Mechanical Engineering Curriculum - Fall 2011 (Stream B)

Non-CEGEP Entry

1st Semester (Fall)		18 credits	Prerequisites/Co-requisites
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
CS	Complementary Studies Group B (HSSML) - 1	3	-
2nd Semester (Winter)		**18 credits**	**Prerequisites/Co-requisites**
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
CS	Complementary Studies Group A (Impact) or Group B (HSSML)	3	-
CS	Complementary Studies Group A (Impact) or Group B (HSSML)	3	-
3rd Semester (Fall)		**16 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	-
MECH 289	Design Graphics	3	-
MIME 310	Engineering Economy	3	-
4th Semester (Winter)		**17 credits**	**Prerequisites/Co-requisites**
CIVE 207	Solid Mechanics	4	P - MECH 210 or CIVE 205
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	-
5th Semester (Fall)		**18 credits**	**Prerequisites/Co-requisites**
MATH 271	Linear Algebra and Partial Differential Equations	3	P - MATH 263, MATH 264
MATH 317*	Numerical Analysis	3	P - MATH 263
MECH 240	Thermodynamics 1	3	-
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
MECH 360	Principles of Manufacturing	3	P - CIVE 207, MECH 289, MIME 260
6th Semester (Winter)		**18 credits**	**Prerequisites/Co-requisites**
CCOM 206	Communication in Engineering	3	-
MECH 292	Conceptual Design	3	P - MECH 260, MECH 289 / C - CIVE 207
MECH 321	Mechanics of Deformable Solids	3	P - CIVE 207
MECH 341	Thermodynamics 2	3	P - MECH 240
MECH 393	Machine Element Design	3	P - MECH 260, MECH 289, CIVE 207 / C - MECH 292, MECH 314, MIME 260
MIME 260	Materials Science and Engineering	3	-
7th Semester (Fall)		**19 credits**	**Prerequisites/Co-requisites**
FACC 400	Engineering Professional Practice	1	P - FACC 100, 60 program credits
MECH 315	Mechanics 3	4	P - MECH 220, MATH 271 / C - CIVE 207
MECH 362	Mechanical Laboratory 1	2	P - MECH 262
MECH 383	Applied Electronics and Instrumentation	3	P - MECH 262, MATH 263
MECH 430	Fluid Mechanics 2	3	P - MECH 240, MECH 331
MECH 463D1	Mechanical Engineering Project	3	P - CCOM 206 or EDEC 206, MECH 393
MECH xxx	Technical Complementary	3	-
8th Semester (Winter)		**18 credits**	**Prerequisites/Co-requisites**
ECSE 461	Electric Machinery	3	-
MECH 346	Heat Transfer	3	P - MECH 240, MECH 331, MATH 271
MECH 412	Dynamics of Systems	3	P - MECH 309 or MATH 317, MECH 315 / C - MECH 331
MECH 463D2	Mechanical Engineering Project	3	P - MECH 393
MECH xxx	Technical Complementary	3	-
MECH xxx	Technical Complementary	3	-

*MATH 317: Students in Stream B take MATH 317 in the Fall term. Students in Stream A and C take equivalent course MECH 309 (Numerical Methods in Mechanical Engineering) in the Winter term.

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 Programs, Courses and University Regulations Calendar (www.mcgill.ca/study).

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

		Credits
MECH 513	Control Systems	3
MECH 529	Discrete Manufacturing Systems	3
MECH 530	Mechanics of Composite Materials	3
MECH 532	Aircraft Performance, Stability and Control	3
MECH 535	Turbomachinery and Propulsion	3
MECH 536	Aircraft Structures	3
MECH 541	Kinematic Synthesis	3
MECH 543	Design with Composite Materials	3
MECH 544	Processing of Composite Materials	3
MECH 554	Microprocessors for Mechanical Systems	3
MECH 557	Mechatronic Design	3
MECH 563	Biofluids and Cardiovascular Mechanics	3
or CHEE 563	Biofluids and Cardiovascular Mechanics	3
MECH 573	Mechanics of Robotic Systems	3
MECH 577	Optimum Design	3
MECH 593	Design Theory and Methodology	3

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