DETAILED COURSE INFORMATION 2026-27

COURSE	TITLE	CREDIT	PRE-REQUISITE	CO-REQUISITE	SUM 1	SUM 2	FALL	WIN
ACCO 220	Financial and Managerial Accounting	3.00					X	X
AERO 201	Introduction to Flight and Aerospace Systems	4.00		ENGR 213			X	X
AERO 253	Thermal Sciences for Aerospace Engineering	3.00	ENGR 213; MATH 205					X
AERO 290	Introduction to Aircraft Design	3.00	AERO 201	ENCS 282			X	X
AERO 371	Modelling and Control Systems	3.50	PHYS 205; ENGR 213, ENGR 243	ENGR 311 or ELEC 342 or ELEC 364			X	X
AERO 390	Aerospace Engineering Design Project	3.00	AERO 290, AERO 371; ENCS 282				X	X
AERO 417	Standards, Regulations and Certification	3.00	ENGR 201		X*		X	
AERO 431	Principles of Aeroelasticity	3.50	ENGR 361; MECH 375				X	
AERO 446	Aerospace Vehicle Performance	3.00	MECH 361					X
AERO 455	Computational Fluid Dynamics for Aerospace Applications	3.75	ENGR 311, ENGR 391; MECH 361					X
AERO 462	Turbomachinery and Propulsion	3.00	MECH 351, MECH 361				X	
AERO 464	Aerodynamics	3.00	MECH 361				X	X
AERO 465	Gas Turbine Design	3.50	AERO 462					X
AERO 471	Aircraft Hydro-Mechanical and Fuel Systems	3.50	AERO 201. Or, permission of the Department.					X
AERO 472	Aircraft Pneumatic and Electrical Power Systems	3.50	AERO 201; ENGR 361		n/a	n/a	n/a	n/a
AERO 480	Flight Control Systems	3.50	AERO 371 or ELEC 372 or MECH 371 or SOEN 385				X	
AERO 481	Materials Engineering for Aerospace	3.50	MECH 221 or MIAE				X	
AERO 482	Avionic Navigation Systems	3.00	ENGR 371 or COMP 233; AERO 371 or ELEC 372 or MECH 371 or SOEN 385				X	
AERO 483	Integration of Avionics Systems	3.00	AERO 482; ELEC 481					X
AERO 485	Introduction to Space Systems	3.00	MECH 351, MECH 361					X
AERO 486	Aircraft Stress Analysis	3.00	ENGR 243, ENGR 244				X	
AERO 487	Design of Aircraft Structures	3.00	AERO 486					X
AERO 490	Capstone Aerospace Engineering Design Project	6.00	AERO 390; ENGR 301. Students must have completed 75 credits in the program.				X	
BSTA 478	Data Mining Techniques	3.00	Permission from JMSB			X	X	X
BTM 480	Project Management	3.00	Permission from JMSB			X	X	X
COEN 212	Digital Systems Design I	3.50	MATH 204 (Cegep Mathematics 105)			X	X	X
COEN 231	Introduction to Discrete Mathematics	3.00	MATH 204 (Cegep Mathematics 105)			X	X	X
COEN 243	Programming Methodology I	3.00	MATH 204 (Cegep Mathematics 105)		X		X	X
COEN 244	Programming Methodology II	3.00	COEN 243 or MECH 215 or MIAE 215		X		X	X
COEN 311	Computer Organization and Software	3.50	COEN 212, COEN 243		X		X	X
COEN 313	Digital Systems Design II	3.50	COEN 212, COEN 231				X	X
COEN 317	Microprocessor Systems	3.50	COEN 311 or COMP 228 or SOEN 228; COEN 313				X	X
COEN 320	Introduction to Real-Time Systems	3.50	COEN 346 or COMP 346				X	X
COEN 346	Operating Systems	3.50	COEN 311; COMP 352 or COEN 352				X	X
COEN 352	Data Structures and Algorithms	3.00	COEN 231, COEN 244		X		X	X
COEN 366	Communication Networks and Protocols	3.50	COEN 346				X	X
COEN 413	Hardware Functional Verification	3.50	COEN 313		n/a	n/a	n/a	n/a
COEN 421	Embedded Systems Design	4.00	COEN 317, COEN 320; SOEN 341					X
