

2007 / 2008 CURRICULUM - COMPUTER ENGINEERING

EIGHT SEMESTER PROGRAM Total credits: 134

First (Fall) Semester		18 credits	Second (Winter) Semester		18 credits
CHEM 110	General Chemistry 1	(4 cr)	CHEM 120	General Chemistry 2	(4 cr)
MATH 133	Vectors, Matrices & Geometry	(3 cr)	COMP 202	Introduction to Computing 1	(3 cr)
MATH 150	Calculus A	(4 cr)	MATH 152	Calculus E	(4 cr, P - MATH 150)
PHYS 131	Mechanics & Waves	(4 cr)	PHYS 142	Electromagnetism & Optics	(4 cr, P - PHYS 131)
HSS	Humanities/Social Sciences	(3 cr)	XXXX xxx g1	General Complementary 1	(3 cr)
Third (Fall) Semester		18 credits	Fourth (Winter) Semester		17 credits
CIVE 281	Analytical Mechanics	(3 cr, C - MATH 262 & MATH 263)	COMP 250	Introduction to Computer Science	(3 cr)
ECSE 200	Fundamentals of Elect. Eng.	(3 cr, P - PHYS 142 or CEGEP Equivalent; C - MATH 263)	ECSE 210	Circuit Analysis	(3 cr, P - ECSE 200)
ECSE 221	Intro. to Computer Engineering	(3 cr, P - COMP 202)	ECSE 211	Design Methodology and Principles	(3 cr, C - ECSE 291, P - ECSE 200 & COMP 202)
EDEC 206	Communication in Engineering	(3 cr)	ECSE 291	Electrical Measurements Lab	(2 cr, C - ECSE 210)
MATH 263	Ord. Differential Eqns. & Linear Alg.	(3 cr, C - MATH 262)	ECSE 322	Computer Engineering	(3 cr, P - ECSE 221 & ECSE 200 or MECH 383)
MATH 264	Advanced Calculus	(3 cr, P - MATH 262 or MATH 151 or MATH 152 or equiv)	MATH 270	Applied Linear Algebra	(3 cr, P - MATH 263)
Fifth (Fall) Semester		16 credits	Sixth (Winter) Semester		15 credits
ECSE 306	Fundamentals of Signals & Systems	(3 cr, P - ECSE 210 & MATH 270 or MATH 271)	ECSE 305	Probability & Random Signals 1	(3 cr, P - ECSE 303 or ECSE 306)
ECSE 323	Digital Systems Design	(5 cr, P - EDEC 206, ECSE 221 & ECSE 291)	ECSE 321	Intro. to Software Engineering	(3 cr, P - COMP 202 or COMP 208)
ECSE 330	Introduction to Electronics	(3 cr, P - ECSE 210)	ECSE 425	Computer Org. & Architecture	(3 cr, P - ECSE 322 & ECSE 323)
ECSE 353	Electromagnetic Fields & Waves	(3 cr, P - MATH 264 & ECSE 210)	ECSE 427	Operating Systems	(3 cr, P - ECSE 322 or COMP 273)
MIME 221	Engineering Professional Practice	(2 cr)	MATH 363	Discrete Mathematics	(3 cr, P - MATH 263 & MATH 264)
Seventh (Fall) Semester		16 credits	Eighth (Winter) Semester		16 credits
COMP 431	Algorithms for Engineers	(3 cr, P - ECSE 322 & MATH 363)	ECSE 475	Design Project 2	(2 cr, P - ECSE 474)
COMP 535	Computer Networks 1	(3 cr, P - COMP 310)	MIME 310	Engineering Economy	(3 cr)
or ECSE 414	Intro. to Telecom Networks	(3 cr, P - ECSE 304 or ECSE 306 & ECSE 322)	ECSE 4xx	Lab Complementary	(2 cr or 3 cr)
ECSE 334	Introduction to Microelectronics	(3 cr, P - ECSE 291, ECSE 330 & ECSE 303 or ECSE 306)	XXXX xxx t2	Technical Complementary 2	(3 cr)
ECSE 426	Microprocessor Systems	(3 cr, P - ECSE 323 & EDEC 206)	XXXX xxx t3	Technical Complementary 3	(3 cr)
ECSE 474	Design Project 1	(1 cr, P - EDEC 206, ECSE 211 & 42 departmental credits)	XXXX xxx g2	General Complementary 2	(3 cr)
XXXX xxx t1	Technical Complementary 1	(3 cr)			

All courses are core courses except for Complementaries (Technical, General, Lab) and the HSS course. Core courses are shown in boldface above. All core courses must be passed with a grade "C" or better. Also, a grade of "C" is required for an ECSE xxx core course in order to proceed with its follow-on ECSE xxx course(s), and a grade of "C" is required for a MATH xxx course in order to proceed with its follow-on MATH xxx course(s). A grade of "D" is only acceptable for non-core courses.

