# 2015 / 2016 CURRICULUM - ELECTRICAL ENGINEERING

**ENTRY FROM CEGEP** **Total credits:** **109**

| First Semester (Fall 2015) | | 15 credits | Second Semester (Winter 2016) | | 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** | **Foundations of Programming** | (3 cr) | **ECSE 211** | **Design Principles and Methods** | (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) | **ECSE 291** | **Electrical Measurements Lab** | (2 cr, C - ECSE 210) |
| **MATH 263** | **Ord. Differential Eqns. For Engineers** | (3 cr, C - MATH 262) | **FACC 100** | **Intro. to the Engineering Profession** | (1 cr) |
| | | | **MATH 264** | **Advanced Calculus for Engineers** | (3 cr, P - MATH 262; C - MATH 263) |
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| **Third Semester (Fall 2016)** | | **15 credits** | **Fourth Semester (Winter 2017)** | | **15 credits** |
| **CCOM 206** | **Communication in Engineering** | (3 cr) | **ECSE 303** | **Signals & Systems 1** | (3 cr, P - ECSE 210 & MATH 270; C - MATH 381) |
| **ECSE 322** | **Computer Engineering** | (3 cr, P - ECSE 221 & ECSE 200 or MECH 383) | **ECSE 330** | **Introduction to Electronics** | (3 cr, P - ECSE 210) |
| **ECSE 351** | **Electromagnetic Fields** | (3 cr, P - MATH 264 & ECSE 200) | **ECSE 361** | **Power Engineering** | (3 cr, P - ECSE 210 & ECSE 351) |
| **MATH 381** | **Complex Variables & Transforms** | (3 cr, P - MATH 264) | **FACC 300** | **Engineering Economy** | (3cr) |
| **MATH 270** | **Applied Linear Algebra** | (3 cr, P - MATH 263) | **PHYS 271** | **Introduction to Quantum Physics** | (3 cr, P - CIVE 281) |
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| **Fifth Semester (Fall 2017)** | | **17 credits** | **Sixth Semester (Winter 2018)** | | **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** | **Intro to Numerical Methods in EE** | (3 cr, P - ECSE 221, ECSE 330 & ECSE 351 or ECSE 353) |
| **ECSE 323** | **Digital Systems Design** | (5 cr, P - CCOM 206, ECSE 211, ECSE 221 & ECSE 291) | **ECSE 456** | **ECSE Design Project 1** | (3 cr, P - ECSE 211, ECSE 322, ECSE 323 & ECSE 330) |
| **ECSE 334** | **Introduction to Microelectronics** | (3 cr, P - ECSE 291, ECSE 330 & ECSE 303 or ECSE 306) | **ECSE 4xx t1** | **Technical Comp EM20377 TcTcTcTL.ctioL TET EMC /P s** | |
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| | **Engineering Professional Practice** | (1 cr, P - FACC100, 60 program credits) | | | |
| XXXX xxx | Humanities & Social Sciences * | (3 cr) | | | |
| XXXX xxx | Impact of Technology on Society ** | (3 cr) | | | |
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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 J U D G H R I ³&´ L V Q R U P D O O \ U H T X L U H G L Q D O O S U H-U H T U X L V (E x c e p t L A P E U C W h u f W B S U t R F with a grade of D may take an ECSE course that has it as a prerequisite, *provided that the failed course is re-taken at the same time*. Students thinking of doing this should meet with a departmental advisor.)

Students with prior programming experience can replace COMP 202 with COMP 250 upon receiving permission from the department.

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 Compatibility, can be taken as a technical complementary or a lab complementary. If taken as a lab, they are still 3 credit courses.

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) R U L Q V W U X F W L R Q V R Q V H O H F W L Q J Y D O L G ³ , P S [illegible] Undergra40 g 0 G [004B>-3<00510052>-4<004F03005.88 507. EMC h669.12 re W* n BT /F2 7.56 Tf 1 0 0 1 524.47 191.81 Tm 0 g 0 G

**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 | |