<table>
<thead>
<tr>
<th>First Semester (Fall 2019)</th>
<th>15 credits</th>
<th>Second Semester (Winter 2020)</th>
<th>16 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVE 281 Analytical Mechanics</td>
<td>(3 cr, C - MATH 262, MATH 263)</td>
<td>ECSE 205 Probability &amp; Statistics for Eng.</td>
<td>(3 cr)</td>
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<tr>
<td>ECSE 202 Intro. to Software Development</td>
<td>(3 cr)</td>
<td>ECSE 206 Intro. to Signals &amp; Systems</td>
<td>(3 cr, P - ECSE 200)</td>
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<tr>
<td>ECSE 200 Electric Circuits 1</td>
<td>(3 cr, P - PHYS 142 or CEGEP Equivalent; C - MATH 263)</td>
<td>ECSE 210 Electric Circuits 2</td>
<td>(3 cr, P - ECSE 200)</td>
</tr>
<tr>
<td>MATH 262 Intermediate Calculus</td>
<td>(3 cr, P-MATH 141, MATH 133 or equiv)</td>
<td>ECSE 211 Design Principles and Methods</td>
<td>(3 cr, P - ECSE 200, ECSE 202)</td>
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<tr>
<td>MATH 263 ODEs for Engineers</td>
<td>(3 cr, C - MATH 262)</td>
<td>ECSE 251 Electric and magnetic fields</td>
<td>(3 cr, P - MATH 262, ECSE 200)</td>
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<tr>
<td>FACC 100 Intro. to Engineering Profession</td>
<td></td>
<td>ECSE 211 Design Principles and Methods</td>
<td>(1 cr)</td>
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<table>
<thead>
<tr>
<th>Third Semester (Fall 2020)</th>
<th>16 credits</th>
<th>Fourth Semester (Winter 2021)</th>
<th>15 credits</th>
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<tbody>
<tr>
<td>COMP 250 Introduction to Computer Science</td>
<td>(3 cr)</td>
<td>ECSE 307 Linear Systems &amp; Control</td>
<td>(4 cr, P - ECSE 200, ECSE 210)</td>
</tr>
<tr>
<td>ECSE 222 Digital Logic</td>
<td>(3 cr, P - ECSE 202)</td>
<td>ECSE 324 Computer Organization</td>
<td>(4 cr, P - ECSE 200, ECSE 222)</td>
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<tr>
<td>ECSE 362 Fundamentals of Power Eng.</td>
<td>(4 cr, P - ECSE 210, ECSE 251, CIVE 281)</td>
<td>ECSE 331 Electronics</td>
<td>(4 cr, P - ECSE 210)</td>
</tr>
<tr>
<td>MIME 262 Properties of Materials in EE</td>
<td>(3 cr)</td>
<td>XXXX xxx Humanities &amp; Social Sciences *</td>
<td>(3 cr)</td>
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<tr>
<td>CCOM 206 Communication in Engineering</td>
<td>(3 cr)</td>
<td>FACC 250 Resp. of the Prof. Engineer</td>
<td>(0 cr, P - FACC 100)</td>
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<tr>
<th>Fifth Semester (Fall 2021)</th>
<th>15 credits</th>
<th>Sixth Semester (Winter 2022)</th>
<th>16 credits</th>
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<tbody>
<tr>
<td>ECSE 308 Intro. Comm. Sys. &amp; Networks</td>
<td>(4 cr, P - ECSE 200, ECSE 251)</td>
<td>ECSE 458 N1 Capstone Design Project</td>
<td>(3 cr, P - CCOM 200, ECSE 211, ECSE 324, ECSE 333)</td>
</tr>
<tr>
<td>ECSE xxx Technical Complementary 1</td>
<td>(4 cr)</td>
<td>ECSE xxx Technical Complementary 2</td>
<td>(4 cr)</td>
</tr>
<tr>
<td>ECSE 354 Electromagnetic Wave Propagation</td>
<td>(4 cr, P - ECSE 251)</td>
<td>ECSE xxx Technical Complementary 3</td>
<td>(3 cr)</td>
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<tr>
<td>FACC 300 Engineering Economy</td>
<td>(3 cr)</td>
<td>ECSE 443 Intro to Numerical Methods in EE</td>
<td>(3 cr, P - COMP 250, ECSE 333, and (ECSE 251 or ECSE 353))</td>
</tr>
<tr>
<td>FACC 300 Engineering Economy</td>
<td>(3 cr)</td>
<td>XXXX xxx Impact of Technology on Society **</td>
<td>(3 cr)</td>
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</table>

