

Bachelor of Science in Industrial Engineering

Curriculum Revision 2023

Year 1 - First Semester					
Offer ¹	Course ID	Title	Co-Req	Pre-Req.	Cr.
	MATE 3005 ²	Pre-Calculus		EXAM [CEE8]	5
	QUIM 3131	General Chem. I	QUIM 3133 & [MATE 3005 or MATE 3171 or MATE 3173]		3
	QUIM 3133	General Chem. Lab I	QUIM 3133 & [MATE 3005 or MATE 3171 or MATE 3173]		1
	INGL 3XXX ³	1 st Year English (*Refer to the English courses sequence)			3
	ESPA 3XXX ⁴	1 st Year Spanish (*Refer to the Spanish courses placement criteria)			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.			3
	INGL 3XXX ³	2 nd Year English (*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:					15

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 CIIC 3011 or CIIC 3015 or COMP 3010]	4
A-J	ININ 4020	Applied Ind. Stat.		ININ 4010 & MATE 3063	3
A-J	ININ 4071 [or ININ 4077] ^L	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] & [ININ 4072 or ININ 4009]	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 (*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	Requisites	Cr.
ININ 4016	Industrial Safety	ININ4071 or ININ 4077	3
ININ 4996	Special Projects	Auth. Dir.	1-3
ININ 4998	Undergrad. Research	Auth. Dir.	1-6
ININ 5005	Modern Opt. Methods	ININ 4021	3
ININ 5006	Systems Eng. & Analysis	ININ 4015 or ININ 4007	3
ININ 5007	Complex Syst. Mod. & Syst. Dynamics	ININ 4021	3
ININ 5009	Lean Six Sigma Meth.	ININ4078 & ININ 4155	3
ININ 5105	Intr. Medical Dev. Design	ININ 4020	3
ININ 5200	Intr. To Engineering Mngmt.	ININ 4015 & ININ 4007	3
ININ 5405	Stat. Methods Bio.	ININ 4010	3
ININ 5555	Intro. To Nonlinear Opt. & Neural	MATE 3063	3
ININ 5565	Measure. & Pred. of Product Reliability	ININ 4020	3
ININ 5575	Sequencing & Scheduling of Resources	ININ 4021	3
ININ 5595	Des. & Management of Services	ININ 4009 & ININ 4155	3
ININ 5597	Special Topics in IE	Auth. Dir.	1-6

- Critical Path Courses
- Elective Courses
- Industrial Engineering Courses
- Professional Elective Courses
- Engineering Fundamentals Electives

Footnotes:

1. A = August (1st semester), J = January (2nd Semester)
2. Alternate sequences for MATE 3005 = [MATE 3171 - MATE 3172]; [MATE 3173 - MATE 3174]
3. The following are approved sequences for English (INGL) courses:
 - Basic (CEE8 200-559): INGL 3101 - INGL 3102 - INGL 3201 - (INGL 3202 or INGL 3209 or INGL 3289 or INGL 3295)
 - Intermediate (CEE8 560-800; English AP Exam: 3): INGL 3103 - INGL 3104 - (INGL 3236 or INGL 3250) - (1 add. course from English Dept. approved list)
 - Advanced (English AP Exam: 4 or 5): 3 credits approved - INGL 3211 - INGL 3212
4. The following are approved placement criteria for Spanish (ESPA) courses:
 - CEE8 641 or less: (ESPA 3101 or ESPA 3131) - (ESPA 3102 or ESPA 3132); CEE8 615-649: 3 credits approved - (ESPA 3102 or ESPA 3132); CEE8 650 or more: 6 credits approved.
- L. Laboratory sessions integrated with class lectures. P. A project is required for this course.

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Year 1 - Second Semester					
Offer ¹	Course ID	Title	Co-Req	Pre-Req.	Cr.
	MATE 3031 ²	Calculus I		MATE 3005 or MATE 3172 or MATE 3174	4
	INGE 3011	Engineering Graphics I			2
	INGL 3XXX ³	1 st Year English (*Refer to the English courses sequence)			3
	ESPA 3XXX ⁴	1 st Year Spanish (*Refer to the Spanish courses placement criteria)			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 ^L	Prob. & Stat. for Eng		MATE 3032 & [INGE 3016 or CIIC 3011 or CIIC 3015]	3
	INGL 3XXX ³	2 nd Year English (*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	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 [or ININ 6005] ^P	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