

Recommended Course Sequence Aerospace Engineering Option A – Aerodynamics and Propulsion (September Entry)

>	UNIVERSITY AND COMPUTER SCIENCE	2025-2026 Academic Year	
	SUMMER /1	FALL /2	WINTER /4
YEAR 1		AERO 201 Intro to Flight & Aero Systems (4.00) The following course must be completed previously or concurrently: ENGR 213.	ENCS 282 Technical Writing & Comm. (3.00) Students must have satisfied the requirements in Section 71.20.7 Writing Skills Requirement, by passing the Engineering Writing Test (EWT) or by passing ENCS 272 with a grade of C- or higher, prior to enrolling.
		ENGR 201 Professional Practice & Resp. (1.50) Prerequisites: none.	ENGR 233 Applied Advanced Calculus (3.00) The following course must be completed previously: MATH 204 (Cegep Mathematics 105); MATH 205 (Cegep Mathematics 203).
		ENGR 213 Applied Ord. Differential Eq. (3.00) The following course must be completed previously or concurrently: MATH 204 (Cegep Mathematics 105). The following course must be completed previously: MATH 205 (Cegep Mathematics 203).	ENGR 243 Dynamics (3.00) The following courses must be completed previously: ENGR 213, ENGR 242.
		ENGR 242 Statics (3.00) The following course must be completed previously or concurrently: ENGR 213. The following courses must be completed previously PHYS 204; MATH 204.	ENGR 244 Mechanics of Materials (3.75) The following courses must be completed previously: ENGR 213; ENGR 242 or ENGR 245. The following courses must be completed previously or concurrently: ENGR 233.
		MIAE 215 Programming for Mech & Indu Eng. (3.50) The following course must be completed previously: MATH 204 (Cegep mathematics 105).	ENGR 251 Thermodynamics I (3.00) The following course must be completed previously: MATH 203 (Cegep Mathematics 103).
		ENGR 202 Sust. Dev. Enviro. Stewardship (1.50) Prerequisites: none.	AERO 290 Introduction to Aircraft Design (3.00) The following course must be completed previously: AERO 201. The following course must be completed previously or concurrently: ENCS 282.
		ENGR 311 Transform Calc. & Partial Diff. Eq. (3.00) The following courses must be completed previously: ENGR 213, ENGR 233.	AERO 371 Modelling and Control Systems (3.50) The following courses must be completed previously: PHYS 205; ENGR 213, ENGR 243. The following course must be completed previously or concurrently: ENGR 311 or ELEC 342 or ELEC 364.
YEAR 2		ENGR 371 Probability & Stats in Eng. (3.00) The following courses must be completed previously: ENGR 213, ENGR 233.	ENGR 361 Fluid Mechanics I (3.00) The following courses must be completed previously: ENGR 213, ENGR 233, ENGR 251.
		MIAE 221 Materials Science (3.00) The following course must be completed previously: CHEM 205 (Cegep Chemistry 101).	MECH 343 Theory of Machines (3.50) The following courses must be completed previously: ENGR 213, ENGR 233, ENGR 243.
		MIAE 211 Mech. Engineering Drawing (3.50) Prerequisites: none.	MECH 351 Thermodynamics II (3.50) The following course must be completed previously: ENGR 251.
		AERO 390 Aerospace Engr. Design Project (3.00) The following courses must be completed previously: AERO 290, AERO 371; ENCS 282.	AERO 455 Comp. Fluid Dynamics for Aero. (3.75) The following courses must be completed previously: ENGR 311, ENGR 391; MECH 361.
		AERO 481 Materials Engr. for Aerospace (3.50) The following course must be completed previously: MECH 221 or MIAE 221.	AERO 464 Aerodynamics (3.00) The following course must be completed previously: MECH 361.
