

2010 / 2011 CURRICULUM - ELECTRICAL ENGINEERING

ENTRY FROM CEGEP Total credits: 109

First (Fall) Semester		15 credits	Second (Winter) Semester		15 credits
CIVE 281	Analytical Mechanics	(3 cr, C - MATH 262 & MATH 263)	ECSE 210	Electric Circuits 2	(3 cr, P - ECSE 200)
COMP 202	Introduction to Computing 1	(3 cr)	ECSE 211	Design Methodology and Principles	(3 cr, C - ECSE 291, P - ECSE 200 & COMP 202)
ECSE 200	Electric Circuits 1	(3 cr, P - PHYS 142 or CEGEP Equivalent; C - MATH 263)	ECSE 221	Intro. to Computer Engineering	(3 cr, P - COMP 202)
MATH 262	Intermediate Calculus	(3 cr, P-MATH 141 & MATH 133 or equiv)	ECSE 291	Electrical Measurements Lab	(2 cr, C - ECSE 210)
MATH 263	Ord. Differential Eqns. & Linear Alg.	(3 cr, C - MATH 262)	FACC 100	Intro. to Engineering Profession	(1 cr)
			MATH 264	Advanced Calculus	(3 cr, P - MATH 262 or MATH 151 or MATH 152 or equiv)
Third (Fall) Semester		15 credits	Fourth (Winter) Semester		17 credits
ECSE 322	Computer Engineering	(3 cr, P - ECSE 221 & ECSE 200 or MECH 383)	ECSE 303	Signals & Systems 1	(3 cr, P - ECSE 210 & MATH 271; C - MATH 381)
ECSE 351	Electromagnetic Fields	(3 cr, P - MATH 264 & ECSE 200)	ECSE 323	Digital Systems Design	(5 cr, P - CCOM 206, ECSE 211, ECSE 221 & ECSE 291)
CCOM 206	Communication in Engineering	(3 cr)	ECSE 330	Introduction to Electronics	(3 cr, P - ECSE 210)
MATH 270	Applied Linear Algebra	(3 cr, P - MATH 263)	PHYS 271	Quantum Physics	(3 cr, P - CIVE 281)
MATH 381	Complex Variables & Transforms	(3 cr, P - MATH 264)	MIME 262	Properties of Materials in EE	(3 cr)
Fifth (Fall) Semester		15 credits	Sixth (Winter) Semester		17 credits
ECSE 304	Signals & Systems 2	(3 cr, P - ECSE 303)	ECSE 434	Microelectronics Laboratory	(2 cr, P - CCOM 206, ECSE 334)
ECSE 305	Probability & Random Signals 1	(3 cr, P - ECSE 303 or ECSE 306)	ECSE 443	Numerical Methods in Elect. Eng.	(3 cr, P - ECSE 221, ECSE 330 & ECSE 351 or ECSE 353)
ECSE 334	Introduction to Microelectronics	(3 cr, P - ECSE 291, ECSE 330 & ECSE 303 or ECSE 306)	ECSE 456	ECSE Design Project 1	(3 cr, P - ECSE 211, ECSE 322, ECSE 323 & ECSE 330)
ECSE 352	Electromagnetic Waves	(3 cr, P - ECSE 351)	ECSE 4xx t1	Technical Complementary 1	(3 cr)
ECSE 361	Power Engineering	(3 cr, P - ECSE 210 & ECSE 351)	ECSE 4xx t2	Technical Complementary 2	(3 cr)
			XXXX xxx	Humanities & Social Sciences *	(3 cr)
Seventh (Fall) Semester		15 credits			
ECSE 457	ECSE Design Project 2	(3 cr, P-ECSE 456)			
MIME 310	Engineering Economy	(3 cr)			
ECSE 4xx t3	Technical Complementary 3	(3 cr)			
ECSE 4xx	Lab Complementary	(2 cr or 3 cr)			
XXXX xxx	Impact of Technology on Society **	(3 cr)			
FACC 400	Engineering Professional Practice	(1 cr, P - FACC100)			

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.

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 courses ECSE 426 - Microprocessor Systems, ECSE 431 - Intro. to VLSI CAD, ECSE 435 - Mixed Signal Test Techniques, ECSE 436 - Signal Processing Hardware and ECSE 450 - Electromagnetic Compatib

Technical Complementaries (3 courses) 9 credits

Course	Course Title	Pre-Requisites and Co-Requisites
ECSE 404	Control Systems	(3 cr, C - ECSE 304 or ECSE 306)
ECSE 405	Antennas	(3 cr, P - ECSE 303 & ECSE 352)
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 413	Communications Systems 2	(3 cr, P - ECSE 411)
ECSE 414	Intro. to Telecom Networks	(3 cr, P - ECSE 304 or ECSE 306 & ECSE 322)
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 423	Fundamentals of Photonics	(3 cr, P - ECSE 352)
ECSE 424	Human-Computer Interaction	(3 cr, P - ECSE 322)
ECSE 425	Computer Org. & Architecture	(3 cr, P - ECSE 322 & ECSE 323)
ECSE 426	Microprocessor Systems	(3 cr, P - ECSE 323 & CCOM 206)
ECSE 427	Operating Systems	(3 cr, P - ECSE 322 or COMP 273)
ECSE 430	Photonic Devices & Systems	(3 cr, P - ECSE 352 & PHYS 271)
ECSE 431	Introduction to VLSI CAD.	(3 cr, P - ECSE 323 & ECSE 330)
ECSE 432	Physical Basis: Transistor Devices	