



## TECHNOLOGICAL INSTITUTE OF THE PHILIPPINES

Manila

## 2023 CURRICULUM FOR BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING (BSIE)

IMPORTANT: Registration in any course/s without all the pre-requisites, correct sequence and authorized load shall not be given any credit regardless of the grade/s obtained.

EVALUATION IS TENTATIVE AND MAYBE REVISED FOR SOME VALID CAUSES OR REASONS OR IF OMISSIONS AND/OR LACK OF UNITS CREDITED BE DISCOVERED LATER.

Student's Name and Signature

COURSE CODE	DESCRIPTIVE TITLE	Lecture hrs Laboratory hrs Credit Units			PRE/COREQUISITE(S)
		Lecture hrs	Laboratory hrs	Credit Units	
<b>FIRST YEAR, FIRST SEMESTER (20 UNITS)</b>					
MATH 141	Calculus 1	4	0	4	
CHM 001	Chemistry for Engineers	3	3	4	
GEC 001	Understanding the Self	3	0	3	
GEC 004	Mathematics in the Modern World	3	0	3	
MATH 025	Discrete Mathematics	3	0	3	
IE 100	Introduction to Industrial Engineering	1	0	1	
PE 001	Physical Activities Toward Health and Fitness 1 (PATHFit 1)	2	0	2	
NSTP 001	National Service Training Program 1	(3)	0	(3)	
<b>FIRST YEAR, SECOND SEMESTER (22 UNITS)</b>					
MATH 242	Calculus 2	4	0	4	MATH 141 (P)
PHYS 111	Calculus-Based Physics	3	3	4	MATH 141 (P), MATH 242 (C)
IE 021	Statistical Concepts, Theories and Analysis for Industrial Engineering 1	3	0	3	
GEE 001B	GE Elective 1- Gender and Society	3	0	3	
GEC 003	The Contemporary World	3	0	3	
GEA 001	Principles of Economics	3	0	3	
PE 002	Physical Activities Toward Health and Fitness 2 (PATHFit 2)	2	0	2	PE 001 (P)
NSTP 002	National Service Training Program 2	(3)	0	(3)	NSTP 001 (P)
<b>SECOND YEAR, FIRST SEMESTER (25 UNITS)</b>					
CPE 102B	Computer Fundamentals and Programming	0	6	2	
IE 201	Industrial Materials and Processes	2	3	3	PHYS 111 (P)
CE 201B	Engineering Mechanics	3	0	3	PHYS 111 (P)
GEM 001	Life and Works of Rizal	3	0	3	
IE 202	Statistical Concepts, Theories and Analysis for Industrial Engineering 2	2	3	3	IE 021 (P)
IE 203	Strategic and Industrial Organization Management	3	0	3	2nd Year Standing
MATH 021	Differential Equations	3	0	3	MATH 242 (P)
GEE 002B	GE Elective 2- Living in the IT Era	3	0	3	
PE 003	Physical Activities Toward Health and Fitness 3 (PATHFit 3)	2	0	2	PE 002 (P)
<b>SECOND YEAR, SECOND SEMESTER (25 UNITS)</b>					
IE 014	Advanced Mathematics for Industrial Engineering	3	0	3	MATH 021(P)
MATH 022B	Linear Algebra with MATLAB	2	3	3	MATH 242 (P), MATH 025 (P)
CPE 310A	Fundamentals of Data Science	0	3	1	
IE 205	Work Study and Measurement/Productivity Analysis	3	3	4	IE 201 (P), IE 202 (P), IE 203 (P)
AC 101	Financial Accounting	3	0	3	GEA 001 (P)
IE 204	Industrial and Organizational Psychology	3	0	3	2nd Year Standing
GEC 006	Art Appreciation	3	0	3	
GEE 003C	GE Elective 3- The Entrepreneurial Mind	3	0	3	
PE 004	Physical Activities Toward Health and Fitness 4 (PATHFit 4)	2	0	2	PE 003 (P)
<b>THIRD YEAR, FIRST SEMESTER (25 UNITS)</b>					
GEC 002	Readings in Philippine History	3	0	3	
CPE 104	Computer-Aided Drafting	0	3	1	
IE 305	Operations Research 1: Deterministic Approach	2	3	3	MATH 022B (P), IE 014 (P)
IE 312	Ergonomics 1: Physical and Cognitive Ergonomics	2	3	3	IE 204 (P), IE 205 (P)
IE 306	Quality Management Systems	3	0	3	IE 202 (P), IE 205 (P)
ME 201A	Thermodynamics	3	0	3	MATH 242 (P), PHYS 111 (P)
ME 304	Engineering Economics	3	0	3	3rd Year Standing
AC 102	Managerial Accounting	3	0	3	AC 101 (P)
IEE 001	IE Elective 1	3	0	3	See Track Elective for pre-requisite(s)