YEAR 3	EAR 3 MECH 221 or MIAE 221. ENGR 391 Numerical Methods in Engr. (3.00) The following courses must be completed previously: ENGR 213, ENGR 233; COMP 248 or COEN 243 or MECH 215 or MIAE 215 or BCEE 231.	ENGR 301 Engr. Manage. Principles Econ (3.00) Prerequisites: none.	
		ENGR 392 Impact of Technology on Society (3.00) The following courses must be completed previously: ENCS 282; ENGR 201, ENGR 202. MECH 361 Fluid Mechanics II (3.50)	MECH 352 Heat Transfer I (3.50) The following courses must be completed previously: ENGR 311, ENGR 361.
		The following course must be completed previously: ENGR 361.	1500 150 150 150 150 150 150 150 150 150
		AERO 417 Standards, Reg. and Certification (3.00) The following course must be completed previously: ENGR 201.	AERO 446 Aerospace Vehicle Performance (3.00) The following course must be completed previously: MECH 361.
YEAR 4		AERO 462 Turbomachinery and Propulsion (3.00) The following courses must be completed previously: MECH 351, MECH 361.	AERO 465 Gas Turbine Design (3.50) The following course must be completed previously: AERO 462.
		MECH 461 Gas Dynamics (3.50) The following course must be completed previously: MECH 361. Technical Electives (Under	General Studies (3.00) (Undergraduate Calendar, Sec. 71.110)
		Technical Electives (Undergraduate Calendar, Sec. 71.40.1) Review your advisement report for the number of credits required. Speak with your Undergraduate Program Assistant if you have any further questions. AERO 490 Capstone Aerospace Engineering Design Project (6.00)	
		The following courses must be completed in advance: AERO 390; ENGR 301. Students must have completed 75 credits in the program prior to enrolling.	

Course schedules are based on the recommended sequence; however, you may choose to follow a reduced load. Step-by-step instructions on re-sequencing are available on our website.

DETAILED COURSE INFORMATION Aerospace - Option A 2025-26

### ARRO 203 Introduction to Flight and Aeropace Systems	FALL	WIN
ARRO 391 Introduction to Aircraft Design 3.00 AFRO 201 ENCS 282 ARRO 393 ARRO 391 ARRO 391 ARRO 391 ARRO 391 ARRO 392 ARRO 393 Arrospace Engineering Design Project 3.00 ARRO 293 ARRO 393 Arrospace Engineering Design Project 3.00 ARRO 293 ARRO 393 ARRO 394 ARRO 394	X	X
ARRO 391 Modelling and Control Systems 3.50 PMTS 2005, ENGR 213, NORG 243 ENGR 321 OF ELEC 342 OF ELEC 346	Х.	
ARRO 439 Aerospace Engineering Design Project 3.00 AIRD 290, AIRD 279, AIRD 271; ENCS 282 MERC 415 MERC 415 MERC 421 MERC 425	Х	X
ARRO 431 Standards, Regulations and Certification 3.00 ENRR 2015 ARRO 438 Aerospace Vehicle Performance 3.00 ENRR 361, MED 130 ARRO 445 Compact Vehicle Performance 3.00 MCH 361 ARRO 445 Compact Vehicle Performance 3.00 MCH 351, MCH 361 ARRO 426 Turbomachinery and Propulsion 3.00 MCH 1851, MCH 351, MCH 361 ARRO 427 Aircraft Production of Standard	X	^
ABRO 432 Principles of Aeroelasticity	X	_
ARRO 45 Groupsace Vehicle Performance 3.00 McH 361	X	+
ARR0 452 Computational Fluid Dynamics for Aerospace Applications 3.75 ENRR 311_ENRR 391_MECH 361		Х