<table>
<thead>
<tr>
<th>Seventh Semester (Fall 2022)</th>
<th>16 credits</th>
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<tbody>
<tr>
<td>ECSE 458 N2 Capstone Design Project</td>
<td>(3 cr)</td>
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<tr>
<td>ECSE xxx Technical Complementary 4</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>ECSE xxx Technical Complementary 5</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>ECSE xxx Technical Complementary 6</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>XXXX xxx Elective Course***</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>FACC 400 Engineering Professional Practice</td>
<td>(1 cr, P - FACC100, FACC 250, and 60 program credits)</td>
</tr>
</tbody>
</table>

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 advisor).

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

* For instructions on selecting valid "Humanities and Social Sciences" courses, see www.mcgill.ca/ece, then: Undergraduate Studies > Program Information > Complementary Studies.

** For instructions on selecting valid "Impact of Technology on Society" courses, see www.mcgill.ca/ece, then: Undergraduate Studies > Program Information > Complementary Studies.

*** One 3-credit course at the 200-level or higher from any department at McGill, approved by the Undergraduate Programs Office in the Department of Electrical and Computer Engineering. For approval, please contact undergrad.ece@mcgill.ca.

ECSE 458, Capstone Design Project course is a spanned course given in both the fall and winter terms. A course that spans across two semesters may be taken in Fall-Winter or Winter-Fall. Students wishing to take the Fall-Winter sequence will need to register for ECSE 458 D1/D2. For a Winter-Fall sequence, students need to register for ECSE 458 N1/N2.

This sample curriculum is for students who wish to complete their degree requirements in 7 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 May 2019
Four-credit Technical Complementaries (2 courses) 8 credits
Two courses from this list:

- ECSE 335 Microelectronics (4 cr, P - ECSE 331)
- ECSE 403 Control Systems (4 cr, P - ECSE 307)
- ECSE 408 Communication Systems (4 cr, P - ECSE 205, ECSE 308)
- ECSE 416 Telecom. Networks (4 cr, P - COMP 250, ECSE 205 and ECSE 308 or ECSE 316)
- ECSE 433 Physical Basis of Transistor Devices (4 cr, P - MIME 262, ECSE 331, ECSE 251)
- ECSE 444 Microprocessors (4 cr, P - ECSE 324)
- ECSE 470 Electromechanical Systems (4 cr, P - ECSE 362)

Remaining Technical Complementaries (4 courses) 12 credits
The remaining four technical complementary courses can be chosen from the previous list or the following:

