

# Mechanical Engineering Curriculum - Fall 2010 (Stream B)

## Non-CEGEP Entry

<b>1st Semester (Fall)</b>		15 Credits	Pre-requisites/Co-requisites Required
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
<b>2nd Semester (Winter)</b>		18 Credits	Pre-requisites/Co-requisites Required
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 B (HSSML) - 1	3	-
CS	Complementary Studies Group A (Impact) or Group B (HSSML)	3	-
<b>3rd Semester (Fall)</b>		16 Credits	Pre-requisites/Co-requisites Required
CCOM 206	Communication in Engineering	3	-
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	-
<b>4th Semester (Winter)</b>		17 Credits	Pre-requisites/Co-requisites Required
CIVE 207	Solid Mechanics	4	P - MECH 210 or CIVE 205
COMP 208	Computers in Engineering	3	P - MATH 140, MATH 141
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
<b>5th Semester (Summer)</b>		2 Credits	Pre-requisites/Co-requisites Required
MECH 260	Machine Tool Laboratory	2	-
<b>6th Semester (Fall)</b>		18 Credits	Pre-requisites/Co-requisites Required
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 262	Statistics and Measurement Laboratory	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
<b>7th Semester (Winter)</b>		18 Credits	Pre-requisites/Co-requisites Required
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
MIME 260	Materials Science and Engineering	3	-
CS	Complementary Studies Group A (Impact) or Group B (HSSML)	3	-
<b>8th Semester (Fall)</b>		19 Credits	Pre-requisites/Co-requisites Required
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	-
<b>9th Semester (Winter)</b>		18 Credits	Pre-requisites/Co-requisites Required
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 in the *Programs, Courses and University Regulations Calendar* ([www.mcgill.ca/study/2010-2011/faculties/engineering/undergraduate/ug\\_engineering\\_academic\\_programs](http://www.mcgill.ca/study/2010-2011/faculties/engineering/undergraduate/ug_engineering_academic_programs)) under "Complementary Studies."

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
MECH 513 Control Systems	3
MECH 528 Product Design	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 the Faculty of Science, including MATH courses.

July 20, 2010