2016 / 2017 CURRICULUM - COMPUTER ENGINEERING

EIGHT SEMESTER PROGRAM   Total credits: 133   (presently 139 cr.)

First Semester (Fall 2016) — 14 credits

Second Semester (Winter 2017) — 18 credits

Course	Title	Credits / Prerequisites
MATH 141	Calculus 2	(4 cr, P - MATH 140)
PHYS 142	Electromagnetism & Optics	(4 cr, P - PHYS 131; C - MATH 141)
ECSE 202	Intro. to Software Development	(3 cr)
XXXX xxx	Impact of Technology on Society **	(3 cr)

Third Semester (Fall 2017) — 15 credits

Course	Title	Credits / Prerequisites
ECSE 200	Electric Circuits 1	(3 cr, P - PHYS 142 or CEGEP Equivalent; C - MATH 263)
ECSE 205	Probability & Statistics for Eng.	(3 cr)
MATH 262	Intermediate Calculus	(3 cr, P-MATH 141 & MATH 133 or equiv)
MATH 263	ODEs for Engineers	(3 cr, C - MATH 262)
CCOM 206	Communication in Engineering	(3 cr)

Fourth Semester (Winter 2018) — 18 credits

Course	Title	Credits / Prerequisites
COMP 250	Introduction to Computer Science	(3 cr)
ECSE 210	Electric Circuits 2	(3 cr, P - ECSE 200)
ECSE 206	Intro. to Signals & Systems	(3 cr, P - ECSE 200)
ECSE 222	Digital Logic	(3 cr, P - ECSE 202)
ECSE 223	Model-based Programming	(3 cr, P - ECSE/COMP 202)
XXXX xxx	Humanities & Social Sciences 2*	(3 cr)

Fifth Semester (Fall 2018) — 17 credits

Course	Title	Credits / Prerequisites
FACC 300	Engineering Economy	
ECSE 211	Design Principles and Methods	(3 cr, P - ECSE 200 & ECSE/COMP 202)
ECSE 324	Computer Organization	(4 cr, P - ECSE 200 & ECSE 222)
ECSE 331	Electronics	(4 cr, P - ECSE 210)
ECSE 353	Electromagnetic Fields & Waves	(3 cr, P - MATH 262, MATH 263 & ECSE 210)

Sixth Semester (Winter 2019) — 18 credits

Course	Title	Credits / Prerequisites
MATH 240	Discrete Structures 1	(3 cr, C - MATH 133)
ECSE 310	Thermodynamics of Computing	(3 cr, P - ECSE 200, ECSE 205 & ECSE 222)
ECSE 325	Digital Systems	(3 cr, P - ECSE 324)
ECSE 321	Intro. to Software Engineering	(3 cr, P - ECSE/COMP 202 or COMP 208)
ECSE 427	Operating Systems	(3 cr, P - ECSE 324 or COMP 273)
COMP 251	Algorithms and Data Structures	(3 cr, P - COMP 250, C - MATH-240)

Seventh Semester (Fall 2019) — 17 credits

Course	Title	Credits / Prerequisites
ECSE 456	ECSE Design Project 1	(3 cr, P - CCOM 206 & ECSE 211 & ECSE 325)
ECSE 308	Intro. Comm. Sys. & Networks	(4 cr, P - ECSE 205 & ECSE 206)
ECSE 444	Microprocessors	(4 cr, P - ECSE 324)
ECSE 4xx t1	Technical Complementary 1	(3 cr)
ECSE 4xx t2	Technical Complementary 2	(3 cr)

Eighth Semester (Winter 2020) — 16 credits

Course	Title	Credits / Prerequisites
ECSE 457	ECSE Design Project 2	(3 cr, P-ECSE 456)
ECSE 425	Computer Architecture	(3 cr, P - ECSE 324)
ECSE 4xx t3	Technical Complementary 3	(3 cr)
ECSE 4xx t4	Technical Complementary 4	(3 cr)
ECSE 4xx t5	Technical Complementary 5	(3 cr)
FACC 400	Engineering Professional Practice	(1 cr, P - FACC100, 60 program credits)

Courses shown in boldface above must be passed with a grade "C" or better. A "D" is only acceptable in the courses not in boldface. Also, a grade of “C” is required in all prerequisites in order to proceed with the follow-on courses. (Exception: A student who fails a course with a grade of D may take an ECSE course that has it as a prerequisite, provided that the failed course is retaken at the same time. Students thinking of doing this should meet with a Departmental adTg 0 7.5 16.8 382,74ertPrfog1a28(k)d8.5(e)rs3(sa57U

Studies.

** For instructions on selecting valid “Impact of Technology on Society” courses, see www.mcgill.ca/ece, then: Programs and Courses > Undergraduate > Complementary Studies.

COMPUTER ENGINEERING

A:Technical Complementaries (3 courses) 9 credits (minimum)

Three technical complementary courses must be chosen from this list:

COMP 424	Artificial Intelligence	(3 cr, P - COMP 206 or ECSE 321, COMP 251)
ECSE 335	Microelectronics	(4 cr, P - ECSE 331)
ECSE 412	Discrete-Time Signal Processing	(3 cr, P - ECSE 304 or ECSE 306)
ECSE 416	Telecom. Networks	(4 cr, P - COMP-250, ECSE 205 & ECSE 308 or ECSE 316)
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 424	Human-Computer Interaction	(3 cr, P - ECSE 322)
ECSE 428	Software Engineering Practice	(3 cr, P - ECSE 321 or COMP 335)
ECSE 429	Software Validation	(3 cr, P - ECSE 321 or COMP 303)

B:Technical Complementaries (2 courses) 6 credits (minimum)

Two other technical complementary courses must be chosen from list A or from list B:

ECSE 307	Linear Systems & Control	(4 cr, P - ECSE 206, ECSE 210)
ECSE 403	Control Systems	(4 cr, P - ECSE 307)
ECSE 408	Communication Systems	(4 cr, P - ECSE 205 & ECSE 308)
ECSE 415	Introduction to Computer Vision	(3 cr, P - ECSE 304 or ECSE 306)
ECSE 431	Introduction to VLSI CAD.	(3 cr, P - ECSE 323 & ECSE 330)
ECSE 435	Mixed Signal Test Techniques	(3 cr, P - ECSE 304 & ECSE 334)
ECSE 436	Signal Processing Hardware	(3 cr, P - ECSE 322, ECSE 323 & ECSE 304 or ECSE 306)
ECSE 450	Electromagnetic Compatability	(3 cr, P - ECSE 221, ECSE 334 & ECSE 352 or ECSE 353)
COMP 557	Fundamentals of Computer Graphics	(3 cr, P - MATH 223, COMP 206 & COMP 251)