ARR0 422 Turbomachinery and Propulsion 3.00 MECH 351, MECH 361 ARR0 468 ARR0 468 ARR0 468 ARR0 468 ARR0 468 ARR0 469 ARR0 471 ARR0 472 Aircraft Promunitic and Electrical Power Systems 3.50 ARR0 201; ENGR 361 ARR0 472 Aircraft Promunitic and Electrical Power Systems 3.50 ARR0 201; ENGR 361 ARR0 471 ARR0 472 Aircraft Promunitic and Electrical Power Systems 3.50 ARR0 201; ENGR 361 ARR0 472 Aircraft Promunitic Arr0 472 Aircraft Arr0		X
ARRO 445 Aerodynamics	Х	<u> </u>
ARRO 455 Gas Turbine Design	X	Х
AREO 472 Aircraft Hydro-Mechanical and Evel Systems 3.50 AERO 201. Or, permission of the Department.		X
AERO 427 Aircraft Pneumatic and Electrical Power Systems 3.50 AERO 201, INCRR 361 n/a n/a n/a n/a AERO 481 Materials Engineering for Aerospace 3.50 AERO 482 Avoinic Navigation Systems 3.00 MECH 221 or NIME AERO 481 AERO 482 Avoinic Navigation Systems 3.00 MECH 221 or NIME AERO 481 Air Or Violation to Space Systems 3.00 MECH 221 or NIME AERO 482 Avoinic Navigation Systems 3.00 MECH 383, MECH 381 AERO 480 Air Card Systems Acrospace Systems 3.00 MECH 381, MECH 381 AERO 480 AIR Card Systems Acrospace Engineering Design Project AERO 480 AIR Card Systems Analysis 3.00 MECH 381, MECH 243, ENGR 244 AERO 480 AIR Card Systems Analysis 3.00 MECH 381, MECH 243, ENGR 244 ARRO 480 AIR Card Systems Analysis ARRO 480 AIR Card Systems Analysis ARRO 480 AIR Card Systems Analysis AIR C		
AERO 480 Flight Control Systems 3.50 AERO 371 or ELEC 372 or MECH 371 or SOEN 385	- /-	X/-
AERO 481	n/a X	n/a
AERO 482		_
AERO 485	X	+
AERO 486 Aircraft Stress Analysis 3.00 ENGR 243, ENGR 244 ENGR 244 ENGR 244 ENGR 244 ENGR 245 ENGR 245	Х	- V
AERO 490 Capstone Aerospace Engineering Design Project 6.00 AERO 390; ENGR 301. Students must have completed 75 credits in the program.	V	Х
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	-
ENGR 201 Professional Practice and Responsibility 1.50	X	-
ENGR 202 Sustainable Development and Environmental Stewardship 1.50 NATH 205 (Cegep Mathematics 203) MATH 204 (Cegep Mathematics 105); X	X	X
ENGR 213 Applied Ordinary Differential Equations 3.00 MATH 205 (Cegep Mathematics 203) MATH 204 (Cegep Mathematics 105) X ENGR 223 Applied Advanced Calculus 3.00 MATH 204 (Cegep Mathematics 105); MATH 205 (Cegep Mathematics 203) X X ENGR 243 Dynamics 3.00 ENGR 213, ENGR 242 PHYS 204; MATH 204 X ENGR 243 Dynamics 3.00 ENGR 213, ENGR 242 ENGR 233 X ENGR 244 Mechanics of Materials 3.75 ENGR 215, ENGR 242 or ENGR 245 ENGR 233 X ENGR 251 Thermodynamics I 3.00 MATH 203 ENGR 233 X ENGR 301 Engineering Management Principles and Economics 3.00 MATH 203 ENGR 233 X ENGR 311 Transform Calculus and Partial Differential Equations 3.00 ENGR 213, ENGR 233, ENGR 233 ENGR 213, ENGR 233 X	Х	Х
ENGR 233 Applied Advanced Calculus 3.00 MATH 204 (Cegep Mathematics 105); MATH 205 (Cegep Mathematics 203) X	X	X
ENGR 242 Statics 3.00 ENGR 213 ENGR 242 ENGR 243 PHYS 204; MATH 204 X	X	Х
ENGR 243 Dynamics 3.00 ENGR 213, ENGR 242	X	X
ENGR 244 Mechanics of Materials 3.75 ENGR 213; ENGR 242 or ENGR 245 ENGR 233 X ENGR 251 Thermodynamics I 3.00 MATH 203 X X ENGR 301 Engineering Management Principles and Economics 3.00 ENGR 213, ENGR 233 X X X ENGR 311 Transform Calculus and Partial Differential Equations 3.00 ENGR 213, ENGR 233, ENGR 233 X	Х	Х