THIRD YEAR, SECOND SEMESTER (23 UNITS)							
	GEC	005	Purposive Communication	3	0	3	
	COE	312	Fundamentals of Intellectual Property	0	3	1	3rd Year Standing
	EE	200C	Basic Electrical Engineering	2	3	3	PHYS 111 (P)
	IE	307	Ergonomics 2: Work Design	2	3	3	IE 312 (P)
	IE	308	Operations Research 2: Stochastic Approach with Simulation	2	3	3	IE 305 (P), MATH 025 (P)
	IE	309	Project Feasibility	2	3	3	AC 102 (P), ME 304 (P)
	IE	310	Production and Operations Management with Industry Software Applications	3	3	4	IE 305 (P), IE 306 (P), IE 308 (C)
	IEE	002	IE Elective 2	3	0	3	See Track Elective for pre-requisite(s)

THIRD YEAR, SUMMER (9 UNITS)							
	IE	415	Supply Chain Management	3	0	3	IE 310 (P)
	IE	409	Systems Engineering	3	0	3	IE 310 (P)
	IS	001	Information Systems	3	0	3	IE 415 (C)

**NO STUDENT SHALL BE ALLOWED TO TAKE FOURTH YEAR PROFESSIONAL COURSES UNLESS HE HAS COMPLETED THE BASIC AND THE THIRD YEAR COURSES INCLUDING PE AND NSTP COURSES.**

FOURTH YEAR, FIRST SEMESTER (24 UNITS)							
	CHM	008A	Environmental Science	3	0	3	4th Year Standing
	GEC	008	Ethics	3	0	3	
	GEC	007	Science, Technology, and Society	3	0	3	
	IE	412	Undergraduate Research for Industrial Engineering	1	6	3	IE 202 (P), IE 310 (P)
	IE	411	IE Design Project 1	2	3	3	IE 410 (C), 4th Year Standing
	IEE	003	IE Elective 3	3	0	3	See Track Elective for pre-requisite(s)
	IE	410	Multi-Criteria Decision Making	3	0	3	IE 308 (P)
	BOSH	101	Basic Occupational Safety and Health	3	0	3	4th Year Standing

FOURTH YEAR, SECOND SEMESTER (13 UNITS)							
	IE	400	On-the-Job Training for Industrial Engineering	0	240	2	Graduating
	SAP	001	SAP Business Process Integration (BPI)	0	3	1	4th Year Standing
	IE	416A	Seminars/Colloquia on Current and Emerging Technologies for Industrial Engineering	0	3	1	IE 412 (P), Graduating
	IE	417	IE Design Project 2	1	6	3	IE 411 (P), Graduating
	IE	413	Industrial Engineering Values and Ethics	3	0	3	Graduating
	TECH	101A	Technology Entrepreneurship	3	0	3	IE 417 (C), Graduating

**Elective Courses: 9 Credit Units**

A student can choose any of the two (2) tracks below and once a track is chosen all courses in the track must be taken.

TRACK ELECTIVE 1 (Organization and Decision Systems)							
	IE-E1	101	Project Management	3	0	3	3rd Year Standing (P), IE 305 (C)
	IE-E2	102	Risk Management	3	0	3	IE 306 (P)
	IE-E3	103	Special Topics and Problems in Industrial Engineering	3	0	3	IE 310 (P)

TRACK ELECTIVE 2 (Railway Engineering)							
	RWE	001	Introduction to Railway Systems and Engineering	3	0	3	
	RWE	002A	Railway Management, Governance and Operations	3	0	3	RWE 001 (P)
	RWE	003A	Advanced Topic on Railway Engineering	3	0	3	RWE 002A (P)

TRACK ELECTIVE 3 (Data Science)							
	DS	001A	Computational Thinking with Python	2	3	3	IE 202 (P), MATH 022B (P), CPE 310A (P)
	DS	002A	Predictive Analytics using Machine Learning	2	3	3	DS 001A (P)
	DS	003	Advanced Machine Learning and Deep Learning	2	3	3	DS 002A (P)

**TOTAL NO OF UNITS ..... 192**

CREDENTIALS SUBMITTED:

DEFICIENCY/IES

Evaluated by:

Date:

- ( ) F138 ( ) PSA Birth Certificate
- ( ) GMC ( ) Transfer Credential
- ( ) F137A ( ) TOR

Received by:

Date: