

Mechanical Engineering Curriculum - Fall 2021 (Stream C - Honours)

1st Term		13 credits	Prerequisites/Co-requisites
COMP 208	Computers in Engineering	3	P - differential and integral calculus [MATH 140 and MATH 141] / C - linear algebra [MATH 133]
CS	Complementary Studies Group B (HSSML)*	3	-
MATH 262	Intermediate Calculus	3	P - MATH 133 or equivalent, MATH 141 or equivalent
MECH 201	Introduction to Mechanical Engineering	2	-
MECH 210	Mechanics 1	2	P - PHYS 101 or PHYS 131 or equivalent
2nd Term		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 Term		13 credits	Prerequisites/Co-requisites
CIVE 207	Solid Mechanics	4	P - CIVE 205 or MECH 210
MATH 271	Linear Algebra and Partial Differential Equations	3	P - MATH 263, MATH 264
MECH 240	Thermodynamics 1	3	-
MECH 292	Design 1: Conceptual Design	3	P - MECH 289 or MECH 290 / P or C - CIVE 207
4th Term		16 credits	Prerequisites/Co-requisites
CCOM 206	Communication in Engineering	3	-
FACC 250	Responsibilities of the Professional Engineer***	0	P - FACC 100 or BREE 250
MECH 309	Numerical Methods in Mechanical Engineering	3	P - MATH 263 , MATH 271, COMP 208
MECH 321	Mechanics of Deformable Solids	3	P - CIVE 207
MECH 331	Fluid Mechanics 1	3	P - MECH 210 / C - MECH 220, MECH 240, MATH 271
MECH 419	Advanced Mechanics of Systems	4	P - MECH 220, CIVE 207, MATH 264, MATH 271
5th Term		15 credits	Prerequisites/Co-requisites
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
MATH xxx	Math Elective	3	-
MECH xxx	Technical Complementary	3	-
6th Term		14 credits	Prerequisites/Co-requisites
FACC 300	Engineering Economy	3	-
MECH 362	Mechanical Laboratory 1	2	P - MECH 262
MECH 383	Applied Electronics and Instrumentation	3	

		Credits	Prerequisites/Co-requisites
MATH 323	Probability	3	P - MATH 141 or equivalent
MATH 326	Nonlinear Dynamics and Chaos	3	P - MATH 222/262, MATH 223
MATH 327	Matrix Numerical Analysis	3	P - COMP 202, MATH 223 / 236 / 247 / 251, or instructor permission
MATH 381	Complex Variables and Transforms	3	P - MATH 264
MATH 407	Dynamic Programming	3	P - COMP 202, MATH 223 / 236, MATH 314, MATH 315, MATH 323
MATH 417	Linear Optimization	3	P - COMP 202, MATH 223 / 236, MATH 314 or equivalent
MATH 478	Computational Methods in Applied Mathematics	3	P - MATH 315 or MATH 325 or MATH 263; MATH 317 or MATH 387 or COMP 350 or MECH 309; or permission of the instructor.

Note: MATH 363 is no longer approved as a TC course as of Winter 2019

6 credits from the following:

		Credits	Prerequisites/Co-requisites
MECH 513	Control Systems	3	P - MECH 412 or MECH 419
MECH 546	Finite Element Methods in Solid Mechanics	3	P - MECH 315 or MECH 419, and MECH 321, or instructor permission
MECH 562	Advanced Fluid Mechanics	3	P - MATH 271
MECH 577	Optimum Design	3	P - MECH 309 or MATH 317 or instructor permission
or MECH 559	Engineering Systems Optimization	3	-
or			