Electrical Engineering Curriculum - Fall 2016

CEGEP Entry

1st Term (Fall)		15 credits	Prerequisites/Co-requisites
CIVE 281	Analytical Mechanics	3	C - MATH 262, MATH 263
ECSE 200	Electric Circuits 1	3	P - PHYS 142 or CEGEP equivalent / C - MATH 263
ECSE 202	Introduction to Software Development	3	-
MATH 262	Intermediate Calculus	3	P - MATH 133 or equivalent, MATH 141 or equivalent
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262
2nd Term (Winter)		16 credits	Prerequisites/Co-requisites
ECSE 205	Probability and Statistics for Engineers	3	-
ECSE 206	Introduction to Signals and Systems	3	P - ECSE 200
ECSE 210	Electric Circuits 2	3	P - ECSE 200
ECSE 211	Design Principles and Methods	3	P - ECSE 200, ECSE 202 / COMP 202
ECSE 251	Electric and Magnetic Fields	3	P - ECSE 200, MATH 262
FACC 100	Introduction to the Engineering Profession	1	-
3rd Term (Fall)		16 credits	Prerequisites/Co-requisites
CCOM 206	Communication in Engineering	3	-
COMP 250	Introduction to Computer Science	3	P - Familiarity with a high level programming language and CEGEP level Math
ECSE 222	Digital Logic	3	P - ECSE 202 / COMP 202
ECSE 362	Fundamentals of Power Engineering	4	P - CIVE 281, ECSE 210, ECSE 251
MIME 262	Properties of Materials in Electrical Engineering	3	-
4th Term (Winter)		15 credits	Prerequisites/Co-requisites
ECSE 307	Linear Systems and Control	4	P - ECSE 206, ECSE 210
ECSE 324	Computer Organization	4	P - ECSE 200, ECSE 222
ECSE 331	Electronics	4	P - ECSE 210
CS	Complementary Studies Group B (HSSML)**	3	-
5th Term (Fall)		15 credits	Prerequisites/Co-requisites
ECSE 308	Introduction to Communication Systems and Networks	4	P - ECSE 205, ECSE 206
ECSE 354	Electromagnetic Wave Propagation	4	P - ECSE 251
FACC 300	Engineering Economy	3	-
ECSE xxx	Technical Complementary (List A)	4	-
6th Term (Winter)		16 credits	Prerequisites/Co-requisites
ECSE 443	Introduction to Numerical Methods in Electrical Engineering	3	P - COMP 250, ECSE 331, and ECSE 251 or ECSE 353*
ECSE 456	ECSE Design Project 1	3	P - CCOM 206, ECSE 211, ECSE 331*
ECSE xxx	Technical Complementary (List A)	4	-
ECSE xxx	Technical Complementary (List A or B)	3	-
CS	Complementary Studies Group A (Impact)**	3	-
7th Term (Fall)		16 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
ECSE xxx	Technical Complementary (List A or B)	3	-
ECSE xxx	Technical Complementary (List A or B)	3	-
ECSE xxx	Technical Complementary (List A or B)	3	-
ECSE xxx	Technical Complementary (List A or B)	3	-

*Pending University approval.

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). Students must take one course (3 credits) from Group A and one course (3 credits) from Group B. The curriculum above includes suggested terms during which these courses can be taken. These must be chosen from an approved list of courses/departments, found in the program list under "Complementary Studies" in the Faculty of Engineering Undergraduate section of the Programs, Courses and University Regulations publication (www.mcgill.ca/study) (see your program listing in the "Browse Academic Units & Programs" section).

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 - Electrical Engineering

Technical Complementaries
23-28 credits
7 courses must be taken, chosen as follows:
- 2 courses (minimum 8 credits) from List A
- The remaining 5 courses (minimum 15 credits) from List A or List B

List A: Technical Complementaries with Laboratory Experience
8-28 credits from the following:

		Credits	Prerequisites/Co-requisites
ECSE 335	Microelectronics	4	P - ECSE 331
ECSE 403	Control	4	P - ECSE 307
ECSE 408	Communication Systems	4	P - ECSE 205, ECSE 308
ECSE 416	Telecommunication Networks	4	P - COMP 250, ECSE 205, ECSE 308 / ECSE 316
ECSE 433	Physical Basis of Transistor Devices	4	P - ECSE 251, ECSE 331, MIME 262
ECSE 444	Microprocessors	4	P- ECSE 324
ECSE 470	Electromechanical Systems	4	P - ECSE 362

List B

0-15 credits from the following:

		Credits	Prerequisites/Co-requisites
ECSE 310	Thermodynamics of Computing	3	P - ECSE 200, ECSE 205, ECSE 222
ECSE 325	Digital Systems	3	P - ECSE 324
ECSE 405	Antennas	3	P - ECSE 303, ECSE 352
ECSE 412	Discrete Time Signal Processing	3	P - ECSE 304 or ECSE 306
ECSE 413	Communications Systems 2	3	P - ECSE 411
ECSE 415	Introduction to Computer Vision	3	P - ECSE 304 or ECSE 306 or instructor permission
ECSE 420	Parallel Computing	3	P - ECSE 427
ECSE 421	Embedded Systems	3	P - ECSE 322, ECSE 323
ECSE 422	Fault Tolerant Computing	3	P - ECSE 322
ECSE 423	Fundamentals of Photonics	3	P - ECSE 352
ECSE 424	Human-Computer Interaction	3	P - ECSE 322 or (COMP 251 and COMP 273)
ECSE 425	Computer Organization and Architecture	3	P - ECSE 322, ECSE 323
ECSE 427	Operating Systems	3	P - ECSE 322 or COMP 273
ECSE 430	Photonic Devices and Systems	3	P - ECSE 352, PHYS 271
ECSE 431	Introduction to VLSI CAD	3	P - ECSE 323, ECSE 330
ECSE 435	Mixed-Signal Test Techniques	3	P - ECSE 304, ECSE 334
ECSE 436	Signal Processing Hardware	3	P - ECSE 322, ECSE 323, ECSE 304 / 306
ECSE 450	Electromagnetic Compatibility	3	P - ECSE 221, ECSE 334, ECSE 352 / ECSE 353
ECSE 451	EM Transmission and Radiation	3	P - ECSE 352
ECSE 460	Appareillage électrique (Electrical Power Equipment)	3	P - ECSE 464
ECSE 463	Electric Power Generation	3	P - ECSE 361 or ECSE 461
ECSE 464	Power Systems Analysis	3	P - ECSE 361
ECSE 465	Power Electronic Systems	3	P - ECSE 334, ECSE 361
ECSE 466	Réseaux de distribution	3	P - ECSE 361
ECSE 467	Comportement des réseaux électriques	3	P - ECSE 462 or ECSE 464
ECSE 468	Electricité industrielle (Industrial Power Systems)	3	P - ECSE 361
ECSE 469	Protection des réseaux électriques	3	P - ECSE 464
PHYS 434	Optics	3	P - PHYS 342 or PHYS 352, or permission of the instructor
PHYS 446	Majors Quantum Physics	3	P - PHYS 230 and PHYS 232, or PHYS 251

Last update: August 23, 2016
For the official program listing, see the *Programs, Courses and University Regulations* publication (www.mcgill.ca/study).