Computer Engineering Curriculum - Fall 2011

Non-CEGEP Entry

1st Semester (Fall)		15 credits	Prerequisites/Co-requisites
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	Prerequisites/Co-requisites
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 A (Impact)	3	-
CS	Complementary Studies Group B (HSSML) - 1	3	-
3rd Semester (Fall)		18 credits	Prerequisites/Co-requisites
CCOM 206	Communication in Engineering	3	-
CIVE 281	Analytical Mechanics	3	C - MATH 262, MATH 263
COMP 202	Introduction to Computing 1	3	P - MATH 140, MATH 141
ECSE 200	Electric Circuits 1	3	P - PHYS 142 or equivalent / C - MATH 263
MATH 262	Intermediate Calculus	3	P - MATH 141, MATH 133
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262
4th Semester (Winter)		18 credits	Prerequisites/Co-requisites
COMP 250	Introduction to Computer Science	3	P - MATH 140, MATH 141
ECSE 210	Electric Circuits 2	3	P - ECSE 200
ECSE 221	Introduction to Computer Engineering	3	P - COMP 202
ECSE 321	Introduction to Software Engineering	3	P - COMP 202 or COMP 208
MATH 264	Advanced Calculus for Engineers	3	P - MATH 262 / C - MATH 263
MATH 270	Applied Linear Algebra	3	P - MATH 263
5th Semester (Fall)		17 credits	Prerequisites/Co-requisites
ECSE 211	Design Principles and Methods	3	P - ECSE 200, COMP 202 / C - ECSE 291
ECSE 291	Electrical Measurements Laboratory	2	C - ECSE 210
ECSE 306	Fundamentals of Signals and Systems	3	P - ECSE 210, MATH 270
ECSE 322	Computer Engineering	3	P - ECSE 200 or MECH 383, ECSE 221
ECSE 330	Introduction to Electronics	3	P - ECSE 210
ECSE 353	Electromagnetic Fields and Waves	3	P - ECSE 210, MATH 264
6th Semester (Winter)		17 credits	Prerequisites/Co-requisites
ECSE 305	Probability and Random Signals 1	3	P - ECSE 303 or ECSE 306
ECSE 323	Digital System Design	5	P - CCOM 206 or EDEC 206, ECSE 211, ECSE 221, ECSE 291
ECSE 425	Computer Organization and Architecture	3	P - ECSE 322, ECSE 323
ECSE 427	Operating Systems	3	P - ECSE 322 or COMP 273
MATH 363	Discrete Mathematics	3	P - MATH 263, MATH 264
7th Semester (Fall)		18 credits	Prerequisites/Co-requisites
COMP 251	Data Structures and Algorithms	3	P - COMP 203 or COMP 250
ECSE 334	Introduction to Microelectronics	3	P - ECSE 291, ECSE 303 or ECSE 306, ECSE 330
ECSE 414	Introduction to Telecommunication Networks	3	P - ECSE 322, ECSE 304 or ECSE 306
ECSE 426	Microprocessor Systems	3	P - CCOM 206 or EDEC 206, ECSE 323
ECSE 456	ECSE Design Project 1	3	P - ECSE 211, ECSE 322, ECSE 323, ECSE 330 / CR - FACC 400
ECSE xxx	Technical Complementary	3	-
8th Semester (Winter)		18 credits	Prerequisites/Co-requisites
ECSE 457	ECSE Design Project 2	3	P - ECSE 456
FACC 400	Engineering Professional Practice	1	P - FACC 100, 60 program credits
MIME 310	Engineering Economy	3	-
ECSE xxx	Technical Complementary	3	-
ECSE xxx	Technical Complementary	3	-
ECSE xxx	Lab Complementary	2	-
CS	Complementary Studies Group B (HSSML) - 2	3	-

Technical and Lab 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 under "Complementary Studies" in the Programs, Courses and University Regulations Calendar (www.mcgill.ca/study).

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 - Computer Engineering

Technical Complementaries

Note: 500-level courses are restricted to students with a minimum CGPA of 3.0 and B+ or better in prerequisite courses.
9 credits from the following:

		Credits
COMP 424	Artificial Intelligence	3
ECSE 404	Control Systems	3
ECSE 411	Communications Systems 1	3
ECSE 412	Discrete Time Signal Processing	3
ECSE 420	Parallel Computing	3
ECSE 421	Embedded Systems	3
ECSE 422	Fault Tolerant Computing	3
ECSE 424	Human-Computer Interaction	3
ECSE 428	Software Engineering Practice	3
ECSE 429	Software Validation	3
ECSE 431	Introduction to VLSI CAD	3
ECSE 436	Signal Processing Hardware	3
ECSE 443	Introduction to Numerical Methods of Electrical Engineering	3
ECSE 450	Electromagnetic Compatibility	3
ECSE 530	Logic Synthesis	3
ECSE 532	Computer Graphics	3
ECSE 537	Advanced Digital Integrated Circuits	3
ECSE 548	Introduction to VLSI Systems	3

Laboratory Complementaries

2-3 credits from the following:

		Credits
ECSE 434	Microelectronics Laboratory	2
ECSE 436	Signal Processing Hardware	3
ECSE 487	Computer Architecture Laboratory	2
ECSE 489	Telecommunication Network Laboratory	2
ECSE 490	Digital Signal Processing Laboratory	2
ECSE 491	Communication Systems Laboratory	2
ECSE 493	Control and Robotics Laboratory	2

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