

SCHEME OF STUDIES FOR B.SC. CIVIL ENGINEERING
FOR SESSION 2025-29 & ONWARDS

(As Per HEC / PEC Guidelines vide PEC Letter no. PEC/AD/CD/2025/03 Dated 10.04.2025)

CRC - 7 -; BOS - 18

FIRST SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks					
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total	
CE-111	Civil Engineering Materials	2	-	2	-	30	50	20	-	100	
CE-111L	Civil Engineering Materials (Lab)	-	1	-	3	-	-	-	100	100	
NS-112	Applied Physics and Electro-Mechanical Fundamentals	2	-	2	-	30	50	20	-	100	
NS-112L	Applied Physics and Electro-Mechanical Fundamentals	-	1	-	3	-	-	-	100	100	
CE-113	Engineering Drawing	1	-	1	-	30	50	20	-	100	
CE-113L	Engineering Drawing (Lab)	-	2	-	6	-	-	-	100	100	
HU-114	Functional English	3	-	3	-	30	50	20	-	100	
NS-115	Quantitative Reasoning-I	3	-	3	-	30	50	20	-	100	
CS-116	Application of ICT	2	-	2	-	30	50	20	-	100	
CS-116L	Application of ICT (Lab)	-	1	-	3	-	-	-	100	100	
Total		13+5=18		13+15=28		Grand Total					1000

SECOND SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks					
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total	
CE-121	Engineering Surveying	2	-	2	-	30	50	20	-	100	
CE-121L	Engineering Surveying (Lab)	-	1	-	3	-	-	-	100	100	
MD-122	Geology for Engineers	2	-	2	-	30	50	20	-	100	
HU-123	Islamic Studies/Ethics	2	-	2	-	30	50	20	-	100	
CE-124	Engineering Mechanics	2	-	2	-	30	50	20	-	100	
CE-124L	Engineering Mechanics (Lab)	-	1	-	3	-	-	-	100	100	
HU-125	Ideology and Constitution of Pakistan	2	-	2	-	30	50	20	-	100	
CS-126	Computer Programming	2	-	2	-	30	50	20	-	100	
CS-126L	Computer Programming (Lab)	-	1	-	3	-	-	-	100	100	
NS-127	Quantitative Reasoning-II	3	-	3	-	30	50	20	-	100	
HU-128L	Fehm-e-Quran-I	-	1	-	3	-	-	-	100	100	
Total		15+4=19		15+12=27		Grand Total					1100

THIRD SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks				
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total
CS-231	Civil Engineering Drawing & Graphics	1	-	1	-	30	50	20	-	100
CS-231L	Civil Engineering Drawing & Graphics (Lab)	-	2	-	6	-	-	-	100	100
CE-232	Advanced Engineering Surveying	2	-	2	-	30	50	20	-	100
CE-232L	Advanced Engineering Surveying (Lab)	-	1	-	3	-	-	-	100	100
CE-233	Fluid Mechanics	2	-	2	-	30	50	20	-	100
CE-233L	Fluid Mechanics (Lab)	-	1	-	3	-	-	-	100	100
CE-234	Mechanics of Solids-I	2	-	2	-	30	50	20	-	100
CE-234L	Mechanics of Solids-I (Lab)	-	1	-	3	-	-	-	100	100
CE-235	Structural Analysis-I	3	-	3	-	30	50	20	-	100
NS-236	Advanced Calculus	3	-	3	-	30	50	20	-	100
Total		13+5=18		13+15=28		Grand Total				1000

FOURTH SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks				
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total
CE-241	Construction Engineering	2	-	2	-	30	50	20	-	100
HU-242	Professional Ethics	2	-	2	-	30	50	20	-	100
NS-243	Applied Mathematics	3	-	3	-	30	50	20	-	100
CE-244	Mechanics of Solids-II	2	-	2	-	30	50	20	-	100
CE-244L	Mechanics of Solids II(Lab)	-	1	-	3	-	-	-	100	100
CE-245	Soil Mechanics	2	-	2	-	30	50	20	-	100
CE-245L	Soil Mechanics (Lab)	-	1	-	3	-	-	-	100	100
HU-246	Engineering Economics	2	-	2	-	30	50	20	-	100
CE-247	Quantity and Cost Estimation	2	-	2	-	30	50	20	-	100
CE-247L	Quantity and Cost Estimation (Lab)	-	1	-	3	-	-	-	100	100
HU-248L	Fehm-e-Quran-II	-	1	-	3	-	-	-	100	100
	Survey Camp								NC	
Total		15+4=19		15+12=27		Grand Total				1100

