Université Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Recommended Course Sequence
Industrial Engineering (Co-op)
2026-2027 Academic Year

	SUMMER /1	FALL /2	WINTER /4
YEAR 1		**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).	**ACCO 220 Financial & Managerial Acco. (3.00)** Prerequisite: none
		INDU 211 Intro Prod & Manufacturing Sys. (3.00) Prerequisites: none.	**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.
		MIAE 211 Mech. Engineering Drawing (3.50) Prerequisites: none.	**ENGR 201 Professional Practice & Resp. (1.50)** Prerequisites: none.
		MIAE 215 Programming for Mech & Indu Eng. (3.50) The following course must be completed previously: MATH 204 (Cegep mathematics 105).	**ENGR 245 Mechanical Analysis (3.00)** The following course must be completed previously: PHYS 204. The following course must be completed previously or concurrently: ENGR 213.
		MIAE 221 Materials Science (3.00) The following course must be completed previously: CHEM 205 (Cegep Chemistry 101).	**MIAE 313 Machine Drawing and Design (3.50)** The following course must be completed previously: MECH 211 or MIAE 211.
YEAR 2	**ENGR 202 Sust. Dev. Enviro. Stewardship (1.50)** Prerequisites: none.	**WORK TERM 1** **(You must complete 30 program credits, including ENCS 282 before your first work-term)**	**INDU 323 Operations Research I (3.50)** The following course must be completed previously: ENGR 213, ENGR 233; INDU 211; MIAE 215.
	ENGR 233 Applied Advanced Calculus (3.00) The following course must be completed previously: MATH 204 (Cegep Mathematics 105); MATH 205 (Cegep Mathematics 203).		**INDU 371 Stochastic Models in Indu. Engr (3.00)** The following course must be completed previously: ENGR 371.
	ENGR 251 Thermodynamics I (3.00) The following course must be completed previously: MATH 203 (Cegep Mathematics 103).		**INDU 372 Quality Control and Reliability (3.00)** The following course must be completed previously: ENGR 371.
	ENGR 371 Probability & Stats in Eng. (3.00) The following courses must be completed previously: ENGR 213, ENGR 233.		**MIAE 380 Product Design & Development (3.00)** The following course must be completed previously: ENCS 282; MECH 211 or MIAE 211.
	MIAE 311 Manufacturing Processes (3.00) The following course must be completed previously: MECH 313 or MIAE 313.		**MIAE 383 Applied Machine Learning MIAE (3.50)** The following courses must be completed previously: ENGR 371; MIAE 215.
	MIAE 312 EDML Lab (1.00) The following course must be completed previously or concurrently: MIAE 311.		
YEAR 3	**ENGR 301 Engr. Manage. Principles Econ (3.00)** Prerequisites: none.	**INDU 311 Simulation of Industrial Systems (3.50)** The following course must be completed previously: ENGR 371.	**WORK TERM 2**
	ENGR 311 Transform Calc. & Partial Diff. Eq. (3.00) The following courses must be completed previously: ENGR 213, ENGR 233.	**INDU 320 Production Engineering (3.00)** The following course must be completed previously: INDU 323.	
	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.	**INDU 324 Operations Research II (3.50)** The following course must be completed previously: INDU 323.	
	ENGR 392 Impact of Technology on Society (3.00) The following courses must be completed previously: ENCS 282; ENGR 201, ENGR 202.	**INDU 330 Engineering Management (3.00)** The following course must be completed previously or concurrently: ENCS 282. The following course must be completed previously: ENGR 301.	
		INDU 412 Human Factors Engineering (3.50) The following course must be completed previously: ENGR 371.	
YEAR 4	**WORK TERM 3**	**INDU 421 Facilities & Material Handling (3.50)** The following course must be completed previously or concurrently: INDU 311. The following course must be completed previously: INDU 320.	**INDU 321 Lean Manufacturing (3.00)** The following course must be completed previously: INDU 320.
		INDU 423 Inventory Control (3.50) The following course must be completed previously: INDU 320.	**INDU 342 Logistics Network Models (3.00)** The following course must be completed previously: INDU 324.
		Technical Electives (Undergraduate Calendar, Sec. 71.40.2) Review your advisement report for the number of credits required. Speak with your Undergraduate Program Assistant if you have any further questions.	
		INDU 490 Capstone Industrial Engineering Design Project (6.00) The following courses must be completed previously: ENGR 301; MIAE 380. The following courses must be completed previously or concurrently: INDU 421. Students must complete 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.

concordia.ca/MIAEUGRAD **Revised October 2025**

DETAILED COURSE INFORMATION

Industrial Engineering 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
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
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
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 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 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
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
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

Note: In the case of discrepancies between this and the current Undergraduate Calendar, please contact your Undergraduate Program Assistant for clarification.

