Mechanical Engineering Curriculum - Fall 2014 (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	3	-
3rd Semester (Fall)		16 credits	Prerequisites/Co-requisites
CIVE 207	Solid Mechanics	4	P - MECH 210 or CIVE 205
MATH 271	Linear Algebra and Partial Differential Equations	3	P - MATH 263, MATH 264
MECH 292	Design 1: Conceptual Design	3	P - MECH 289 or MECH 290 / P o r 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	Design 2: 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	Design 3: Mechanical Engineering Project	3	P - CCOM 206 or EDEC 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	Design 3: 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.

Technical Complementary Courses - Mechanical Engineering

6 credits at the 300-level or higher, chosen from Mechanical Engineering courses (subject code MECH). One of these two courses (3 credits) must be chosen from the following list:

		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	Mechatronic Design	3	P - ECSE 461, MECH 383, MECH 412 / MECH 419
MECH 563	Biofluids and Cardiovascular Mechanics	3	P - CHEE 314 or MECH 331
or CHEE 563	Biofluids and Cardiovascular Mechanics	3	
MECH 565	Fluid Flow and Heat Transfer Equipment	3	P - MECH 240, MECH 309 or MATH 317, MECH 331, MECH 341, MECH 346 or permission of the instructor
MECH 573	Mechanics of Robotic Systems	3	P - MECH 309 or MATH 317, MECH 572
MECH 577	Optimum Design	3	P - MECH 309 or MATH 317

One course (3 credits), subject to Departmental approval, at the 300-level or higher from the Faculty of Engineering (including MECH courses) or from courses in the Faculty of Science, including MATH courses.

Last update: May 2, 2014

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