FIFTH SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks				
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total
NS-351	Numerical Analysis	3	-	3	-	30	50	20	-	100
CE-352	Advanced Fluid Mechanics	2	-	2	-	30	50	20	-	100
CE-352L	Advanced Fluid Mechanics (Lab)	-	1	-	3	-	-	-	100	100
HU-353	Expository Writing	3	-	3	-	30	50	20	-	100
CE-354	Geotechnical Engineering	3	-	3	-	30	50	20	-	100
CE-354L	Geotechnical Engineering (Lab)	-	1	-	3	-	-	-	100	100
CE-355	Reinforced Concrete Design-I	3	-	3	-	30	50	20	-	100
CE-355L	Reinforced Concrete Design-I (Lab)	-	1	-	3	-	-	-	100	100
HU-356	Pakistan Studies	2	-	2	-	30	50	20	-	100
Total		16+3=19		16+9=25		Grand Total				900

SIXTH SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks				
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total
CE-361	Reinforced Concrete Design-II	3	-	3	-	30	50	20	-	100
CE-361L	Reinforced Concrete Design-II (Lab)	-	1	-	3	-	-	-	100	100
CE-362	Environmental Engineering	2	-	2	-	30	50	20	-	100
CE-362L	Environmental Engineering (Lab)	-	1	-	3	-	-	-	100	100
CE-363	Structural Analysis-II	3	-	3	-	30	50	20	-	100
CE-364	Engineering Hydrology	2	-	2	-	30	50	20	-	100
CE-364L	Engineering Hydrology (Lab)	-	1	-	3	-	-	-	100	100
CE-365	Highway and Traffic Engineering	2	-	2	-	30	50	20	-	100
HU-366	Civic and Community Engagement	2	-	2	-	30	50	20	-	100
	Community Services									NC
	Internship (6-8 weeks) mandatory and qualifying									NC
Total		14+3=17		14+9=23		Grand Total				900

SEVENTH SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks				
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total
CE-471	Foundation Engineering	2	-	2	-	30	50	20	-	100
CE-472	Pavement Analysis and Design	2	-	2	-	30	50	20	-	100
CE-472L	Pavement Analysis and Design (Lab)	-	1	-	3	-	-	-	100	100
MD-473	Modeling and Simulation	1	-	1	-	30	50	20	-	100
MD-473L	Modeling and Simulation (Lab)	-	1	-	3	-	-	-	100	100
CE-474	Hydraulics Engineering	2	-	2	-	30	50	20	-	100
CE-474L	Hydraulics Engineering (Lab)	-	1	-	3	-	-	-	100	100
MS-475	Project Management	2	-	2	-	30	50	20	-	100
CE-476	FYDP Part- I*	-	3	-	9	-	-	-	-	-
Total		9+6=15		9+18=27		Grand Total				800

EIGHTH SEMESTER

Subject Code	Subject Title	Credit Hours		Contact Hours		Marks				
		Th.	Pr.	Th.	Pr.	Mid	Final	Sessional	Practical	Total
CE-481	Irrigation Engineering	2	-	2	-	30	50	20	-	100
CE-481L	Irrigation Engineering (Lab)	-	1	-	3	-	-	-	100	100
CE-482	Geo Informatics	1	-	1	-	30	50	20	-	100
CE-482L	Geo Informatics (Lab)	-	1	-	3	-	-	-	100	100
CE-483	Steel Structures	2	-	2	-	30	50	20	-	100
MD-484	Architecture & Town Planning	2	-	2	-	30	50	20	-	100
MD-485	Occupational Health & Safety	1	-	1	-	30	50	20	-	100
MS-486	Entrepreneurship	2	-	2	-	30	50	20	-	100
CE-476	FYDP Part-II*	-	3	-	9	-	-	-	100	100
Total		10+5=15		10+15=25		Grand Total				900

Grand Total Credit Hours = 140

Note:

- * Final Year Design Project FYDP, CE-476 (6 Credit Hours) is split into 7th and 8th Semester. In 7th Semester, only a time slot is provided but evaluation will be made in 8th Semester.