COEN 498	Topics in Computer Engineering	3.00	Permission of the Department is required.		n/a	n/a	n/a	n/a
ELEC 242	Continuous-Time Signals and Systems	3.00	ELEC 273; ENGR 213		X		X	X
ELEC 251	Fundamentals of Applied Electromagnetics	3.00	ELEC 273 or ENGR 273; ENGR 233				X	X
ELEC 273	Basic Circuit Analysis	3.50	ENGR 213; PHYS 205		X		X	X
ELEC 311	Electronics I	3.50	ELEC 273				X	X
ELEC 331	Fundamentals of Electrical Power Engineering	3.50	ELEC 251, ELEC 273				X	X
ELEC 342	Discrete-Time Signals and Systems	3.50	ELEC 242 or ELEC 264		X		X	X
ELEC 351	Electromagnetic Waves and Guiding Structures	3.50	ELEC 242, ELEC 251				X	X
ELEC 367	Introduction to Digital Communications	3.50	ELEC 342 or ELEC 364; ENGR 371				X	X
ELEC 433	Power Electronics	3.50	ELEC 311, ELEC 331				X	
ELEC 442	Advanced Signal Processing	3.50	ELEC 342 or ELEC 364; ENGR 371					X
ELEC 458	Techniques in Electromagnetic Compatibility	3.00	ELEC 351		X			
ELEC 464	Wireless Communications	3.00	ELEC 367				X	
ELEC 481	Linear Systems	3.50	AERO 371 or ELEC 372 or MECH 371				X	
ELEC 482	System Optimization	3.50	ENGR 391 or EMAT 391					X
ELEC 483	Real-Time Computer Control Systems	3.50	AERO 371 or ELEC 372; ELEC 342 or ELEC 364					X
ELEC 498	Topics in Electrical Engineering	3.00	Permission of the Department is required.		n/a	n/a	n/a	n/a
ENCS 282	Technical Writing and Communication	3.00	Passing the Engineering Writing Test (EWT) or ENCS 272 with a grade of C- or higher.		X	X	X	X
ENGR 201	Professional Practice and Responsibility	1.50			X		X	X
ENGR 202	Sustainable Development and Environmental Stewardship	1.50			X		X	X

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DETAILED COURSE INFORMATION 2026-27

COURSE	TITLE	CREDIT	PRE-REQUISITE	CO-REQUISITE	SUM 1	SUM 2	FALL	WIN
ENGR 213	Applied Ordinary Differential Equations	3.00	MATH 205 (Cegep Mathematics 203)	MATH 204 (Cegep Mathematics 105)	X		X	X
ENGR 233	Applied Advanced Calculus	3.00	MATH 204 (Cegep Mathematics 105); MATH 205 (Cegep Mathematics 203)		X	X	X	X
ENGR 242	Statics	3.00	PHYS 204; MATH 204	ENGR 213	X		X	X
ENGR 243	Dynamics	3.00	ENGR 213, ENGR 242		X		X	X
ENGR 244	Mechanics of Materials	3.75	ENGR 213; ENGR 242 or ENGR 245	ENGR 233	X		X	X
ENGR 245	Mechanical Analysis	3.00	PHYS 204	ENGR 213	X			X
ENGR 251	Thermodynamics I	3.00	MATH 203		X	X	X	X
ENGR 301	Engineering Management Principles and Economics	3.00			X	X	X	X
ENGR 311	Transform Calculus and Partial Differential Equations	3.00	ENGR 213, ENGR 233		X	X	X	X
ENGR 361	Fluid Mechanics I	3.00	ENGR 213, ENGR 233, ENGR 251 or AERO 253		X		X	X
ENGR 371	Probability and Statistics in Engineering	3.00	ENGR 213, ENGR 233		X	X	X	X
ENGR 391	Numerical Methods in Engineering	3.00	ENGR 213, ENGR 233; COMP 248 or COEN 243 or MECH 215 or MIAE 215 or BCEE 231			X	X	X
ENGR 392	Impact of Technology on Society	3.00	ENCS 282; ENGR 201, ENGR 202		X	X	X	X
ENGR 411	Special Technical Report	1.00	ENCS 282. Permission of the Department is required.		X		X	X
ENGR 412	Honours Research Project	3.00	ENCS 282; 75cr in the BEng program, a CGPA of 3.00 or better. Permission of the Dept.		X		X	X