ENGR 251 Thermodynamics	Х	Х
ENGR 301 Engineering Management Principles and Economics 3.00 X X	Х	Х
ENGR 311 Transform Calculus and Partial Differential Equations 3.00 ENGR 213, ENGR 233 X X ENGR 361. Fluid Mechanics I 3.00 ENGR 213, ENGR 233, ENGR 251 X X ENGR 371. Probability and Statistics in Engineering 3.00 ENGR 213, ENGR 233 CNGR 232 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 ENGR 392. Impact of Technology on Society 3.00 ENCS 282; ENGR 201, ENGR 202 X X X ENGR 411. Honours Research Project 3.00 ENCS 282; EVENISSion of the Department is required. X X Gen. 61. General Education Elective 3.00 ENCS 282; TScr in the BEng program, a CGPA of 3.00 or better. Permission of the Dept. X X INDU 412. Human Factors Engineering 3.00 ENGR 371 Impact of Mechanics II Impact of Mechanics	Х	Х
ENGR 361 Fluid Mechanics I 3.00 ENGR 213, ENGR 233, ENGR 251 X ENGR 371 Probability and Statistics in Engineering 3.00 ENGR 213, ENGR 233, COMP 248 or COEN 243 or MECH 215 or MIAE 215 or BCEE 231 X X ENGR 392 Impact of Technology on Society 3.00 ENGR 213, ENGR 233, COMP 248 or COEN 243 or MECH 215 or MIAE 215 or BCEE 231 X X ENGR 412 Special Technical Report 1.00 ENCS 282, ENGR 201, ENGR 202 X X ENGR 412 Honours Research Project 3.00 ENCS 282, ENGR 201, ENGR 202 X X Gen. Ed. General Education Elective 3.00 ENCS 282, ENGR 201, ENGR 202 X X INDU 372 Quality Control and Reliability 3.00 ENGR 371 X X INDU 412 Human Factors Engineering 3.50 ENGR 371 Image: ENGR 203 Image: ENGR 203 MECH 351 Thermodynamics II 3.50 ENGR 213, ENGR 233, ENGR 243 Image: ENGR 203 Image: ENGR 203 MECH 352 Pluid Mechanics II 3.50 ENGR 311, ENGR 361 Image: ENGR 301 Image: ENGR 301	Х	Х
ENGR 371 Probability and Statistics in Engineering 3.00 ENGR 213, ENGR 233 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 ENGR 392 Impact of Technology on Society 3.00 ENCS 282; ENGR 201, ENGR 202 X X ENGR 411 Special Technical Report 1.00 ENCS 282, Permission of the Department is required. 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 Gen. Ed. General Education Elective 3.00 See section 71.7110 of the Undergraduate Calendar X X INDU 372 Quality Control and Reliability 3.00 ENGR 371 INDU 412 Human Factors Engineering 3.50 ENGR 371 INDU 412 Human Factors Engineering 3.50 ENGR 233, ENGR 243 INDU 412 Human Factors Engineering 3.50 ENGR 215, ENGR 233, ENGR 243 INDU 412 Human Factors Engineering 3.50 ENGR 215, ENGR 233, ENGR 243 INDU 412 Human Factors Engineering 3.50 ENGR 215, ENGR 23	Х	Х