Framework for B.Sc. Civil Engineering Curriculum

Knowledge Profile WK1-Wk9	Knowledge Area	Sub-area	Courses Title	Theory	Lab	Credit Hours	Total
General Education Non-Engineering Domain							
WK1/ WK5/ WK7/ WK9	Humanities	English	Functional English	3	0	3	6
			Expository Writing	3	0	3	
		Culture / Study of Religion	Ideology and Constitution of Pakistan	2	0	2	10
			Islamic Studies/Ethics	2	0	2	
			Professional Ethics	2	0	2	
			Fehm-e-Quran-I	0	1	1	
			Fehm-e-Quran-II	0	1	1	
			Pakistan Studies	2	0	2	
			Social Sciences	Engineering Economics	2	0	
		Civil and Community Engagement		2	0	2	
	Management Sciences	Professional Practices	Project Management	2	0	2	4
			Entrepreneurship	2	0	2	
	Computer Sciences	Basic Computing	Application of ICT	2	1	3	3
WK1/ WK2	Natural Sciences	Mathematics	Quantitative Reasoning-I	3	0	3	6
			Quantitative Reasoning-II	3	0	3	
			Advanced Calculus	3	0	3	9
			Applied Mathematics	3	0	3	
			Numerical Analysis	3	0	3	
	Physics	Applied Physics and Electro- Mechanical Fundamentals	2	1	3	3	
Total (General/ Non-Engineering Domain)							45

Engineering Domain							
WK2/ WK4/ WK5	Advanced Computer and Information Sciences	ICT/IA/Data Science/Cyber Security	Computer Programming	2	1	3	6
			Civil Engg. Drawing and Graphics	1	2	3	
WK2/ Wk3	Engineering Foundation Courses		Civil Engineering Materials	2	1	3	24
			Engineering Drawing	1	2	3	
			Engineering Surveying	2	1	3	
			Mechanics of Solid-I	2	1	3	
			Structural Analysis-I	3	0	3	
			Soil Mechanics	2	1	3	
			Fluid Mechanics	2	1	3	
			Engineering Mechanics	2	1	3	
WK1/ WK2/ WK4	Engineering Breath Courses		Advanced Engineering Surveying	2	1	3	22
			Advanced Fluid Mechanics	2	1	3	
			Reinforced Concrete Design- I	3	1	4	
			Environmental Engineering	2	1	3	
			Structural Analysis-II	3	0	3	
			Quantity and Cost Estimation	2	1	3	
			Engineering Hydrology	2	1	3	
WK5/ WK6	Engineering Depth Courses		Reinforced Concrete Design- II	3	1	4	22
			Mechanics of Solid-II	2	1	3	
			Geotechnical Engineering	3	1	4	
			Foundation Engineering	2	0	2	
			Pavement Analysis and Design	2	1	3	

			Hydraulics Engineering	2	1	3	
			Irrigation Engineering	2	1	3	
WK1/ WK2/ WK3/ WK4/ WK5/ WK7/ WK9	Multi-Disciplinary Engineering/ Specialty Courses		Geology for Engineers	2	0	2	7
			Architecture and Town Planning	2	0	2	
			Modeling and Simulation	1	1	2	
			Occupational health and Safety	1	0	1	
			Community Service	-	-	-	NC
			Survey Camp	-	-	-	NC
	Flexible Engineering/ Non-Engineering Courses		Construction Engineering	2	0	2	8
			Highway and Traffic Engineering	2	0	2	
			Steel Structures	2	0	2	
			Geo-Informatics	1	1	2	
WK4/ WK5/ WK6/ WK7/ WK8/ WK9	Final Year Design Project (FYDP)		FYDP Part I	0	3	3	6
			FYDP Part II	0	3	3	
WK6/ WK7/ WK9	Industrial Training	6-8 Weeks Industrial Training (Non-Credit)					Qualifying & Mandatory
Total Engineering Domain							95
Total (Credit Hours)							140