


TECHNOLOGICAL INSTITUTE OF THE PHILIPPINES
Quezon City
2023 CURRICULUM FOR BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (BSCPE)

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

NAME : _____ STUDENT NO : _____

COURSE CODE		DESCRIPTIVE TITLE	LEC HOURS	LAB HOURS	CREDIT UNITS	PRE-REQUISITE(S)/CO-REQUISITE(S)
FIRST YEAR, FIRST SEMESTER (20 UNITS)						
MATH	006	Discrete Mathematics	3	0	3	
EMATH	016	Calculus 1	4	0	4	
CHEM	001C	Chemistry for Engineers	3	3	4	
CPE	007	Programming Logic and Design	0	6	2	
CPE	008	Computer Engineering as a Discipline	1	0	1	
CPE	201A	Computer System Administration and Troubleshooting	0	3	1	
GEC	001	Understanding the Self	3	0	3	
PE	001	Physical Activities Toward Health and Fitness 1 (PATHfit 1)	2	0	2	
NSTP	001	National Service Training Program 1	(3)	0	(3)	
TOTAL			16	12	20	
FIRST YEAR, SECOND SEMESTER (24 UNITS)						
NSTP	002	National Service Training Program 2	(3)	0	(3)	NSTP 001(P)
MATH	013	Linear Algebra with MATLAB	2	3	3	EMATH 016(P) MATH 006(P)
EMATH	017	Calculus 2	4	0	4	EMATH 016(P)
PHYS	001C	Calculus-Based Physics	3	3	4	EMATH 016(P)
CPE	009A	Object Oriented Programming 1	0	3	1	CPE 007(P)
CPE	003A	Computer-Aided Drafting	0	3	1	
MATH	019	Engineering Data Analysis	3	0	3	EMATH 016(P) MATH 006(P)
GEE	001	General Education Elective 1	3	0	3	
GEC	004	Mathematics in the Modern World	3	0	3	
PE	002	Physical Activities Toward Health and Fitness 2 (PATHfit 2)	2	0	2	PE 001(P)
TOTAL			20	12	24	
SECOND YEAR, FIRST SEMESTER (26 UNITS)						
MATH	010	Differential Equations	3	0	3	EMATH 017(P) MATH 013(P)
ECE	027	Fundamentals of Electronic Circuits	3	3	4	PHYS 001C(P)
EE	041	Fundamentals of Electrical Circuits	3	3	4	PHYS 001C(P)
CPE	009B	Object Oriented Programming 2	0	3	1	CPE 009A(P)
CPE	010	Data Structures and Algorithms	0	6	2	CPE 009A(P) MATH 006(P)
CPE	031	Visualizations and Data Analysis	0	3	1	MATH 019(P)
GEC	003	The Contemporary World	3	0	3	2nd Year Standing
GEC	007	Science, Technology and Society	3	0	3	2nd Year Standing
GEE	002	General Education Elective 2	3	0	3	2nd Year Standing
PE	003	Physical Activities Toward Health and Fitness 3 (PATHfit 3)	2	0	2	PE 001(P) PE 002(P)
TOTAL			20	18	26	
SECOND YEAR, SECOND SEMESTER (24 UNITS)						
MATH	020	Numerical Methods	3	0	3	MATH 010(P)
CPE	011A	Database Management System	0	6	2	CPE 009B(P) CPE 010(P)
CPE	013	Logic Circuits and Design	3	3	4	ECE 027(P) EE 041(P)
CPE	015A	Optimization Techniques	3	0	3	CPE 031(P)
CPE	021A	Computer Architecture & Organization 1 (Assembly Language)	0	3	1	CPE 013(C)
CPE	302	Computer Networks 1	2	3	3	2nd Year Standing
CPE Elective	1	Cognate / Elective Course 1	2	3	3	See track for pre-requisite(s)
GEC	002	Readings in Philippine History	3	0	3	2nd Year Standing



