

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

VERSION 2023 (UPDATED AUG 2024)

Year 1 - First Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
	MATE 3005 ²	Pre-Calculus		EXAM [CEEb]	5
	QUIM 3131	General Chem. I	QUIM 3133 & [MATE 3005 or MATE 3171]		3
	QUIM 3133	General Chem. Lab I	QUIM 3131 & [MATE 3005 or MATE 3171]		1
	INGL 3XXX ³	1st Year English (*Please refer to the English courses sequence)			3
	ESPA 3101 [or ESPA 3131] ⁴	Basic Spanish I (*Please refer to the accepted Spanish courses sequence)			3
Total Credits:					15

Year 2 - First Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
	MATE 3032	Calculus II		MATE 3031	4
	INGE 3016 [or CIIC 3015]	Algorithms & Comp. Progr.		MATE 3005 or MATE 3172	3
	INGL 3XXX ³	2nd Year English (*Please refer to the English courses sequence)			3
	FISI 3171	Physics I		MATE 3031	4
	FISI 3173	Physics Lab. I	FISI 3171	MATE 3031	1
Total Credits:					16

Year 3 - First Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
	MATE 4145	Linear Alg. & Diff. Eq.		MATE 3063 & [INGE 3016 or COMP 3010* or CIIC 3015*]	4
A-J	ININ 4020	Applied Ind. Stat.		ININ 4010 & MATE 3063	3
A-J	ININ 4071 [or ININ 4077] ^{L,P}	Ergo. & Human Factors in Work Syst. Design		ININ 4010	3
A-J	ININ 4015	Eng. Econ. Analysis		MATE 3032	3
	INGE 3031	Eng. Mech. Statics		MATE 3031	3
Total Credits:					16

Year 4 - First Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
A-J	ININ 4155	Prod. Syst. & Inv.	ININ 4015 & [ININ 4150 or ININ 4021]	ININ 4020	4
J	ININ 5025 ^P	Que. Sys. & Simulation		ININ 4020 & [ININ 4021 or ININ 4150]	4
J	ININ 4078 ^L	Stat. Quality Ctrl.		ININ 4020	3
	ININ XXXX	Ind. Eng. Elective			3
Total Credits:					14

Year 5 - First Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
A-J	ININ 4079 ^P	Design Project		ININ 4015 & ININ 4040 & ININ 4999 & Auth. Dir.	3
	ELECTIVE	Elective in Ethics (*Please refer to the Ethic courses list)			3
		Free Electives			3
A-J	ININ 4087	Cost Management		ININ 4010	4
Total Credits:					13

Industrial Engineering Electives			
Course No.	Description	Cr.	Requisites
ININ 4016	Industrial Safety	3	ININ 4077
ININ 4996	Special Problems	1-3	Auth. Dir.
ININ 4998	Undergrad. Research	1-6	Auth. Dir.
ININ 5005	Modern Opt. Methods	3	ININ 4150
ININ 5006	Systems Eng. & Analysis	3	ININ 4007
ININ 5008	Know. Disc. Eng. Mult. Data	3	ININ 4020
ININ 5009	Lean Six Sigma Meth.	3	ININ 4155
ININ 5105	Intr. Medical Dev. Design	3	ININ 4020
ININ 5200	Intr. To Engineering Mngmt.	3	ININ 4015 or ININ 4007
ININ 5405	Stat. Methods Bio. Inf.	3	ININ 4010
ININ 5565	Msmt. & Prdict. Prd. Reliab	3	ININ 4020
ININ 5575	Seq. & Sched. of Resources	3	ININ 4155
ININ 5595	Des. & Mgmt of Serv. Proc.	3	ININ 4009
ININ Courses that can Only Be Taken as Free Electives			
Course No.	Description	Cr.	Requisites
ININ 4995	COOP	3-9	ININ 4020
ININ 4029	Human Beh. Work. Org.	3	ININ 4077
ININ 4050	Print. Circ. Brd. Assy.	3	QUIM 3132 & FISI 3174

Footnotes:

1. A= August (1st Semester), J= January (2nd Semester)

2. The following are alternative sequences for MATE3005- MATE3031:

- MATE 3171 - MATE3172- MATE3031
- MATE3173 - MATE3172 - MATE3031
- MATE3143- MATE3144

3. The following are approved sequences for English(INGL) courses

- **Basic:** INGL3101 - INGL3102-INGL3201 - (INGL3202, INGL3209, INGL3289, INGL3295)
- **Intermediate:** INGL3103- INGL3104 - (INGL 3236 or INGL3250) - (one additional course from the list provided by the English Department)
- **Advanced:** INGL 3211- INGL3212 (a score of 4 or 5 in English AP Exam)

4. The following are alternative sequences for Spanish (ESPA) courses:

- ESPA3101 - ESPA3102
- ESPA3131 - ESPA3132

L Laboratory sessions integrated with class lectures.

P A project is required for this course.

Additional notes:

1. A grade of "C", or better, is required for all ININ courses.

2. ININ 4995 counts as **free elective**.

3. ININ4996(3 credits) & ININ4998 (6 credits) can be selected as professional electives, as long as maximum credits are not exceeded.

Year 1 - Second Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
	MATE 3031 ²	Calculus I		MATE 3005 or MATE 3172	4
	INGE 3011	Engineering Graphics I			2
	INGL 3XXX ³	1st Year English (*Please refer to the English courses sequence)			3
	ESPA 3102 [or ESPA 3132] ⁴	Basic Spanish II (*Please refer to the accepted Spanish courses sequence)		ESPA 3101 [or ESPA3131]	3
	ELECTIVE	Socio-Humanistics Elec.			3
Total Credits:					15

Year 2 - Second Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
	MATE 3063	Calculus III		MATE 3032	3
A-J	ININ 4010	Prob. & Stat. for Eng		MATE 3032 & [INGE 3016 or CIIC 3011 or CIIC 3015]	3
	INGL 3XXX ³	2nd Year English (*Please refer to the English courses sequence)			3
	FISI 3172	Physics II		FISI 3171	4
	FISI 3174	Physics Lab. II	FISI 3172	FISI 3173	1
	EDFI	Physical Edu. Elective			1
Total Credits:					15

Year 3 - Second Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
A-J	ININ 4021 [or ININ 4150]	Deterministic Models in Operations Research		ININ 4010 & [MATE 4145 or MATE 4031]	3
A-J	ININ 4072 [or ININ 4009] ^{L,P}	Methods & Work Measurement		ININ 4071	3
	INEL 4078 [or (INEL 4075, INEL 4076 & INEL 4077)]	Fundamentals of Circuits & Electronics		FISI 3172 [or FISI 3162]	4
	INGE/INME	Gen. or Mech. Eng. Elective			3
	EDFI	Physical Edu. Elec.			1
Total Credits:					14

Year 4 - Second Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
A	ININ 4017	Comp. Based Info. Sys.		INGE 3016 or CIIC 3011 or CIIC 3015 or COMP 3010	3
J	ININ 4027 ^P [or ININ 6005]	Des. Anal. Eng. Exp.		ININ 4020	3
A-J	ININ 4040 ^{L,P}	Layout Degn.	ININ 4015	[ININ 4009 or ININ 4072] & ININ 4155 & INGE 3011 & [ININ 4021 or ININ 4150]	3
	ININ 4999	Intr. to Design Project	ININ 4040		1
	ELECTIVE	Socio-Humanistics Elec.			3
		Free Elective			3
Total Credits:					16

Year 5 - Second Semester					
Offer 1	Course ID	Title	Co-Req	Pre-Req.	Cr.
A-J	ININ 4057 ^{L,P}	Auto. & Process Control		[INEL 4078 or INEL 4076] & [CIIC 3011 or CIIC 3015 or INGE 3016 or COMP 3010]	3
	ININ XXXX	Ind. Eng. Elective			3
	INGE/INME	Gen. or Mech. Eng. Elective			3
		Free Electives			3
		Free Electives			3
Total Credits:					15

Critical Path Courses

Elective Courses

Industrial Engineering Courses

Professional Elective Courses

Engineering Fundamentals Electives

* - Check prerequisites