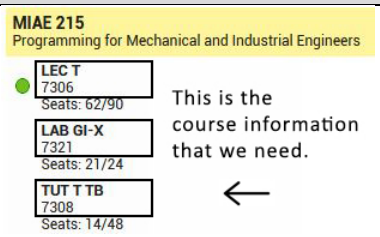
This information was compiled April 2026.

**MIAE 312 reserved for Co-op students in summer

Registration Essentials

How do I register for classes?
Student registration is accessible within the Student Centre or the My CU Account page of the Student Hub. Detailed information and how-to guides can be found here Course registration - Concordia University.

If you need assistance for any particular reason, please email your Undergraduate Program Assistant and include your Student ID as well as detailed course information (i.e. term, lecture, lab and tutorial), as follows:

Information we need:	Where to find the information	Example:
Summer/Fall/Winter YEAR Lec ABCD 123-CC (2964) Tut ABCD 123-CCF (2969) Lab ABCD 123- CI-X (2966)	 Sample taken from the Visual Schedule Builder	**Fall 2026** LEC MIAE 215 T (7306*) Tut MIAE 215 TB (7308*) Lab MIAE 215 GI-X (7321*) *Code is optional

Registration Regulation: The 'C -' Rule
All **200-level courses** within the program [including admission/ECP/MEP requirements] which are prerequisites for other courses must be completed with a C- or higher. A 200-level course in which a student has obtained a D+ or lower must be repeated before attempting a course for which it is a prerequisite (Undergraduate Calendar, Section 71.10.4). **This does not apply to 300 or 400 level courses.**

Registration Regulation: The '200-level before 400-level' Rule
Students must complete (with a posted final grade) all 200-level courses required for their program before registering for any 400-level courses (Undergraduate Calendar, Section 71.10.4).

Why can't I enroll for ENCS 282?
Before enrolling in ENCS 282, students must meet the Writing Skills Requirement (Undergraduate Calendar, Section 71.20.7) by either passing the Engineering Writing Test (EWT) or ENCS 272 with a grade of C or higher. **This is faculty policy, no exceptions.** More details about the EWT, including registration and contact info, can be found here: Engineering Writing Test.

Where can I find the list of General Studies courses?
You can find the list of available courses here: Section 71.110 Complementary Studies for Engineering and Computer Science Students. Please note the Exclusion List, as these courses may not be taken to fulfill this requirement.

Do you need to re-sequence?
Please use our website's re-sequencing guide, planning tools, and sequence template to draft your course plan through to graduation. On page 2 of your recommended sequence, you'll find a table outlining all prerequisites, co-requisites, and course offerings by term—this will help with your planning. You can send a draft to your Program Assistant for review.

Registration: 3rd Time Repeat
A student may repeat a failed course only once. A student who fails a required course twice must request permission to take the course a third time. To submit a request, please go to: GCS Student requests & forms

How do I register for Capstone?
Online registration for Capstone opens June 1, after the annual assessment of GPA is performed by the Registrar's Office. For those taking prerequisite courses in either summer term, you can only register once the grades are available.

How do I know if I am on track for graduation?
The best way to assess what is required for your program is to look at your Academic Requirements Report. The report outlines the courses and credits required for your program(s), including majors, minors, and electives. It helps you monitor completed and outstanding requirements, track total credits, and note any deficiencies or transfer credits. *This is a reference tool only—consult your program advisor for official guidance.*

All of the information above, and more, can be found on our Quick Tips and FAQ (MIAE)

For more information, or clarification, please do not hesitate to contact your Undergraduate Program Assistant or Student Academic Services