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

The Lab Complementary course is normally taken in conjunction with a technical complementary.

The Humanities/Social Sciences course (HSS) must be chosen from the list at <http://www.mcgill.ca/engineering/student/newstudents/courses/#HUMANITIES>.

General Complementary courses must be chosen according to the rules in Section 8.3.4 of the 2007-2008 McGill University Calendar, page 225.

This sample curriculum is for students who wish to complete their degree requirements in 8 semesters. Students may, at any time, deviate from this structure. However, it is the student's responsibility to devise a study plan that has no course conflicts or prerequisite/corequisite violations. Academic advisors are available for help with course selection.

Revised June 2007

TECHNICAL AND COMPLEMENTARY COURSES - COMPUTER ENGINEERING PROGRAM**Technical Complementaries (3 courses) 9 credits**

Students following the Computer Engineering program must take 3 courses (9 credits) from the following lists. One course must be chosen from List A, and 2 courses must be chosen from List B. It is possible that not all the courses listed will be offered in any 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.

Computer Engineering Technical Complementaries - LIST A (1 Course):

Course	Course Title	Pre-Requisites and Co-Requisites
ECSE 424	Human-Computer Interaction	(3 cr, P - ECSE 322)
ECSE 428	Software Engineering Practice	(3 cr, P - ECSE 321 or COMP 335)
ECSE 431	Introduction to VLSI CAD.	(3 cr, P - ECSE 323 & ECSE 330)

Computer Engineering Technical Complementaries - LIST B (2 Courses):

Course	Course Title	Pre-Requisites and Co-Requisites
ECSE 404	Control Systems	(3 cr, C - ECSE 304 or ECSE 306)
ECSE 411	Communications Systems 1	(3 cr, P - ECSE 305 & ECSE 304 or ECSE 306)
ECSE 412	Discrete-Time Signal Processing	(3 cr, P - ECSE 304 or ECSE 306)
ECSE 420	Parallel Computing	(3 cr, P - ECSE 427)
ECSE 421	Embedded Systems	(3 cr, P - ECSE 322 & ECSE 323)
ECSE 422	Fault Tolerant Computing	(3 cr, P - ECSE 322)
ECSE 429	Software Validation	(3 cr, P - ECSE 321)
ECSE 436	Signal Processing Hardware	(3 cr, P - ECSE 322, ECSE 323 & ECSE 304 or ECSE 306)
ECSE 443	Numerical Methods in Elect. Eng.	(3 cr, P - ECSE 221, ECSE 330 & ECSE 351 or ECSE 353)
ECSE 450	Electromagnetic Compatability	(3 cr, P - ECSE 221, ECSE 334 & ECSE 352 or ECSE 353)
ECSE 526	Artificial Intelligence	(3 cr, P - ECSE 322)
or COMP 424	Topics: Atrificial Intelligence 1	(3 cr, P - COMP 206, COMP 251 & COMP 302)
ECSE 530	Logic Synthesis	(3 cr, P - ECSE 323)
ECSE 532	Computer Graphics	(3 cr, P - ECSE 322)
ECSE 548	Introduction to VLSI Systems	(3 cr, P - ECSE 323 & ECSE 334)

Laboratory Complementary (one course) 2 credits

Students following the regular Computer Engineering program must take one course (2 credits) from the following list. It is possible that not all the courses listed will be offered in any given year. Please refer to the up-to-date course assignments before selecting any course. Permission will not be granted to take Laboratory Complementary courses that are not on this list.

Course	Course Title	Pre-Requisite and Co-Requisite Structure
ECSE 434	Microelectronics Laboratory	(2 cr, P - EDEC 206, ECSE 334)
ECSE 487	Computer Architecture Laboratory	(2 cr, P - EDEC 206; C- ECSE 425 or ECSE 525)
ECSE 489	Telecommunication Network Laboratory	(2 cr, P - EDEC 206; C - ECSE 414 or ECSE 528 or COMP 535)
ECSE 490	Digital Signal Processing Lab	(2 cr, P - ECSE 291 & EDEC 206; C- ECSE 412 or ECSE 512)
ECSE 491	Communications Systems Lab	(2 cr, P - EDEC 206 & ECSE 291;C- ECSE 411 or ECSE 511)
ECSE 493	Control & Robotics Lab	(2 cr, P - EDEC 206 & ECSE 291;C- ECSE 404 or ECSE 501)