- ECSE 310 Thermodynamics of Computing (3 cr, P - ECSE 200, ECSE 205, ECSE 222)
- ECSE 325 Digital Systems (3 cr, P - ECSE 324)
- ECSE 412 Discrete-Time Signal Processing (3 cr, P - ECSE 306)
- ECSE 413 Communications Systems 2 (3 cr, P - ECSE 411)
- ECSE 415 Intro. to Computer Vision (3 cr, P - ECSE 206 and ECSE 205)
- ECSE 420 Parallel Computing (3 cr, P - ECSE 427)
- ECSE 421 Embedded Systems (3 cr, P - ECSE 324)
- ECSE 422 Fault Tolerant Computing (3 cr, P - ECSE 206, COMP 250)
- ECSE 423 Fundamentals of Photonics (3 cr, P - ECSE 354)
- ECSE 424 Human-Computer Interaction (3 cr, P - ECSE 324, COMP 250)
- ECSE 425 Computer Architecture (3 cr, P - ECSE 324)
- ECSE 427 Operating Systems (3 cr, P - ECSE 324)
- ECSE 430 Photonic Devices & Systems (3 cr, P - ECSE 354, MIME 262)
- ECSE 435 Mixed Signal Test Techniques (3 cr, P - ECSE 306, ECSE 339)
- ECSE 436 Signal Processing Hardware (3 cr, P - ECSE 306, ECSE 316)
- ECSE 446 Realistic Image Synthesis (3 cr, P - ECSE 202, ECSE 205, COMP 250)
- ECSE 450 Electromagnetic Compatibility (3 cr, P - ECSE 222, ECSE 331 and ECSE 303 or ECSE 354)
- ECSE 451 EM Transmission & Radiation (3 cr, P - ECSE 354)
- ECSE 460 Appareillage électrique (3 cr, P - ECSE 464)
- ECSE 463 Electric Power Generation (3 cr, P - ECSE 362 or ECSE 461)
- ECSE 464 Power Systems Analysis (3 cr, P - ECSE 331, ECSE 362)
- ECSE 466 Réseaux de distribution (3 cr, P - ECSE 362)
- ECSE 467 Comportement des réseaux électriques (3 cr, P - ECSE 362)
- ECSE 468 Electricité Industrielle (3 cr, P - ECSE 362)
- ECSE 469 Protection des réseaux électriques (3 cr, P - ECSE 362)
- ECSE 472 Fundamentals of Circuit Simulation and Modelling (3 cr, P - ECSE 205, ECSE 331, ECSE 251)
- PHYS 434 Optics (3 cr, P - PHYS 342 or PHYS 352, or permission of the instructor)
- PHYS 446 Majors quantum physics (3 cr, P - PHYS 230, PHYS 232, or PHYS 251)

It is recommended that the technical complementary courses be chosen according to a specialization area.
Suggested courses appropriate to the primary specialization areas are given in the following lists.

Intelligent systems: control and automation
- ECSE 325 Digital Systems (3)
- ECSE 403 Control Systems (4)
- ECSE 415 Intro to Computer Vision (3)
- ECSE 444 Microprocessor Systems (4)
- ECSE 421 Embedded Systems (3)
- ECSE 422 Fault-Tolerant Computing (3)
- ECSE 424 Human-Computer Interaction (3)
- ECSE 425 Computer Architecture (3)
- ECSE 427 Operating Systems (3)
- ECSE 436 Signal Processing Hardware (3)

Integrated circuits, electronics and photonics
- ECSE 335 Introduction to Microelectronics (4)
- ECSE 430 Photonic Devices and Systems (3)
- ECSE 433 Physical Basis of Transistor Devices (4)
- ECSE 325 Digital Systems (3)
- ECSE 423 Fundamentals of Photonics (3)
- ECSE 431 Introduction to VLSI CAD (3)
- ECSE 435 Mixed Signal Test Techniques (3)
- ECSE 450 Electromagnetic Compatibility (3)
- ECSE 451 EM Transmission and Radiation (3)

Power engineering
- ECSE 403 Control Systems (4)
- ECSE 470 Electromechanical Systems (4)
- ECSE 460 Appareillage électrique (3)
- ECSE 463 Electric Power Generation (3)
- ECSE 464 Power System Analysis (3)
- ECSE 465 Power Electronic Systems (3)
- ECSE 466 Réseaux de distribution (3)
- ECSE 467 Comportement des réseaux électriques (3)
- ECSE 468 Electricité Industrielle (3)
- ECSE 469 Protection des réseaux électriques (3)
- ECSE 450 Electromagnetic Compatibility (3)