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 ENGR 392 Impact of Technology on Society 3.00 ENCS 282; ENGR 201, ENGR 202 X X ENGR 411 Special Technical Report 1.00 ENCS 282; ENGR 201, ENGR 202 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 Gen. Ed. General Education Elective 3.00 See section 71.7110 of the Undergraduate Calendar X X INDU 372 Quality Control and Reliability 3.00 ENGR 371 Image: New York Control and Reliability See Section 71.7110 of the Undergraduate Calendar Image: New York Control and Reliability See Section 71.7110 of the Undergraduate Calendar Image: New York Control and Reliability See Section 71.7110 of the Undergraduate Calendar Image: New York Control and Reliability See Section 71.7110 of the Undergraduate Calendar Image: New York Control and Reliability See Section 71.7110 of the Undergraduate Calendar Image: New York Control and Reliability See Section 71.7110 of the Undergraduate Calendar Image: New York Control and Reliability See Section 71.7110 of the Un	Х	Х
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ENGR 411 Special Technical Report 1.00 ENCS 282. Permission of the Department is required. 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 Gen. Ed. General Education Elective 3.00 See section 71.7110 of the Undergraduate Calendar X X INDU 372 Quality Control and Reliability 3.00 ENGR 371 INDU 412 Human Factors Engineering 3.50 ENGR 371 MECH 343 Theory of Machines 3.50 ENGR 213, ENGR 233, ENGR 243 MECH 351 Thermodynamics II 3.50 ENGR 251	Х	Х
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INDU 472 Quality Control and Reliability 3.00 ENGR 371	Х	Х
INDU 412 Human Factors Engineering 3.50 ENGR 371 MECH 343 Theory of Machines 3.50 ENGR 213, ENGR 233, ENGR 243 MECH 351 Thermodynamics II 3.50 ENGR 215 MECH 352 Heat Transfer I 3.50 ENGR 311, ENGR 361 MECH 361 Fluid Mechanics II 3.50 ENGR 361	Х	Х
MECH 343 Theory of Machines 3.50 ENGR 213, ENGR 243 MECH 351 Thermodynamics II 3.50 ENGR 251 MECH 352 Heat Transfer I 3.50 ENGR 311, ENGR 361 MECH 351 Fluid Mechanics II 3.50 ENGR 361		Х
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MECH 352 Heat Transfer I 3.50 ENGR 311, ENGR 361 MECH 361 Fluid Mechanics II 3.50 ENGR 361	X	Х
MECH 361 Fluid Mechanics II 3.50 ENGR 361	Х	Х
	X	X
IMECH 368 (Electronics for Mechanical Engineers 3.50 (PHYS 205; MIAE 215)	X	X
	X	Х
MECH 373 Instrumentation and Measurements 3.50 ENGR 311; AERO 371 or MECH 370	Х	-
MECH 375 Mechanical Vibrations 3.50 AERO 371 or MECH 370 X	X	Х
MECH 426 Stress and Failure Analysis of Machinery 3.00 ENGR 233, ENGR 244; AERO 481 or MECH 321	Х	-
MECH 451 Renewable Energy: Fundamentals and Applications 3.00 MECH 351, MECH 352, MECH 361		Х
MECH 452 Heat Transfer II 3.50 MECH 351, MECH 352, MECH 361 n/a n/a n/a	n/a	n/a
MECH 453 Heating, Ventilation and Air Conditioning Systems 3.00 MECH 352		Х
MECH 460 Finite Element Analysis 3.75 ENGR 244, ENGR 391		Х
MECH 461 Gas Dynamics 3.50 MECH 361	Х	
MECH 498 Topics in Mechanical Engineering 3.00 Permission of the Department is required. n/a n/a n/a	n/a	n/a
MIAE 211 Mechanical Engineering Drawing 3.50 X	Х	Х
MIAE 215 Programming for Mechanical and Industrial Engineers 3.50 MATH 204 (Cegep mathematics 105)	Х	Х
MIAE 221 Materials Science 3.00 CHEM 205 (Cegep Chemistry 101)	Х	Х

Note: In the case of discrepancies between this and the current Undergraduate Calendar, please contact your Undergraduate Program Assistant for clarification. This information was compiled February 2025.

*AERO 417 reserved for AERO students in summer