

Mechanical Engineering Curriculum - Fall 2013 (Stream A - Option 1)

CEGEP Entry

| 1st Semester (Fall) | | 13 credits | Prerequisites/Co-requisites |
|------------------------------|---|------------|--|
| COMP 208 | Computers in Engineering | 3 | P - MATH 140, MATH 141 |
| MATH 262 | Intermediate Calculus | 3 | P - MATH 141, MATH 133 |
| MECH 201 | Introduction to Mechanical Engineering | 2 | - |
| MECH 210 | Mechanics 1 | 2 | - |
| EC | Elective - 1 | 3 | - |
| 2nd Semester (Winter) | | 17 credits | Prerequisites/Co-requisites |
| FACC 100 | Introduction to the Engineering Profession | 1 | - |
| MATH 263 | Ordinary Differential Equations for Engineers | 3 | C - MATH 262 |
| MATH 264 | Advanced Calculus for Engineers | 3 | P - MATH 262 / C - MATH 263 |
| MECH 220 | Mechanics 2 | 4 | P - MECH 210, MATH 262 / C - MATH 263 |
| MECH 262 | Statistics and Measurement Laboratory | 3 | - |
| MECH 290 | Design Graphics for Mechanical Engineering | | |
| 3rd Semester (Fall) | | | |
| MECH 292 | Conceptual Design | 3 | P - MECH 289 or MECH 290 / P or C - CIVE 207 |
| MIME 260 | Material Science and Engineering | 3 | - |
| EC | Elective - 2 | 3 | - |
| 4th Semester (Winter) | | 15 credits | Prerequisites/Co-requisites |
| CCOM 206 | Communication in Engineering | 3 | - |
| MECH 240 | Thermodynamics 1 | 3 | - |
| MECH 309 | Numerical Methods in Mechanical Engineering | 3 | P - MATH 263, MATH 271, COMP 208 |
| MECH 314 | Dynamics of Mechanisms | 3 | P - MECH 220 |
| MECH 331 | Fluid Mechanics 1 | 3 | P - MECH 210 / C - MECH 220, MECH 240, MATH 271 |
| 5th Semester (Fall) | | 16 credits | Prerequisites/Co-requisites |
| MECH 315 | Mechanics 3 | 4 | P - MECH 220, MATH 271 / C - CIVE 207 |
| MECH 341 | Thermodynamics 2 | 3 | P - MATH 264, MECH 240 |
| MECH 346 | Heat Transfer | 3 | P - MECH 240, MECH 331, MATH 271 |
| MECH 360 | Principles of Manufacturing | 3 | P - MECH 289 or MECH 290 / P or C - CIVE 207 |
| MECH 393 | Machine Element Design | 3 | P - MECH 289 or 290, CIVE 207 / P or C - MECH 260 or 360, MECH 292, MECH 314, MIME 260 |
| 6th Semester (Winter) | | 15 credits | Prerequisites/Co-requisites |
| FACC 300 | Engineering Economy | 3 | - |
| MECH 321 | Mechanics of Deformable Solids | 3 | P - CIVE 207 |
| MECH 383 | Applied Electronics and Instrumentation | 3 | P - MECH 262, MATH 263 |
| MECH 430 | Fluid Mechanics 2 | 3 | P - MECH 240, MECH 331 |
| MECH xxx | Technical Complementary | 3 | - |
| 7th Semester (Fall) | | 14 credits | Prerequisites/Co-requisites |
| ECSE 461 | Electric Machinery | 3 | - |
| MECH 362 | Mechanical Laboratory 1 | 2 | P - MECH 262 |
| MECH 412 | System Dynamics and Control | 3 | P - MECH 309 or MATH 317, MECH 315 / C - MECH 331 |
| MECH 463D1 | Mechanical Engineering Project | 3 | P - CCOM 206, MECH 260 / 360, MECH 292, MECH 314, MECH 393, MIME 260 |
| CS | Complementary Studies Group A (Impact) or Group B (HSSML) | 3 | - |
| 8th Semester (Winter) | | 13 credits | Prerequisites/Co-requisites |
| FACC 400 | Engineering Professional Practice | 1 | P - FACC 100, 60 program credits |
| MECH 463D2 | Mechanical Engineering Project | 3 | P - MECH 463D1 |
| MECH xxx | Technical Complementary | 3 | - |
| MECH xxx | Technical Complementary | 3 | - |
| CS | Complementary Studies Group A (Impact) or Group B (HSSML) | 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).

Elective courses (EC) may be chosen from any course at the 200-level or higher in the Desautels Faculty of Management, Faculty of Agricultural and Environmental Sciences, Faculty of Arts, Faculty of Engineering, Faculty of Religious Studies, Faculty of Science, and/or Schulich School of Music.

Students are responsible for satisfying pre-/co-requisites and verifying with their department that they are meeting the requirements of their program.

| | | Credits | Prerequisites/Co-requisites |
|----------|---|----------------|---------------------------------------|
| MECH 497 | Value Engineering | 3 | P - MECH 493 and 45 credits completed |
| MECH 498 | Interdisciplinary Design Project 1 | 3 | - |
| MECH 499 | Interdisciplinary Design Project 2 | 3 | - |
| MECH 513 | Control Systems | 3 | P - MECH 412 or MECH 419 |
| MECH 529 | Discrete Manufacturing Systems | 3 | P - Permission of instructor |
| MECH 530 | Mechanics of Composite Materials | 3 | C - MECH 321 |
| MECH 532 | Aircraft Performance, Stability and Control | 3 | P - MECH 412 / MECH 419, MECH 533 |
| MECH 535 | Turbomachinery and Propulsion | 3 | P - MECH 331 |
| MECH 536 | Aircraft Structures | 3 | P - MECH 321 |
| MECH 541 | Kinematic Synthesis | 3 | P - MECH 309 or MATH 317 |
| MECH 543 | Design with Composite Materials | 3 | P - MECH 530 |
| MECH 544 | Processing of Composite Materials | 3 | P - MECH 530 |
| MECH 553 | Design and Manufacture of Microdevices | 3 | - |
| MECH 557 | | | |