ENGR 490	Engr 490 Multidisciplinary Capstone Design Project (4 Credits)	6.00	Students must be eligible to enroll for AERO 490, INDU 490 or MECH 490				X	
Gen. Ed.	General Education Elective	3.00	See section 71.7110 of the Undergraduate Calendar		X	X	X	X
INDU 211	Introduction to Production and Manufacturing Systems	3.00					X	
INDU 311	Simulation of Industrial Systems	3.50	ENGR 371				X	
INDU 320	Production Engineering	3.00	INDU 323				X	
INDU 321	Lean Manufacturing	3.00	INDU 320					X
INDU 323	Operations Research I	3.50	ENGR 213, ENGR 233; INDU 211; MIAE 215		X			X
INDU 324	Operations Research II	3.50	INDU 323				X	
INDU 330	Engineering Management	3.00	ENCS 282	ENGR 301			X	
INDU 342	Logistics Network Models	3.00	INDU 324					X
INDU 371	Stochastic Models in Industrial Engineering	3.00	ENGR 371					X
INDU 372	Quality Control and Reliability	3.00	ENGR 371					X
INDU 410	Safety Engineering	3.00	MECH 311 or MIAE 311	MIAE 312			X	
INDU 411	Computer Integrated Manufacturing	3.50	MECH 311 or MIAE 311	MIAE 312	n/a	n/a	n/a	n/a
INDU 412	Human Factors Engineering	3.50	ENGR 371				X	
INDU 421	Facilities Design and Material Handling Systems	3.50	INDU 320	INDU 311			X	
INDU 423	Inventory Control	3.50	INDU 320				X	
INDU 424	Introduction to Enterprise Resource Planning	3.00	INDU 320					X
INDU 431	Quantitative Methods in Health-care Systems	3.00						X
INDU 441	Introduction to Six Sigma	3.00	INDU 372			X		X
INDU 466	Decision Models in Service Sector	3.00	ENGR 371; INDU 320					X
INDU 475	Advanced Concepts in Quality Improvement	3.00	INDU 372				X	
INDU 480	Cases in Industrial Engineering	3.00	INDU 311, INDU 324					X
INDU 490	Capstone Industrial Engineering Design Project	6.00	ENGR 301; MIAE 380. Students must complete 75cr in the program prior to enrolling.	INDU 421			X	
INDU 498	Topics in Industrial Engineering	3.00	Permission of the Department is required.		n/a	n/a	n/a	n/a
MANA 300	Entrepreneurship: Launching Your Business	3.00					X	X
MECH 321	Properties and Failure of Materials	3.50	MECH 221 or MIAE 221					X
MECH 343	Theory of Machines	3.50	ENGR 213, ENGR 233, ENGR 243				X	X
MECH 344	Machine Element Design	3.00	ENGR 244; MECH 313 or MIAE 313	MECH 343			X	X
MECH 351	Thermodynamics II	3.50	ENGR 251				X	X
MECH 352	Heat Transfer I	3.50	ENGR 311, ENGR 361				X	X
MECH 361	Fluid Mechanics II	3.50	ENGR 361				X	X
MECH 368	Electronics for Mechanical Engineers	3.50	PHYS 205; MIAE 215				X	X
MECH 371	Analysis and Design of Control Systems	3.75	PHYS 205; ENGR 243, ENGR 311			X	X	X
MECH 373	Instrumentation and Measurements	3.50	ENGR 311; AERO 371 or MECH 370 or MECH 371				X	
MECH 375	Mechanical Vibrations	3.50	AERO 371 or MECH 370 or MECH 371			X	X	X
MECH 390	Mechanical Engineering Design Project	3.50	MECH 311 or MIAE 311; MECH 343; MIAE 380	MECH 344			X	X
MECH 412	Computer-Aided Mechanical Design	3.50	MIAE 311				X	
MECH 414	Computer Numerically Controlled Machining	3.50	MECH 311 or MIAE 311	MIAE 312				X
MECH 415	Advanced Programming for Mechanical and Industrial Engineers	3.00	MECH 215 or MIAE 215		n/a	n/a	n/a	n/a
MECH 421	Mechanical Shaping of Metals and Plastics	3.50	MECH 221 or MIAE 221					X
MECH 422	Mechanical Behaviour of Polymer Composite Materials	3.00	ENGR 233, ENGR 244; MECH 221 or MIAE 221				X	
MECH 423	Casting, Welding, Heat Treating and Non-Destructive Testing	3.50	MECH 221 or MIAE 221		n/a	n/a	n/a	n/a

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DETAILED COURSE INFORMATION 2026-27

COURSE	TITLE	CREDIT	PRE-REQUISITE	CO-REQUISITE	SUM 1	SUM 2	FALL	WIN
MECH 424	MEMS – Design and Fabrication	3.50	MECH 311 or MIAE 311; MECH 343	MIAE 312	n/a	n/a	n/a	n/a
MECH 425	Manufacturing of Composites	3.50	MECH 311 or MIAE 311	MIAE 312			X	
MECH 426	Stress and Failure Analysis of Machinery	3.00	ENGR 233, ENGR 244; AERO 481 or MECH 321				X	
MECH 428	Failure Analysis of Machine Systems	3.00	MECH 344		n/a	n/a	n/a	n/a
MECH 444	Guided Vehicle Systems	3.00	MECH 375		n/a	n/a	n/a	n/a
MECH 447	Fundamentals of Vehicle System Design	3.00	MECH 343	MECH 375	n/a	n/a	n/a	n/a
MECH 451	Renewable Energy: Fundamentals and Applications	3.00	MECH 351, MECH 352, MECH 361					X
MECH 452	Heat Transfer II	3.50	MECH 351, MECH 352, MECH 361		n/a	n/a	n/a	n/a
MECH 453	Heating, Ventilation and Air Conditioning Systems	3.00	MECH 352					X
MECH 454	Vehicular Internal Combustion Engines	3.00	MECH 351, MECH 361					X
MECH 460	Finite Element Analysis	3.75	ENGR 244, ENGR 391					X
MECH 461	Gas Dynamics	3.50	MECH 361				X	
MECH 463	Fluid Power Control	3.50	ENGR 361; MECH 371		n/a	n/a	n/a	n/a
MECH 468	Wind Turbine Engineering	3.00	MECH 343, MECH 361	MECH 344, MECH 371				X
MECH 471	Microcontrollers for Mechatronics	3.50	ENGR 311; MECH 368					X
MECH 472	Mechatronics and Automation	3.50	MECH 215 or MIAE 215	MECH 371				X
MECH 473	Control System Design	3.50	ELEC 372 or MECH 371				X	
MECH 474	Mechatronics	3.75	ELEC 372 or MECH 371					X
MECH 476	Generative Design and Manufacturing in Engineering	3.00	MECH 313 or MIAE 313	AERO 390 or MECH 390	n/a	n/a	n/a	n/a
MECH 490	Capstone Mechanical Engineering Design Project	6.00	ENGR 301; MECH 344, MECH 390; MIAE 312. Students must complete 75cr in the program prior to enrolling.				X	
MECH 498	Topics in Mechanical Engineering	3.00	Permission of the Department is required.		n/a	n/a	n/a	n/a
MIAE 211	Mechanical Engineering Drawing	3.50			X		X	X
MIAE 215	Programming for Mechanical, Industrial and Aerospace Engineers	3.50	MATH 204 (Cegep mathematics 105)			X	X	X
MIAE 221	Materials Science	3.00	CHEM 205 (Cegep Chemistry 101)				X	X
MIAE 311	Manufacturing Processes	3.00	MECH 313 or MIAE 313		X		X	
MIAE 312**	Engineering Design and Manufacturing Processes Lab	1.00		MIAE 311	X**		X	
MIAE 313	Machine Drawing and Design	3.50	MECH 211 or MIAE 211			X	X	X
MIAE 380	Product Design and Development	3.00	ENCS 282; MECH 211 or MIAE 211				X	X
MIAE 383	Machine Learning for MIAE	3.50	ENGR 371; MIAE 215 or COEN 243				X	X
SOEN 341	Software Process	4.00		COMP 352 or COEN 352; ENCS 282			X	X
SOEN 342	Software Requirements and Specifications	3.00	SOEN 341				X	X
SOEN 343	Software Architecture and Design	4.00		SOEN 341; SOEN 342			X	X
				*AERO 417 reserved for AERO students in summer				
				**MIAE 312 reserved for Co-op students in summer				

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