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PE	004	Physical Activities Toward Health and Fitness 4 (PATHfit 4)	2	0	2	PE 001(P) PE 002(P)
TOTAL			18	18	24	
SECOND YEAR, SUMMER (8 UNITS)						
CPE	016A	Introduction to HDL	0	3	1	CPE 013(P)
CPE	017A	Fundamentals of Mixed Signals and Sensors	3	0	3	CPE 013(P)
CPE	024A	Basic Occupational Health and Safety	3	0	3	2nd Year Standing
CPE	304A	Computer Engineering Drafting and Design	0	3	1	CPE 013(P)
TOTAL			6	6	8	
THIRD YEAR, FIRST SEMESTER (24 UNITS)						
CPE	014A	Embedded Systems	3	3	4	CPE 016A(P) CPE 017A(P) CPE 304A(P)
CPE	018	Emerging Technologies 1 in CpE	0	3	1	3rd Year Standing
CPE	021B	Computer Architecture & Organization	3	0	3	CPE 021A(P)
CPE	022A	Operating Systems	2	3	3	CPE 011A(P) CPE 021A(P)
CPE	025A	Software Design 1	3	0	3	CPE 011A(P)
CPE	032	Big Data Engineering	0	3	1	CPE 011A(P)
CPE	401	Computer Networks 2	2	3	3	CPE 302(P)
CPE Elective	2	Cognate / Elective Course 2	2	3	3	See track for pre-requisite(s)
GEC	006	Art Appreciation	3	0	3	3rd Year Standing
TOTAL			18	18	24	
THIRD YEAR, SECOND SEMESTER (24 UNITS)						
COE	002A	Introduction to Intellectual Property	0	3	1	3rd Year Standing
CPE	019	Emerging Technologies 2 in CpE	0	3	1	CPE 018(P)
CPE	020	Methods of Research	2	0	2	COE 002A(C) CPE 015A(P)
CPE	025B	Software Design 2	0	3	1	CPE 022A(P) CPE 025A(P) CPE 032(P)
CPE	404	Computer Networks 3	2	3	3	CPE 401(P)
CPE Elective	3	Cognate / Elective Course 3	2	3	3	See track for pre-requisite(s)
CPE	012	Data and Digital Communications	3	0	3	3rd Year Standing
CPE	033	Human-Centered Innovation	0	3	1	CPE 112(P) CPE 212(P) CPE 312(P) CPE 412(P) RWE 002(P)
ECE	028	Feedback and Control Systems	3	0	3	MATH 020(P)
GEC	008	Ethics	3	0	3	3rd Year Standing
GEE	003	General Education Elective 3	3	0	3	3rd Year Standing
TOTAL			18	18	24	
FOURTH YEAR, FIRST SEMESTER (24 UNITS)						
CPE	006	Microprocessor Systems	3	3	4	CPE 014A(P) CPE 021B(P)
CPE	026	Emerging Technologies 3 in CpE	0	3	1	CPE 019(P)
CPE	027	Digital Signal Processing and Application	3	3	4	ECE 028(P) MATH 019(P)
CPE	028	Developing Applications and Automation	2	3	3	CPE 404(P)
CPE	029	CpE Design Project 1	2	3	3	COE 002A(P) CPE 006(C) CPE 020(P) CPE 033(P)
CPE	034	Sustainable Development Engineering	2	0	2	4th Year Standing
CPE	502A	Plant Visits and Seminars for CpE	0	3	1	4th Year Standing
SOCSC	005	Life and Works of Rizal	3	0	3	4th Year Standing
EECO	001A	Engineering Economics	3	0	3	4th Year Standing
TOTAL			18	18	24	
FOURTH YEAR, SECOND SEMESTER (14 UNITS)						
CPE	023A	CpE Laws and Professional Practice	2	0	2	Graduating
CPE	030	CpE Design Project 2	1	6	3	Graduating
CPE	500	On-the-Job- Training for CpE	3	240	3	Graduating
TECH	101A	Technology Entrepreneurship	3	0	3	Graduating
GEC	005	Purposive Communication	3	0	3	4th Year Standing
TOTAL			12	246	14	
ELECTIVE COURSES						



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TRACK 1: Cyber-Physical Systems							
CPE	111	Internet of Things and Applications	2	3	3	CPE 013(C)	
CPE	112	Machine Perception and Robotics	2	3	3	CPE 111(P)	
CPE	113	Intelligent System Design	2	3	3	CPE 112(P)	
TOTAL			6	9	9		
TRACK 2: Systems Administration							
CPE	211	Advanced System Administration	2	3	3	CPE 011A(C)	
CPE	212	Automating Server Management	2	3	3	CPE 211(P)	
CPE	213	Cloud Management and Security	2	3	3	CPE 212(P)	
TOTAL			6	9	9		
TRACK 3: Data Science							
CPE	311	Computational Thinking with Python	2	3	3	CPE 010(P) CPE 031(P)	
CPE	312	Predictive Analytics using Machine Learning	2	3	3	CPE 311(P)	
CPE	313	Advanced Machine Learning and Deep Learning	2	3	3	CPE 312(P)	
TOTAL			6	9	9		
TRACK 4: Human-Computer Interaction							
CPE	411	Interactive Extended Reality	2	3	3	CPE 003(P) CPE 009B(P)	
CPE	412	Human-AI Interaction	2	3	3	CPE 411(P)	
CPE	413	Human-Robot Interaction	2	3	3	CPE 412(P)	
TOTAL			6	9	9		
TRACK 5: Railway Engineering							
RWE	001	Introduction to Railway Systems and Engineering	3	0	3	2nd Year Standing	
RWE	002	Railway Management, Governance, and Operations	3	0	3	RWE 001(P)	
RWE	003	Advanced Topic on Railway Engineering	2	3	3	RWE 002(P)	
TOTAL			8	3	9		

CREDENTIALS PRESENTED:

() F137A () NSO Birth Certificate
 () F138 () HD
 () GMC () TOR

DEFICIENCY/IES:

Evaluated By: _____

Date: _____

Received By: _____

Date: _____

LEGEND

P = Pre-requisite

C = Co-requisite

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