

Software Engineering Curriculum - Fall 2010

CEGEP Entry

1st Semester (Fall)		15 Credits	Prerequisites/Co-requisites
COMP 202	Introduction to Computing 1	3	P - MATH 140, MATH 141
MATH 262	Intermediate Calculus	3	P - MATH 141, MATH 133
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262
Science	Basic Science Complementary 1	3	-
CS	Complementary Studies Group B (HSSML)	3	-
2nd Semester (Winter)		16 Credits	Prerequisites/Co-requisites
COMP 250	Introduction to Computer Science	3	P - MATH 140, MATH 141
ECSE 200	Electric Circuits 1	3	P - PHYS 142 or CEGEP equivalent / C - MATH 263 or MATH 325
ECSE 221	Introduction to Computer Engineering	3	P - COMP 202
FACC 100	Introduction to the Engineering Profession	1	-
MATH 264	Advanced Calculus for Engineers	3	P - MATH 262 / C - MATH 263
MATH 270	Applied Linear Algebra	3	P - MATH 263
3rd Semester (Fall)		17 Credits	Prerequisites/Co-requisites
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 210	Electric Circuits 2	3	P - ECSE 200
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 321	Introduction to Software Engineering	3	P - COMP 202 or COMP 208
4th Semester (Winter)		15 Credits	Prerequisites/Co-requisites
CCOM 206	Communication in Engineering	3	-
ECSE 306	Fundamentals of Signals and Systems	3	P - ECSE 210, MATH 270 or MATH 271
ECSE 322	Computer Engineering	3	P - ECSE 200 or MECH 383, ECSE 221
ECSE 330	Introduction to Electronics	3	P - ECSE 210
MATH 363	Discrete Mathematics	3	P - MATH 263, MATH 264
5th Semester (Fall)		18 Credits	Prerequisites/Co-requisites
COMP 251	Data Structures and Algorithms	3	P - COMP 203 or COMP 250
ECSE 305	Probability and Random Signals 1	3	P - ECSE 303 or ECSE 306
ECSE 429	Software Validation	3	P - ECSE 321 or COMP 303
MIME 310	Engineering Economy	3	-
ECSE xxx	Technical Complementary	3	-
CS	Complementary Studies Group A (Impact)	3	-
6th Semester (Winter)		15 Credits	Prerequisites/Co-requisites
COMP 421	Database Systems	3	P - COMP 206, COMP 251, COMP 302
ECSE 427	Operating Systems	3	P - ECSE 322 or COMP 273
ECSE 428	Software Engineering Practice	3	P - ECSE 321 or COMP 335
ECSE 456	ECSE Design Project 1	3	P - CCOM 206, COMP 302, ECSE 211, ECSE 322, ECSE 306, ECSE 321 / CR - FACC 400
ECSE xxx	Technical Complementary	3	-
7th Semester (Fall)		16 Credits	Prerequisites/Co-requisites
COMP 360	Algorithm Design Techniques	3	P - COMP 251, MATH 363
ECSE 420	Parallel Computing	3	P - ECSE 427
ECSE 457	ECSE Design Project 2	3	P - ECSE 456
FACC 400	Engineering Professional Practice	1	P - FACC 100, 60 program credits
ECSE xxx	Technical Complementary	3	-
Science	Basic Science Complementary 2	3	-

Technical and Basic Science 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

Basic Science Complementary Courses - Software Engineering

Students from CEGEP are required to complete two 3-credit courses at the 200-level or higher, chosen from the following science departments, approved by the Undergraduate Programs Office in the Department of Electrical and Computer Engineering:

Atmospheric and Oceanic Sciences (ATOC)
Biology (BIOL)
Chemistry (CHEM)
Earth and Planetary Sciences (EPSC)
Earth System Science (ESYS)
Physics (PHYS)

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