### 1st Semester (Fall)
15 credits  
- CHEM 110  General Chemistry 1  
- 4  
- FACC 100  Introduction to the Engineering Profession  
- 1  
- MATH 133  Linear Algebra and Geometry  
- 3  
- MATH 140  Calculus 1  
- 3  
- PHYS 131  Mechanics and Waves  
- 4  
- C - MATH 140  

### 2nd Semester (Winter)
15 credits  
- CHEM 120  General Chemistry 2  
- 4  
- MATH 141  Calculus 2  
- 4  
- P - MATH 140  
- PHYS 142  Electromagnetism and Optics  
- 4  
- P - PHYS 131 / C - MATH 141  

### 3rd Semester (Fall)
15 credits  
- CS  
- Complementary Studies Group B (HSSML) - 1  
- 3  

### 4th Semester (Winter)
15 credits  
- CHEM 233  Topics in Physical Chemistry  
- 3  
- C -  
- MATH 262  Intermediate Calculus  
- 3  
- P - MATH 141, MATH 133  
- MECH 289  Design Graphics  
- 3  
- MIME 250  Introduction to Extractive Metallurgy  
- 3  
- C - CCOM 206  
- MIME 261  Structure of Materials  
- 3  

### 5th Semester (Summer)
3 credits  
- MATH 263  Ordinary Differential Equations for Engineers  
- 3  
- C - MATH 262  

### 6th Semester (Fall)
17 credits  
- CS  
- Complementary Studies Group A (Impact)  
- 3  

### 7th Semester (Winter)
2 credits  
- MIME 280  Industrial Training 1  
- 2  
- P - 40 program credits  

### 8th Semester (Summer)
15 credits  
- CS  
- Complementary Studies Group A (Impact)  
- 3  

### 9th Semester (Fall)
15 credits  
- MATH 264  Advanced Calculus for Engineers  
- 3  
- P - MATH 262 / C - MATH 263  
- MIME 311  Modelling and Automatic Control  
- 3  
- P - MIME 356  
- MIME 352  Hydrochemical Processing  
- 3  
- P - CHEM 233, MIME 250, MIME 212, MIME 360  
- MIME 356  Metallic and Ceramic Powders Processing  
- 3  
- P - MIME 360  

### 10th Semester (Winter)
15 credits  
- MIME 467  Electronic Properties of Materials  
- 3  
- P - MIME 261, MATH 263  
- MIME 442  Analysis, Modelling and Optimization in Mineral Processing  
- 3  
- P - MIME 341  
- MIME 455  Advanced Process Engineering  
- 3  
- P - MIME 356  

### 11th Semester (Summer)
2 credits  
- MIME 380  Industrial Training 2  
- 2  
- P - MIME 280  

### 12th Semester (Fall)
2 credits  
- MIME 480  Industrial Training 3  
- 2  
- P - MIME 380  

### 13th Semester (Winter)
17 credits  
- CS  
- Complementary Studies Group B (HSSML) - 2  
- 3  

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). 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 the Academic 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 - Materials Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVE 512</td>
<td>Advanced Civil Engineering Materials</td>
<td>3</td>
<td>P - CIVE 202</td>
</tr>
<tr>
<td>MECH 530</td>
<td>Mechanics of Composite Materials</td>
<td>3</td>
<td>P - MECH 321</td>
</tr>
<tr>
<td>MIME 410</td>
<td>Research Project</td>
<td>3</td>
<td>P - Recommendation of instructor</td>
</tr>
<tr>
<td>MIME 470</td>
<td>Engineering Biomaterials</td>
<td>3</td>
<td>P - MIME 261</td>
</tr>
<tr>
<td>MIME 512</td>
<td>Corrosion and Degradation of Materials</td>
<td>3</td>
<td>P - MIME 261 and MIME 352</td>
</tr>
<tr>
<td>MIME 515</td>
<td>Material Surfaces: A Biomimetic Approach</td>
<td>3</td>
<td>P - (CHEM 233 and MIME 261 and MIME 317) or (CHEE 310 and CHEE 380)</td>
</tr>
<tr>
<td>or CHEE 515</td>
<td>Material Surfaces: A Biomimetic Approach</td>
<td>3</td>
<td>P - Permission of instructor</td>
</tr>
<tr>
<td>MIME 542</td>
<td>Transmission Electron Microscopy</td>
<td>3</td>
<td>P - MIME 341</td>
</tr>
<tr>
<td>MIME 544</td>
<td>Analysis: Mineral Processing Systems 1</td>
<td>3</td>
<td>P - MIME 341</td>
</tr>
<tr>
<td>MIME 545</td>
<td>Analysis: Mineral Processing Systems 2</td>
<td>3</td>
<td>P - MIME 341</td>
</tr>
<tr>
<td>MIME 551</td>
<td>Electrochemical Processing</td>
<td>3</td>
<td>P - MIME 352</td>
</tr>
<tr>
<td>MIME 556</td>
<td>Sustainable Materials Processing</td>
<td>3</td>
<td>P - Permission of instructor</td>
</tr>
<tr>
<td>MIME 558</td>
<td>Engineering Nanomaterials</td>
<td>3</td>
<td>P - MIME 260 or MIME 261, MIME 362</td>
</tr>
<tr>
<td>MIME 559</td>
<td>Aluminum Physical Metallurgy</td>
<td>3</td>
<td>P - MIME 360, MIME 362</td>
</tr>
<tr>
<td>MIME 560</td>
<td>Joining Processes</td>
<td>3</td>
<td>P - MIME 250, MIME 360</td>
</tr>
<tr>
<td>MIME 561</td>
<td>Advanced Materials Design</td>
<td>3</td>
<td>P - MIME 362</td>
</tr>
<tr>
<td>MIME 563</td>
<td>Hot Deformation of Metals</td>
<td>3</td>
<td>P - MIME 360, MIME 362</td>
</tr>
<tr>
<td>MIME 565</td>
<td>Aerospace Metallic-Materials and Manufacturing Processes</td>
<td>3</td>
<td>P - MIME 260 or MIME 261</td>
</tr>
<tr>
<td>MIME 568</td>
<td>Topics in Advanced Materials</td>
<td>3</td>
<td>P - MIME 362</td>
</tr>
<tr>
<td>MIME 569</td>
<td>Electron Beam Analysis of Materials</td>
<td>3</td>
<td>P - MIME 317</td>
</tr>
<tr>
<td>MIME 571</td>
<td>Surface Engineering</td>
<td>3</td>
<td>P - MIME 362</td>
</tr>
<tr>
<td>MIME 572</td>
<td>Computational Thermodynamics</td>
<td>3</td>
<td>P - MIME 212</td>
</tr>
</tbody>
</table>

### Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMDE 504</td>
<td>Biomaterials and Bioperformance</td>
<td>3</td>
<td>Restriction: Year 3 students</td>
</tr>
<tr>
<td>CHEM 574</td>
<td>Introductory Polymer Chemistry</td>
<td>3</td>
<td>P - CHEM 233</td>
</tr>
<tr>
<td>CHEM 585</td>
<td>Colloid Chemistry</td>
<td>3</td>
<td>P - CHEM 345, MATH 233, MATH 315, PHYS 241, PHYS 242</td>
</tr>
<tr>
<td>PHYS 558</td>
<td>Solid State Physics</td>
<td>3</td>
<td>Restriction: Year 3 students</td>
</tr>
</tbody>
</table>

**Last update: February 14, 2013**

For the official program listing, see the Programs, Courses and University Regulations publication (www.mcgill.ca/study).