CE Curriculum for Batch of 2024 (Fall 20 - Spring 24) - v2.1

Graduation requirement: 43 courses and a minimum of 138 credit hours

Year	Semester and CH	University Core					Natural Science and Math					Computing					Electrical Engineering				
		C	Code	Course Title	Th	Lb	C	Code	Course Title	Th	Lb	C	Code	Course Title	Th	Lb	C	Code	Course Title	Th	Lb
Year 1 : 35 CH	**SEMESTER-1** Fall 20 Credit Hours: 17	1	CORE 101	Rhetoric and Communication	3	0	3	MATH 101	Calculus I	4	0	4	CS 101	Programming Fundamentals	2	1	5	CE 101	Introduction to Electrical and Computer Engineering	2	2
		1. Language & Expression -1 of 2										*3. Formal Reasoning - 1of1*									
		2	CORE 121	Jehan-e-Urdu	3	0															
		2. Language & Expression - 2 of 2																			
	SEMESTER-2 Spring 21 Credit Hours: 18	1	CORE 102	What is modernity?	3	0	2	MATH 102	Calculus II	3	0	4	CE 171	Data Structures and Algorithms	3	1	5	CE 111	Electric Circuit Analysis	3	1
		4. Historical & Social Thought - 1of2					3	PHY 101	Mechanics	3	0						6	ENGR 291	Engineering Workshop and Design	0	1
Year 2 : 36 CH	**SEMESTER-3** Fall 21 Credit Hours: 18	1	CORE 201	Pakistan and Modern South Asia	3	0	2	CE 361	Probability and Statistics	3	0						4	CE 222	Digital Logic and Design	3	1
		5. Historical & Social Thought - 2of2					*6. Quantitative Reasoning - 1 of 1*										5	CE 211	Basic Electronics	3	1
							3	MATH 205	Linear Alg.	3	0										
							4	PHY 101L	Mech. Lab	0	1										
	SEMESTER-4 Spring 23 Credit Hours: 17-18	1	CORE 202	Hikmah I	3	0						3	CE 272	Object Oriented Programming	3	1	4	CE 251	Signals and Systems	3	1
		7. Philosophical Thought - 1 of 2										4	CS 113	Discrete Math	3	0	5	CE 321	Computer Architecture	3	1
Year 3 : 37-38 CH	**SEMESTER-5** Fall 23 Credit Hours: 18	1	xx xxx	Philosophy Elective	3	0	2	MATH 362	Statistics and Inferencing	3	0	3	CE 324	Operating Systems	3	1	4	CE 331	Microcontrollers and Interfacing	3	1
		8. Philosophical Thought - 2 of 2															5	CE 341	Data Communication and Networking	3	1
	SEMESTER-6 Spring 24 Credit Hours: 19-20	1	CORE 200	Scientific Method	3	0						2	CE 374	Systems and Software Engineering	3	0	3	CE 352	Digital Signal Processing	3	1
		9. NS Method & Analysis - 1of1															4	CE 325	Digital Systems Design	3	0
																	5	CE 391	Engineering Innovation and Design	0	2
																	6	CE 301	CE Seminar	1	0
																	7	CE XXX	CE Elective I*	3	0-1
Year 4 : 30-36 CH	**SEMESTER-7** Fall 24 Credit Hours: 16-18												**Professional Practice**				3	CE XXX	CE Elective II*	3	0-1
												1	XX xxx	Elective I	3	0	4	XX XXX	Multidisciplinary Engineering Elective I*	3	0-1
												2	CE 373	Databases	3	1	5	CE 491	Capstone Design Project - I	0	3
	SEMESTER-8 Spring 25 Credit Hours: 14-18												**Professional Practice**				2	XX XXX	Multidisciplinary Engineering Elective II*	3	0-1
												1	XX xxx	Elective II	2-3	0	3	CE XXX	CE Elective III*	3	0-1
																	4	CE XXX	CE Elective IV*	3	0-1
																	5	CE 492	Capstone Design Project -II	0	3

Non-Engineering Courses

Knowledge Area	CC	CH
HSS	6	18
Management	2	5-6
NS-Math	4	13
NS-Mechanics	1	4
Sci Methods	1	3
Total	**14**	**43-44**

Engineering Courses

Knowledge Area	CC	CH
Computing	2	6
CE Foundation	7	27
CE Core	9	32
CE Depth	5	15-19
MDEE	2	6-8
Design + Capstone	4	9
Total	**29**	**95-101**

Legend

CS	Computer Science
CE	Computer Engineering
EE	Electrical Engineering
MDEE	Multidisciplinary Engineering Elective
SEM	Semester
CH	Credit Hours
Th	Theory
Lb	Lab
C	Course Count

***** Electives can be with or without labs - however, if the elective is offered with labs than those labs would be mandatory for graduation.

Summary of Changes (from CE Batch 2023 ver 1) in ver 2 approved by ECE Program BoS 0n 14 April 2020

1. Total number of credit hours have been reduced to 139.
2. CS-261 and CS-355 are not mandatory.
3. Number of mandatory IDEE courses has been reduced to 1.
4. Number of required CE electives has increased to 5.
5. Mandatory "Digital Systems Design" course has been added.
6. Courses have been rearranged to evenly distribute the load across semester.

Summary of Changes in v2.1 compared to v2.0. Approved by ECE Program BoS on

1. The MATH 201 requirement has been changed to a mandatory course on Statistics and Inferencing in semester 5. Probability is moved to Semester 3.
2. CORE 202 moved from semester 6 to semester 4.
3. Requiement for DSA II in semester 4 has been changed to Databases in semester 7. Computer Architecture is moved from semester 6 to semester 4.
4. Philosophy elective moved from semester 7 to semester 5.
5. CORE 200 moved from semester 4 to semester 6.
6. Requirement for five CE electives and one MDEE has been changed to four CE electives and two MDEE. MDEE course will allow EE and CS courses.
7. Courses have been rearranged to allow for even distribution of load and smooth intellectual progression.
8. Mandatory requirement to take two electives with lab has been relaxed.
9. Digital Systems Design is planned to be offered without lab now.