)		**18 Credits**	**Pre-requisites/Co-requisites Required**
COMP 202	Introduction to Computing 1	3	P - MATH 140, MATH 141
COMP 250	Introduction to Computer Science	3	P - MATH 140, MATH 141
ECSE 200	Electric Circuits 1	3	P - PHYS 142 or equivalent / C - MATH 263
CCOM 206	Communication in Engineering	3	-
MATH 262	Intermediate Calculus	3	P - MATH 141, MATH 133
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262
4th Semester (Winter)		**17 Credits**	**Pre-requisites/Co-requisites Required**
ECSE 210	Electric Circuits 2	3	P - ECSE 200
ECSE 221	Introduction to Computer Engineering	3	P - COMP 202
ECSE 291	Electrical Measurements Laboratory	2	C - ECSE 210
MATH 264	Advanced Calculus for Engineers	3	P - MATH 262 / C - MATH 263
MATH 270	Applied Linear Algebra	3	P - MATH 263
CS	Complementary Studies Group B (HSSML) - 2	3	-
5th Semester (Fall)		**18 Credits**	**Pre-requisites/Co-requisites Required**
COMP 251	Data Structures and Algorithms	3	P - COMP 250
ECSE 211	Design Principles and Methods	3	P - ECSE 200, COMP 202 / C - ECSE 291
ECSE 306	Fundamentals of Signals and Systems	3	P - ECSE 210, MATH 270
ECSE 321	Introduction to Software Engineering	3	P - COMP 202 or COMP 208
ECSE 322	Computer Engineering	3	P - ECSE 200 or MECH 383, ECSE 221
MIME 310	Engineering Economy	3	-
6th Semester (Winter)		**18 Credits**	**Pre-requisites/Co-requisites Required**
COMP 206	Introduction to Software Systems	3	P - COMP 202 or COMP 250
COMP 302	Programming Languages and Paradigms	3	P - COMP 250 or COMP 203
ECSE 305	Probability and Random Signals 1	3	P - ECSE 303 or ECSE 306
ECSE 330	Introduction to Electronics	3	P - ECSE 210
ECSE 427	Operating Systems	3	P - ECSE 322 or COMP 273
MATH 363	Discrete Mathematics	3	P - MATH 263, MATH 264
7th Semester (Fall)		**16 Credits**	**Pre-requisites/Co-requisites Required**
COMP 360	Algorithm Design Techniques	3	P - COMP 251, MATH 363
ECSE 420	Parallel Computing	3	P - ECSE 427
ECSE 429	Software Validation	3	P - ECSE 321 or COMP 303
ECSE 456	ECSE Design Project 1	3	P - CCOM 206, COMP 302, ECSE 211, ECSE 322, ECSE 306, ECSE 321 / CR - FACC 400
FACC 400	Engineering Professional Practice	1	P - FACC 100, 60 program credits
ECSE xxx	Technical Complementary	3	-
8th Semester (Winter)		**14 Credits**	**Pre-requisites/Co-requisites Required**
COMP 421	Database Systems	3	P - COMP 206, COMP 251, COMP 302
ECSE 428	Software Engineering Practice	2	P - ECSE 321 or COMP 335
ECSE 457	ECSE Design Project 2	3	P - ECSE 456
ECSE xxx	Technical Complementary	3	-
ECSE xxx	Technical Complementary	3	-

Technical Complementary courses are selected from an approved list given on the next page.

The Complementary Studies (CS) courses are Impact of Technology courses (Group A) and Humanities & Social Sciences, Management Studies and Law courses (Group B). These must be chosen from an approved list of courses/departments, found in the program list in the *Programs, Courses and University Regulations Calendar* (www.mcgill.ca/study/2010-2011/faculties/engineering/undergraduate/ug_engineering_academic_programs) under "Complementary Studies."

Students are responsible for satisfying pre/co-requisites and verifying with their department that they are meeting the requirements of their program.

Technical Complementary Courses - Software Engineering

Students should take 9-12 credits of which 3-4 credits must be taken from List A and 6-8 credits from List B. It is possible that not all the courses listed will be offered in a given year. Please refer to the up-to-date course assignments before selecting any course. Permission will not be granted to take Technical Complementary courses that are not on this list.

List A Technical Complementaries

3-4 credits from:

		Credits
COMP 330	Theoretical Aspects: Computer Science	3
COMP 350	Numerical Computing	3
COMP 409	Concurrent Programming	3
COMP 424	Artificial Intelligence	3
COMP 520	Compiler Design	4
COMP 566	Discrete Optimization 1	3
COMP 575	Fundamentals of Distributed Algorithms	3
ECSE 529	Computer and Biological Vision	3

List B Technical Complementaries

6-8 credits from:

		Credits
ECSE 323	Digital Systems Design	5
ECSE 404	Control Systems	3
ECSE 411	Communications Systems 1	3
ECSE 412	Discrete Time Signal Processing	3
ECSE 413	Communications Systems 2	3
ECSE 414	Introduction to Telecommunication Networks	3
or COMP 535	Computer Networks 1	3
ECSE 421	Embedded Systems	3
ECSE 422	Fault Tolerant Computing	3
ECSE 424	Human-Computer Interaction	3
ECSE 425	Computer Organization and Architecture	3
ECSE 426	Microprocessor Systems	3
ECSE 504	Sampled Data Control	3
ECSE 530	Logic Synthesis	3
ECSE 532	Computer Graphics	3
or COMP 557	Fundamentals of Computer Graphics	3

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